Productivity trends in Europe: A perspective from the EBRD

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Motivation

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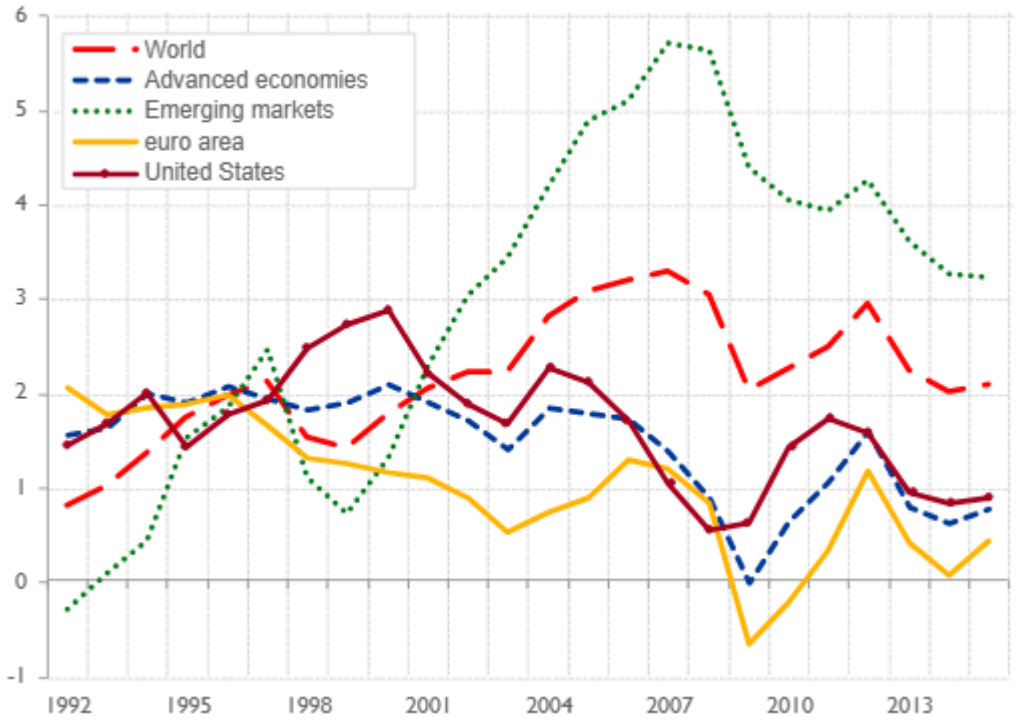
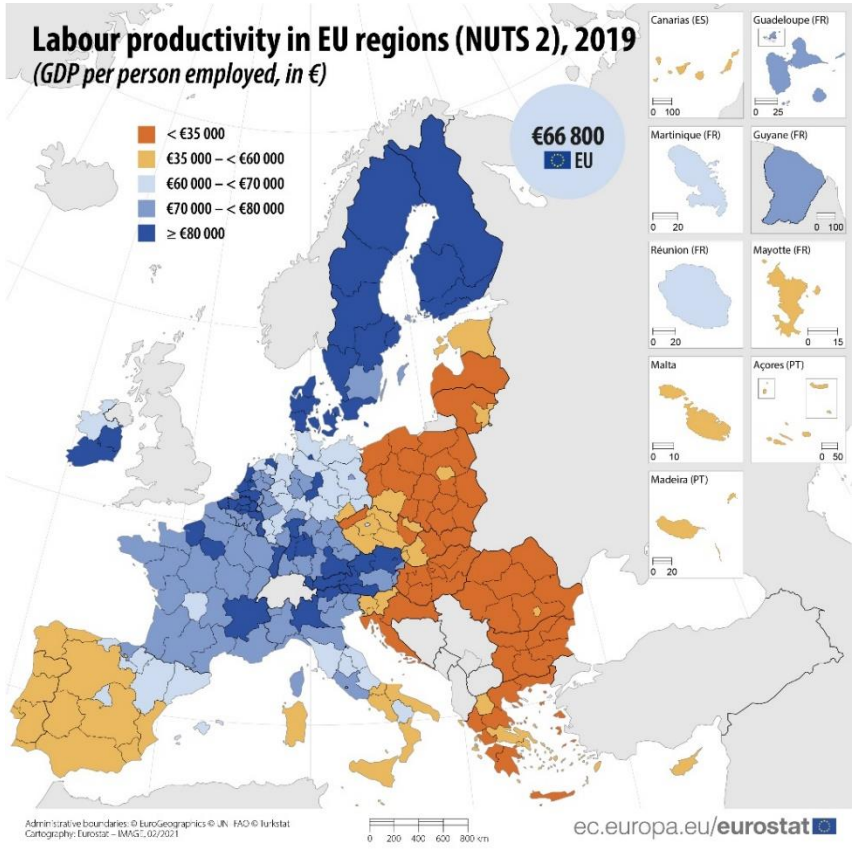
Labour productivity growth in main world regions

Annual percentage changes, three-year moving averages



Source: ECB (2016)

1. European labour productivity growth lagging behind other world regions



2. Significant regional differences in terms of labour productivity within Europe

Hypotheses for slow productivity growth

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Common to industrial countries

1) Lack of (investment) demand
2) Expansionary monetary policy
3) Firm size and age
4) Technological cycles, the nature of recent innovations and the time it takes to apply them productively
5) Weak technological diffusion
6) Subdued creative destruction
7) Financial market dynamics and valuation
8) Population aging
9) Regulation and the compliance burden

Differences between Europe and US

- **Investment in ICT-related technologies** is higher and implementation of such technologies faster in the US and the UK. In the period 1995-2004, the contribution of the knowledge economy (ICT, TFP) to overall labour productivity growth was only 1.1% in Europe, but 2.6% in the US.
- **Firm dynamism** is higher in the US than in Europe, reflecting differences in business regulation and insolvency procedures. This may lead to faster productivity growth if young firms are more productive.
- **Demographic differences** between the US and Europe as well as differences in migration policies also contribute to differing productivity dynamics.
- **Financial market disparities** are reflected in the better availability of equity-based sources of finance in the US and UK, especially for SMEs and start-ups.
- **Differences in management practice within companies**, e.g., higher participation of employees in innovation processes and stronger within-company mobility, result in a higher degree of flexibility and decentralization in the US.

