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Navigating the (Digital) Skills Divide: Labour Market and Education Transition in the Danube Region

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Preface

What drives skill divide?

- Education accessibility / quality / inclusivity
- Labour market access / mismatch / inequalities
- Institutional and socio-economic factors
- Automation and digitisation

Human capital divide

- Formal education / training
- Experience
- Applied skills and knowledge
- …

We will take a **dual perspective on education and skill divide**:

- EU - DR and cross-region disparities
- Within-region demographic & socio-economic gaps

Overview

The scale and variation of divide in…

- Formal education
- Life-long learning
- ICT skills
- Basic competencies

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The scale and variation of divide in…

- Formal education
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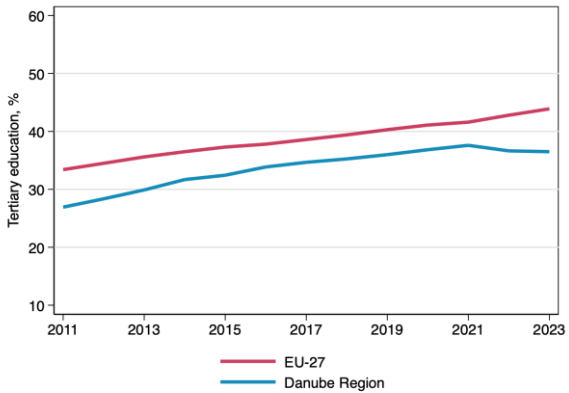
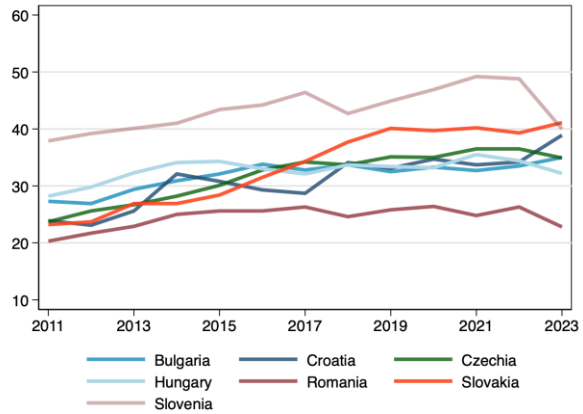
i. Tertiary education (30-34): Trends

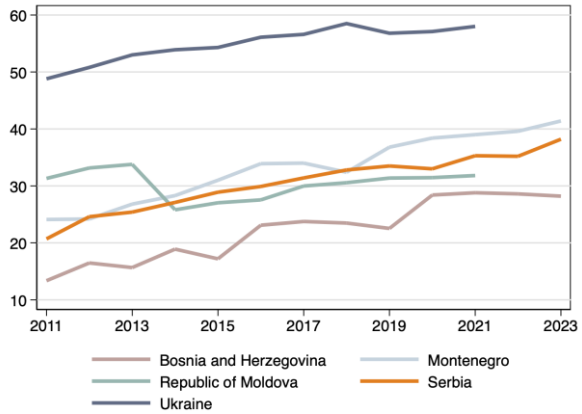
Average estimates



'New' EU Member States



EU (potential) candidate countries

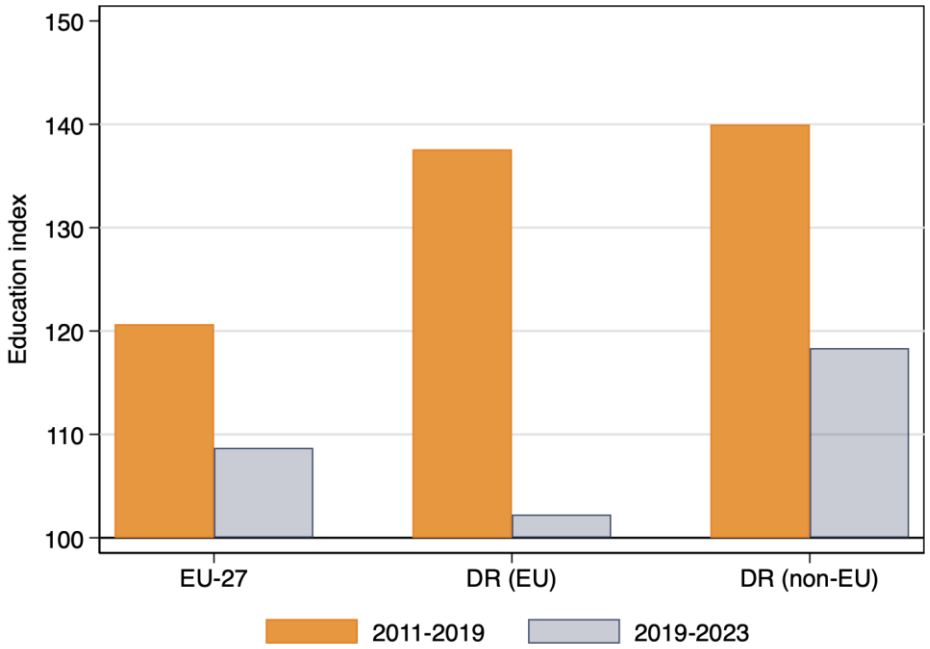


- **Slow DR – EU-27 convergence:** albeit notable improvements, the gap of 4 to 7 pp persists and increased somewhat in post-crises years
- **Overall positive dynamic**, yet steadily low shares (below 35%) in BG, CZ, HU, RO and BA

Note: EU-27 and DR average estimates are calculated as simple (not weighted) averages.
Data source: Eurostat segments edat_lfse_03 and edat_lfse_04; Moldova – national statistics.

ii. Tertiary education (30-34): Index change in total population

- **Notable improvement in pre-crisis decade,** with stark growth in both EU and non-EU countries of the Region
- In post-crises period, **share of tertiary education grew the most** in non-EU countries of the Region



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