➢ Given the wealth of plausible hypotheses and explanations in the literature, this presentation highlights **selected empirical findings on productivity in Europe** and integrates them in the wider **narrative on the determinants of productivity**.

Source: Breitenfellner et al. (2022) : Quo vadis, productivity?, Occasional Paper, No. 1, Oesterreichische Nationalbank (OeNB)

Agenda

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I. Productivity and the role of DFIs

II. Three deeper dives:

A. Great Recession vs COVID
B. Zombie firms
C. Intangibles

III. Final thoughts

Productivity and the role of DFIs

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Determinants of long-term growth

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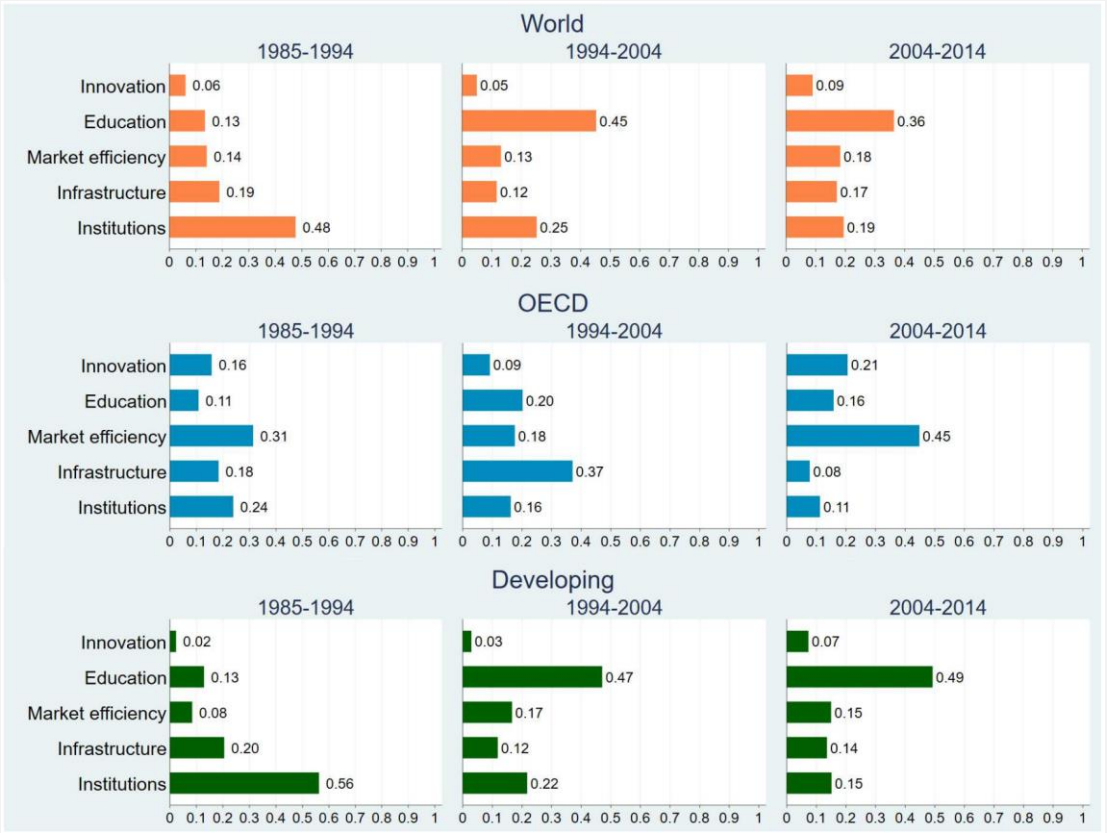
World Bank Long-Term Growth Model

- Total factor productivity (TFP) is essential for the material wealth of nations. TFP captures all **remaining variation in output that cannot be explained by the observable inputs used to calculate it**. The determinants of TFP growth are manifold and subject to extensive research.

- The productivity extension of the World Bank Long-Term Growth Model is based on an extensive review of the literature and identifies **five main determinants for economic productivity**: Innovation, Education, Market efficiency, Infrastructure, and Institutions.

- Decomposing the TFP growth rate for these determinants across different country groups and time suggests:

    1. The **relative importance of productivity determinants** changes over time and depends on the country context.
    2. While TFP determinants are not perfectly understood, the literature has identified **sufficiently robust relationships that can inform policies**.



Variance decomposition of TFP growth rate corresponding to the determinant subcomponent indexes by decade for all, OECD, and developing countries, controlling for initial TFP and time effects.

Source: World Bank

Determinants of productivity and the EBRD transition concept

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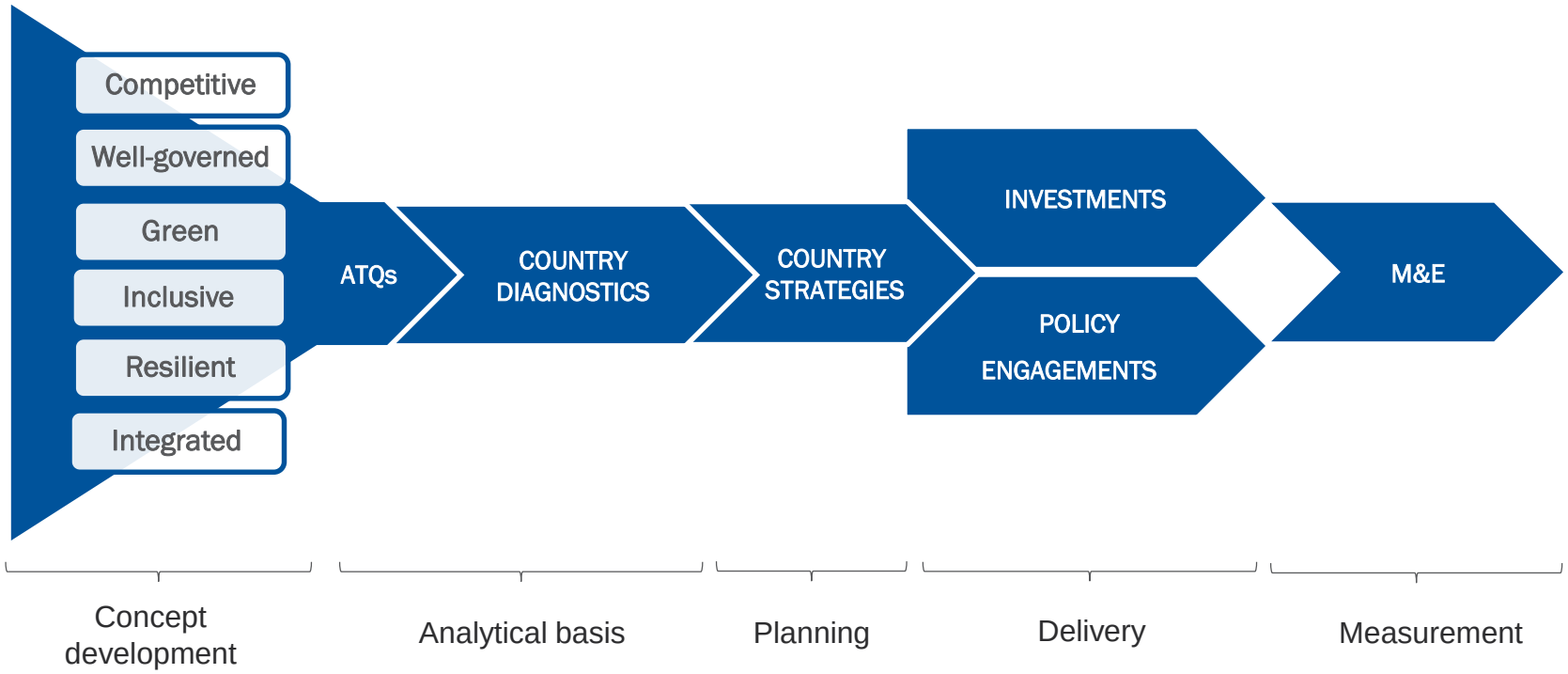
Article 1 of the **Agreement Establishing the Bank** spelled out that *"the purpose of the EBRD shall be to foster the transition towards open market-oriented economies and to promote private and entrepreneurial initiative".*

The EBRD's transition concept argues that **a well-functioning market economy** should be more than just a set of markets; it should be competitive, inclusive, well-governed, environmentally friendly, resilient and integrated.



Linking productivity determinants and transition

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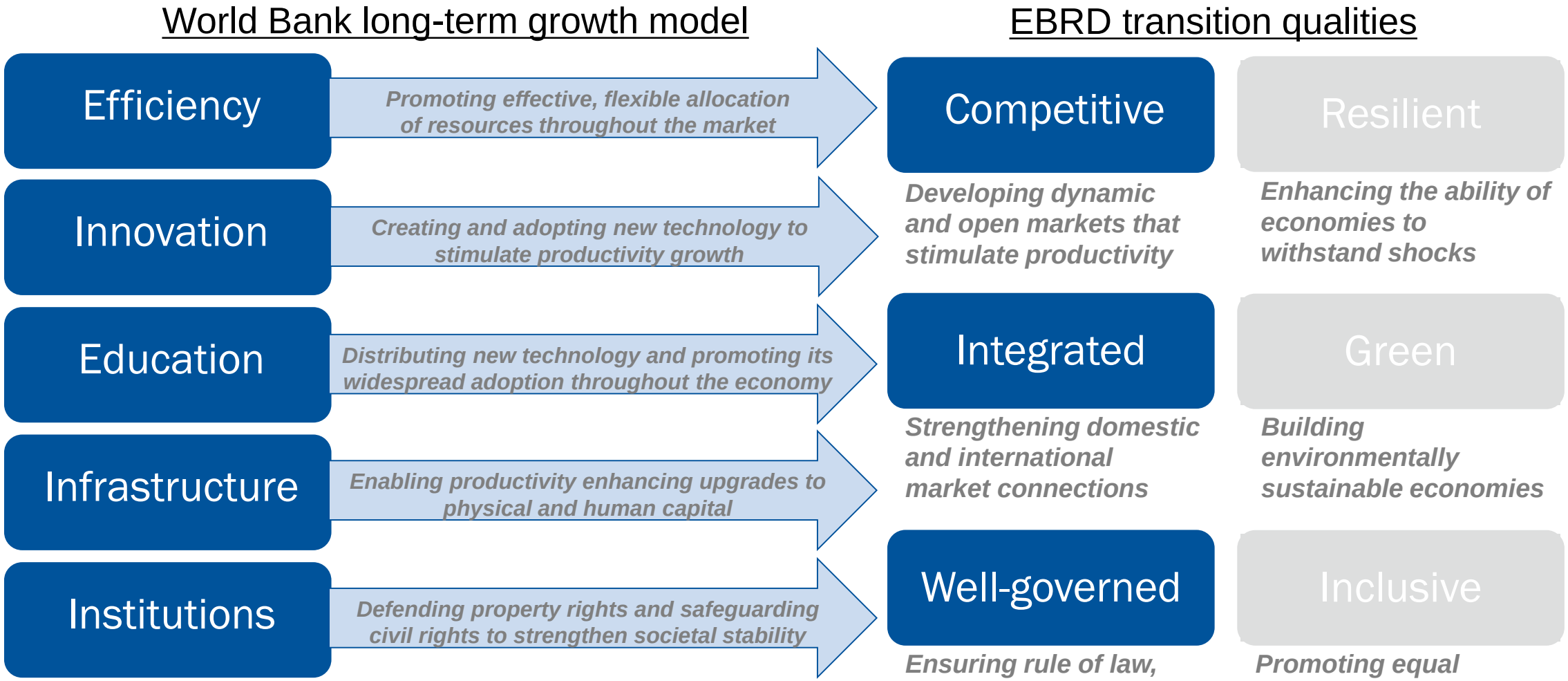

Analysis of ATQ scores and decomposition of trends

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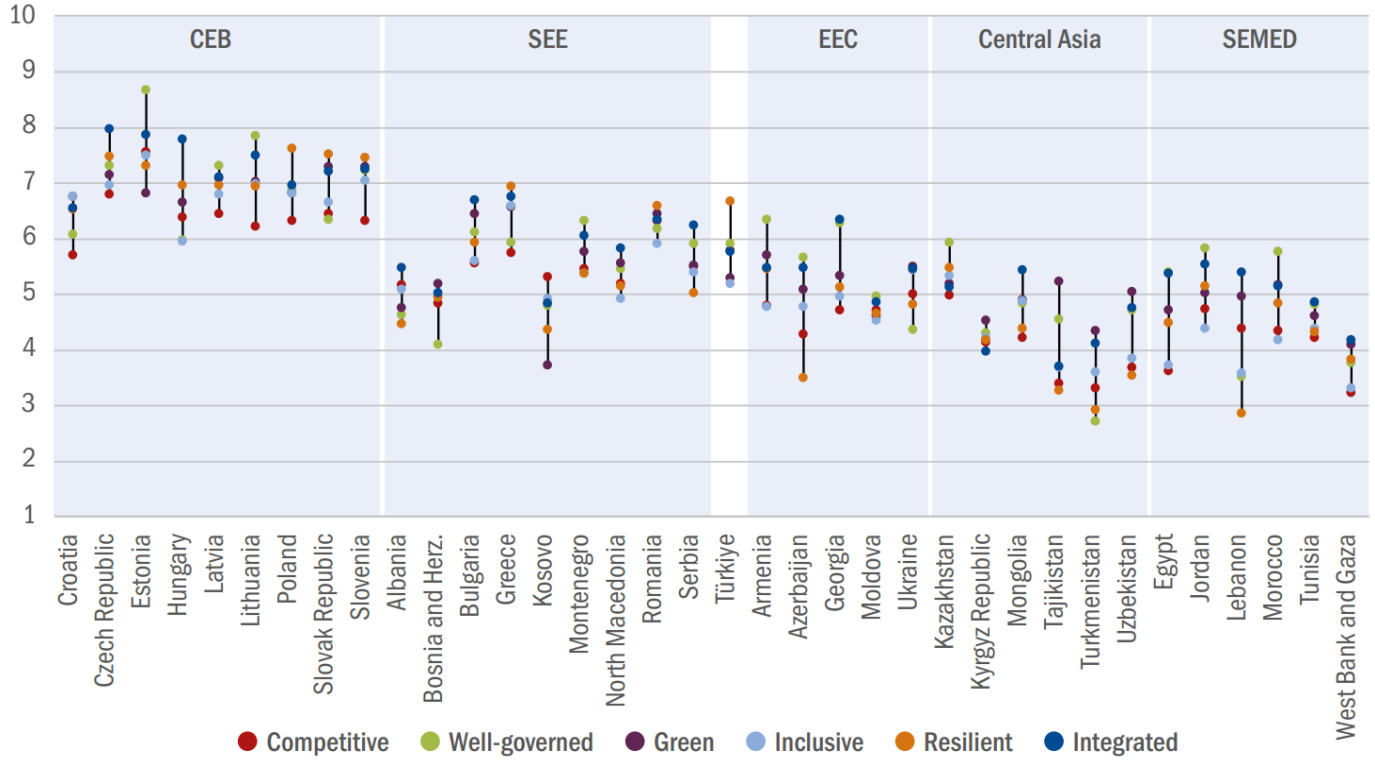
ATQ scores for six key qualities of a sustainable market economy, 2022



SOURCE: EBRD.

NOTE: Scores range from 1 to 10, where 10 represents a synthetic frontier corresponding to the standards of a sustainable market economy.

What are ATQs?

ATQ indices (or "**A**ssessments of **T**ransition **Q**ualities") measure the progress of countries of operation in their progress towards achieving more sustainable market-based economies across the six transition qualities.

Trends in Emerging Europe

1. Sizeable gap in performance between Central and Eastern/Southeastern Europe
2. The biggest gap is between the Baltics and the Caucasus
3. Average ATQ of around 7 in Central Europe and 5 in Eastern/Southeastern Europe
4. Strongest overall performers in Emerging Europe: Estonia, Czech Republic, and Lithuania
5. Weakest overall performers in Emerging Europe: Azerbaijan, Kosovo, and Moldova
6. Strongest performers in terms of Competitive quality: Estonia, Czech Republic, and Latvia
7. Weakest performers in terms of Competitive quality: Azerbaijan, Georgia, and Moldova
8. Overall performance tends to be correlated to GDP per capita and productivity levels

Great Recession vs COVID

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Great Recession vs COVID

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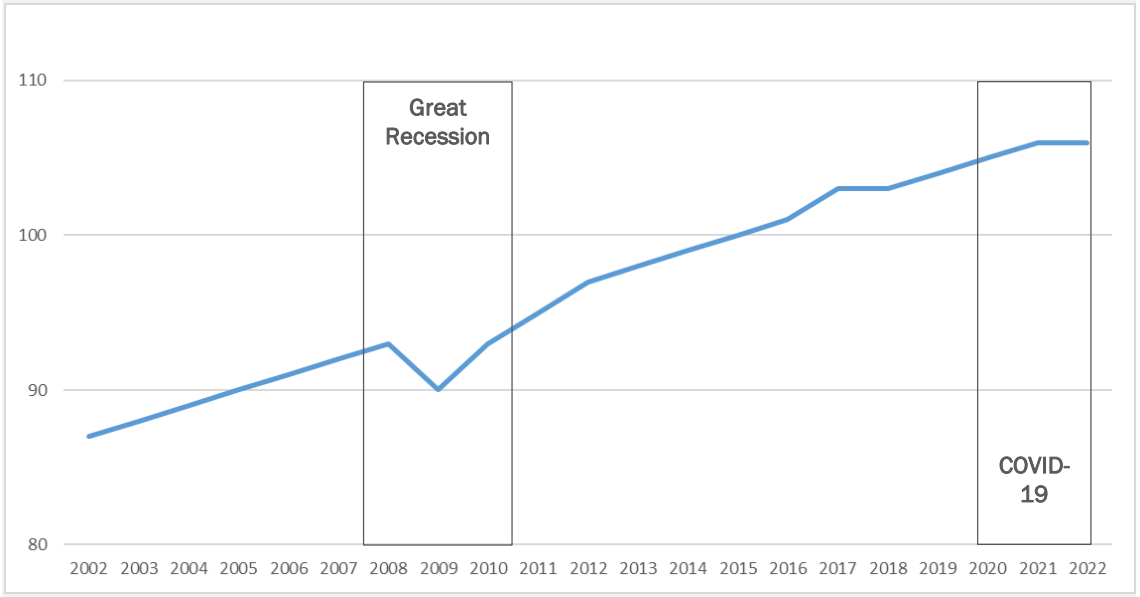
EU labour productivity over time



Sources: Trading Economics, Intereconomics, BLS

Productivity in Europe after Shocks

1. Today's productivity growth rates are half those of the 1990s and 2000s and only a third of those in the 1970s and 1980s.
2. **Emerging Europe leads the way in terms of the highest rates of productivity growth.**
3. However, their productivity levels are still only about half of those in Western Europe.
4. Productivity during the Great Recession had a V-shaped recovery, whereas productivity during the COVID-19 Pandemic increased slightly.
5. **The divergent responses were partially caused by the level of government intervention in the economy.** More generous financial support from the government and lower interest rates resulted in a quicker recovery during the pandemic than in the Great Recession.
6. Productivity growth is thought to be pro-cyclical in nature, however the slight increase in productivity during the COVID-19 pandemic has challenged this notion.

Deeper Dive: Great Recession

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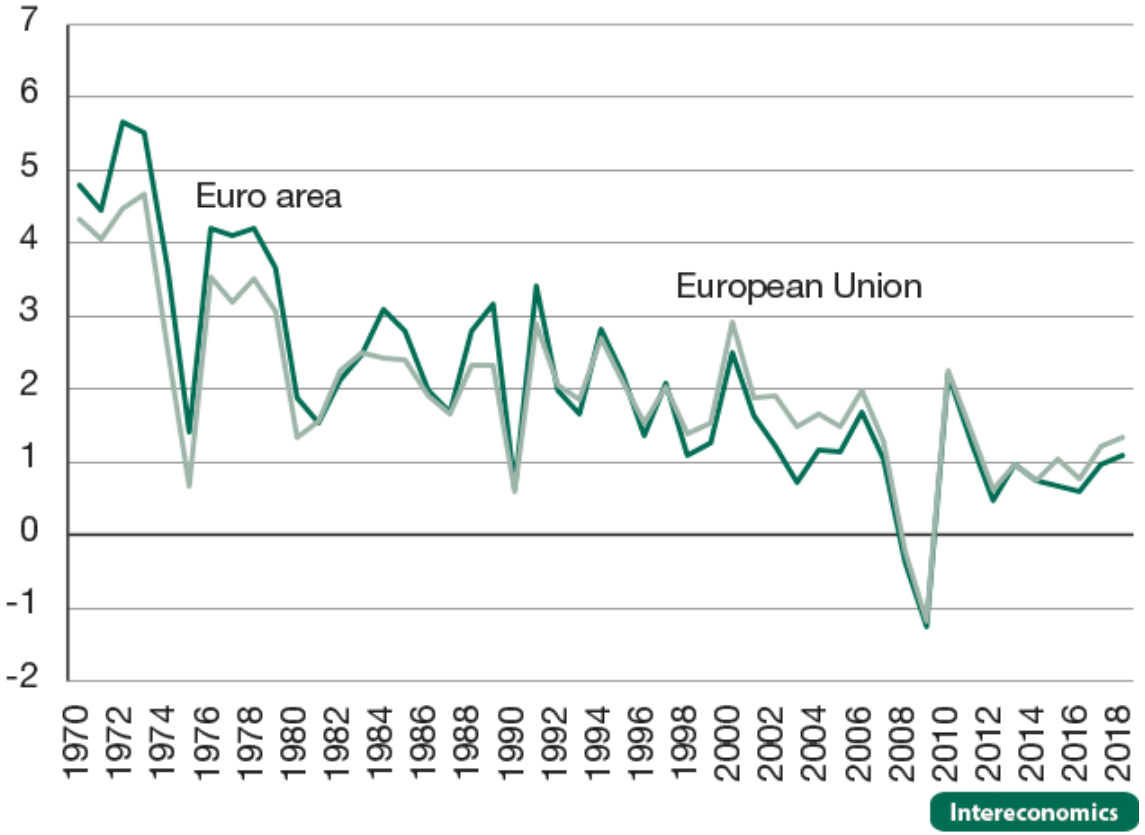
How the Great Recession affected Productivity

1. European response to the Great Recession was low interest rates and more financial sector regulation.
2. The governmental response relied heavily on monetary, rather than fiscal policy solutions, which led to a sluggish, K-shaped recovery
3. Banking crises tighten firms' financing, and, as a result, they are less able to invest in research and development.
4. After every financial shock, there is less aggregate investment in research and development, which leads to a persistent decline in intangibles, which puts a downward pressure on productivity growth.
5. **Productivity growth rates after the crisis (2010s) were half of those in the two decades preceding the crisis (1990s).**

EU labour productivity growth rate over time



Sources: Trading Economics, Intereconomics

Deeper Dive: COVID

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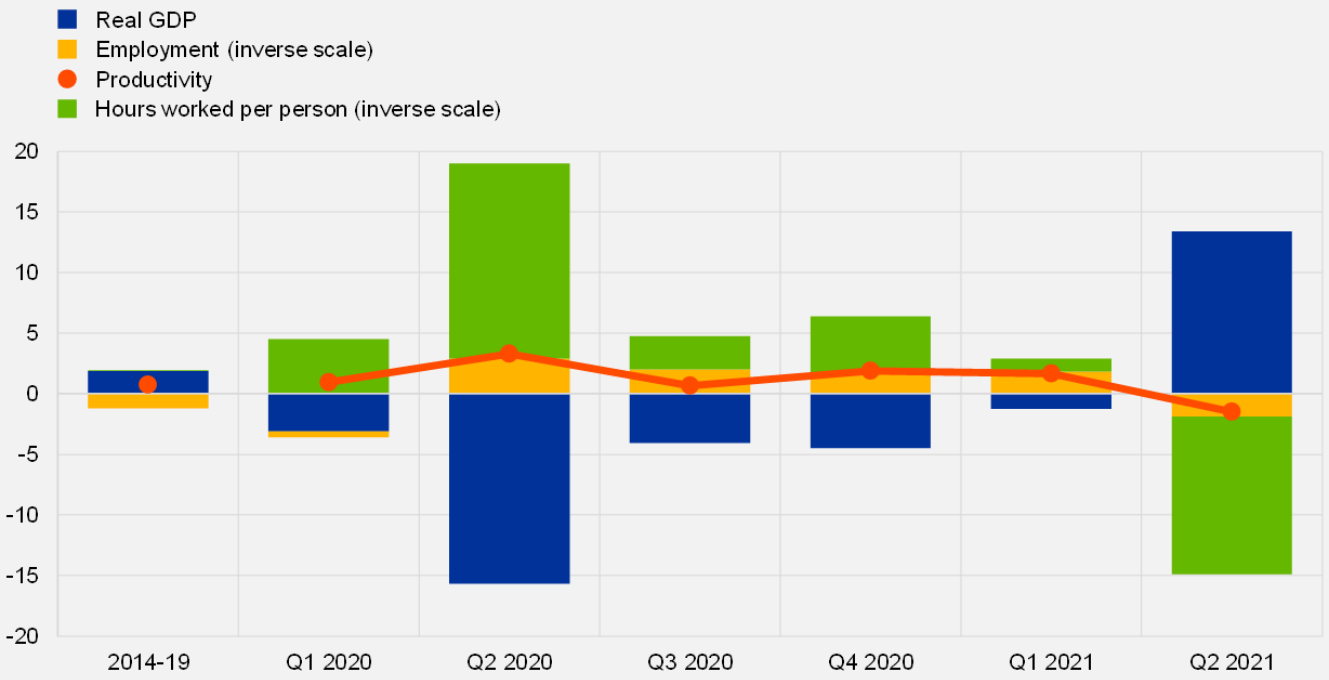
EU Labour Productivity growth during the COVID-19 Pandemic



Sources: Eurostat and ECB staff calculations

Government measures had a mixed impact on productivity in Europe

1. In response to the pandemic, governments lowered interest rates, provided generous financing to firms, and increased economic stimulus.
2. Both monetary and fiscal policy played central roles in the pandemic recovery strategy.
3. Positive outcome: upward pressure on productivity due to a **more rapid economic recovery** than during the Great Recession
4. Negative outcome: downward pressure on productivity due to the **increase in the number of "zombie firms"**
5. EU labour productivity growth increased at the start of the COVID-19 pandemic before declining during the subsequent economic recovery.
6. Within-firm productivity growth has increased due to digital uptake brought on by the pandemic.
7. Productivity growth will depend on the continued success of widespread digital uptake and post-pandemic policy support.

Zombie firms

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Deeper Dive: Zombie Firms

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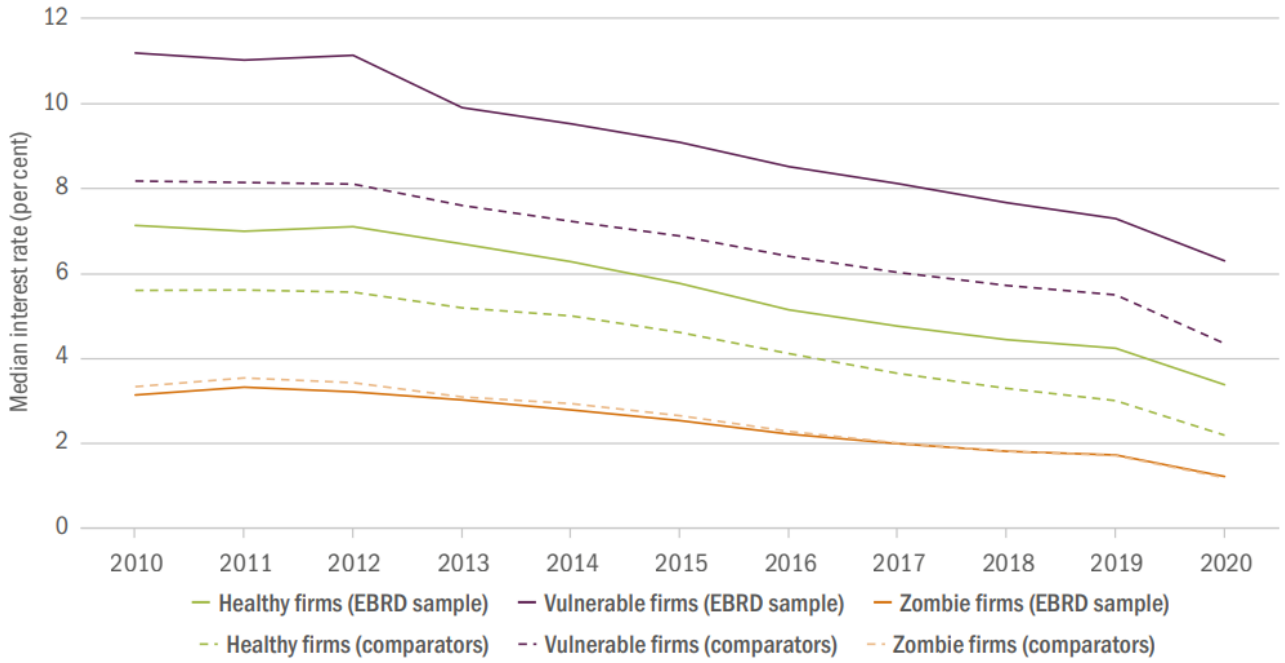
What are Zombie Firms?

1. Zombies are companies that earn just enough money to operate and service their debts, but often are unable to pay them off.
2. **The number of zombie firms has risen in recent years due to low interest rates and generous government support**, especially during times of economic crisis.
3. The interest rate paid by the typical firm in the EBRD region more than halved, with **rates declining from 10% in 2009 to just 4% in 2020**.
4. As a result of their precarious financial situation, zombie firms are unable to invest in research and development, which dampens labour productivity growth.

Zombie firms access loans at cheaper rates than other companies



Sources: EBRD Transition Report 2023, Adalet McGowan et al., 2017a

Deeper Dive: Zombie Firms

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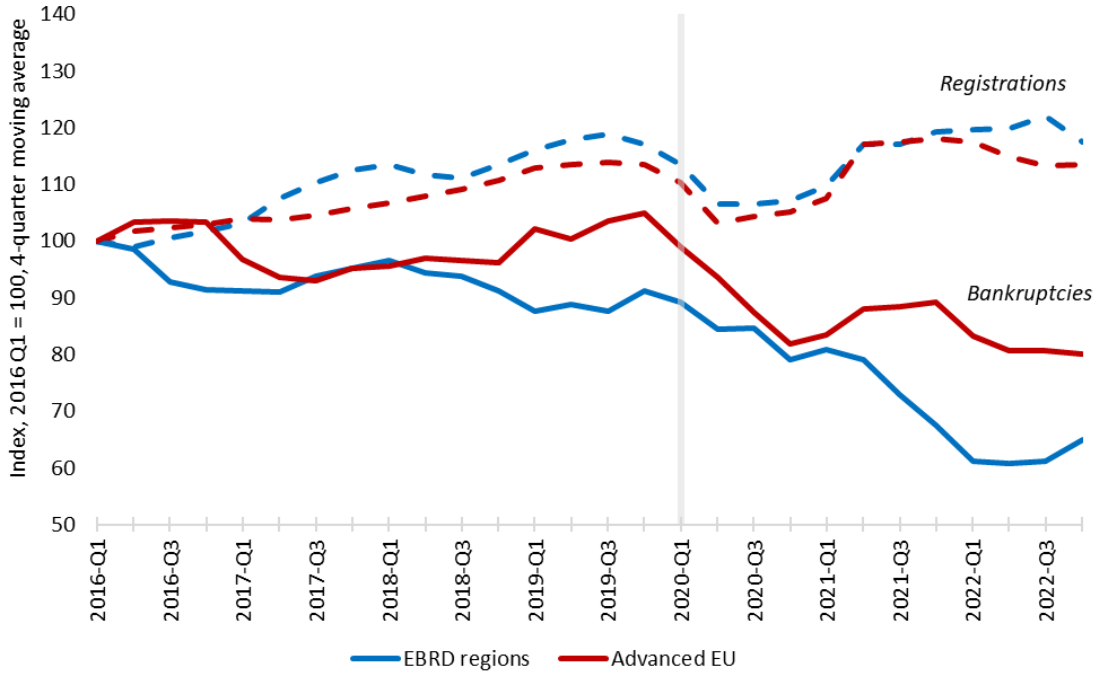
Increase of Zombie Firms in Europe

1. Financially weak firms are constraining business dynamism across parts of the EBRD region.
2. **Firm registrations have outplaced bankruptcies** since 2016, resulting in an unsustainable number of zombie firms.
3. The average debt-to-GDP ratio across EBRD regions is estimated to have exceeded 150% for the first time in 2021.
4. European Central Bank (ECB) posits that healthy firms' access to bank loans tends to be more restricted in sectors where a higher share of industry capital is sunk in zombie firms.
5. A high concentration of zombie firms disproportionately crowds-out growth in capital stock of more productive firms, which **slows aggregate growth of intangibles** via less efficient capital reallocation.

Firm Registrations vs Bankruptcies in Europe



Sources: EBRD Transition Report 2023, Andrews and Petroulakis, 2017

Intangibles

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Deeper dive: The rise of intangible assets

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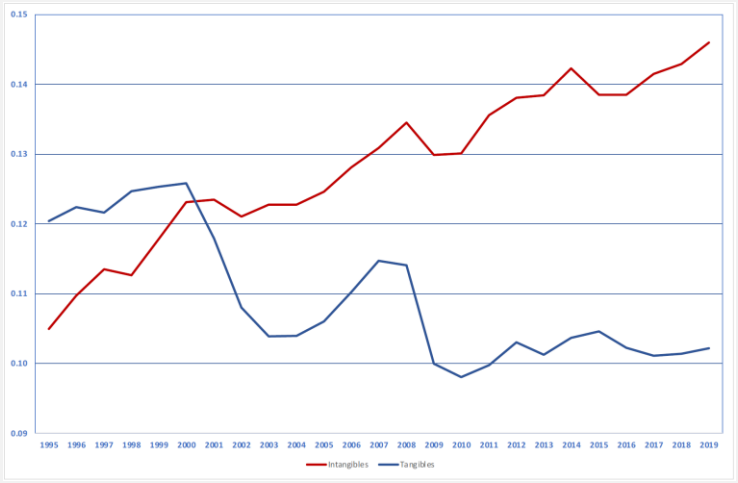
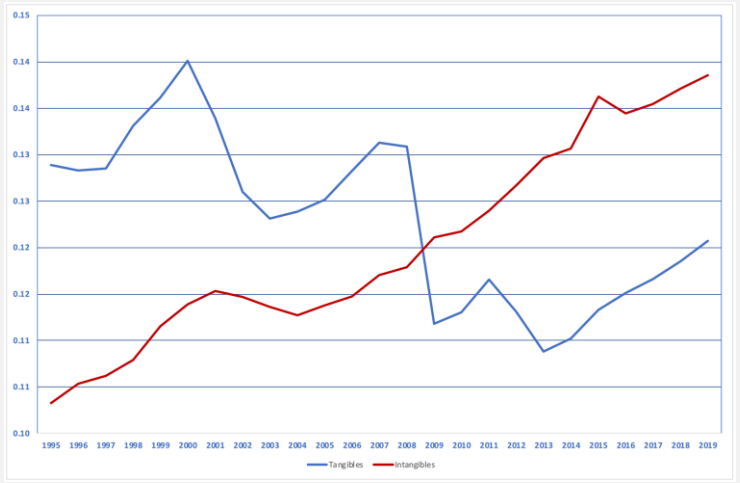
Intangible and tangible investment shares of aggregate gross value added (GVA)



United States



Europe
(AT, BE, DE, DK, ES, FI, FR, IT, NL, SE, UK)

Source: EUKLEMS-INTANProd (2023)

- Intangible assets are assets lacking of physical substance; they allow for the **commercialisation of knowledge** and are widely acknowledged as the main source of future growth.
- Following Corrado et al. (2016), intangible assets can be divided in three categories:

i) **Computerized Information**, which covers purchased and own-account software and databases

ii) **Innovative Property**, which comprises R&D, design, mineral exploration, financial innovation and artistic originals

iii) **Economic Competencies**, which includes advertising, marketing research, own-account and purchased organisation capital as well as training

- The different trends with respect to the **relative importance of intangible assets in the US versus Europe** are an important explanatory factor for the productivity gap between these regions.

Deeper dive: The intangible assets financing gap

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- Responding to the productivity enhancing potential of intangibles, the **EBRD approved an Approach to Accelerating the Digital Transition in 2021** to leverage the digital transformation as an enabler of EBRD's transition mandate.
- However, intangible assets have specific characteristics that make their **financing more difficult than that of tangibles**, such as

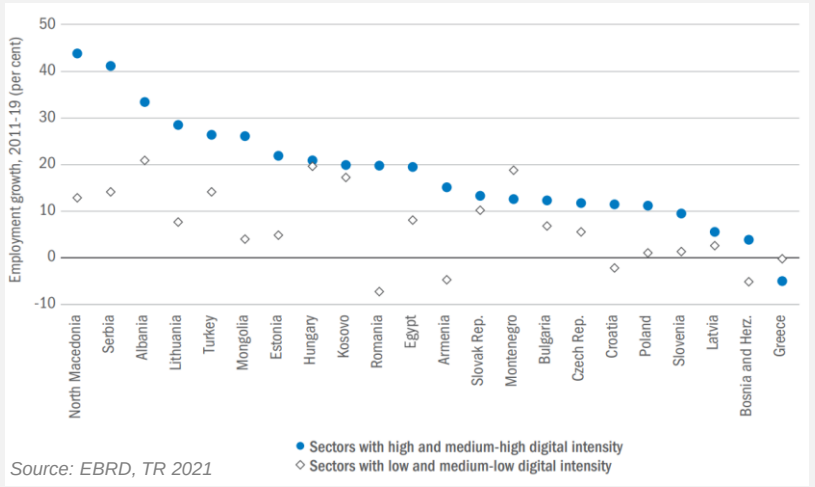
i) Asymmetry of information between investors and innovators

ii) Low pledgeability of intangibles as collateral

iii) Indivisibility of large initial investments in intangibles

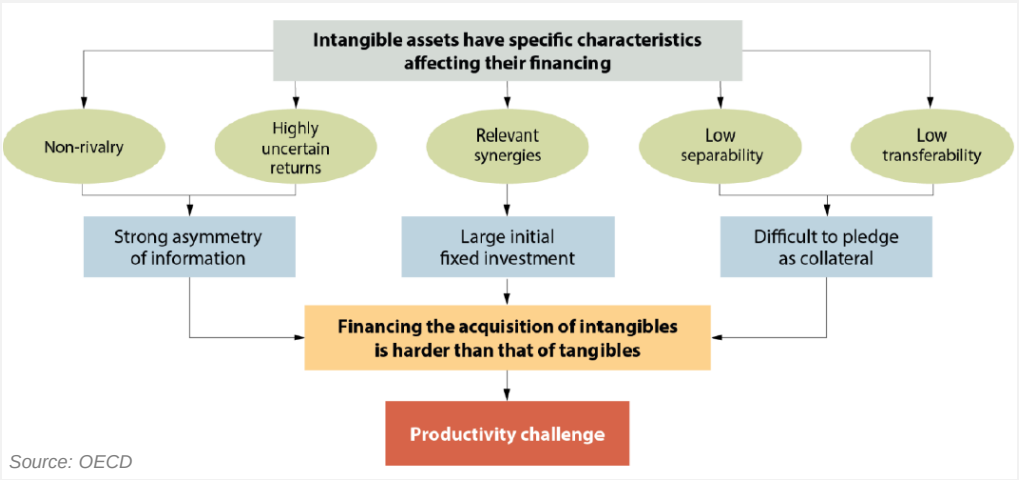
- In light of these specific features, **access to finance is likely to play a critical role in shaping productivity outcomes**.
- Given the strong productive potential of intangible assets, the aggregate productivity benefits arising from improving financial conditions are potentially **larger in intangible-intensive sectors than elsewhere in the economy**.

More digital-intensive sectors have seen stronger employment growth



Source: EBRD, TR 2021

The challenge of financing intangibles



Source: OECD

Final thoughts

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General decline in labour productivity growth since the 1980s

Labour productivity divergence between Western and Emerging Europe

The importance of zombie firms and intangibles on labour productivity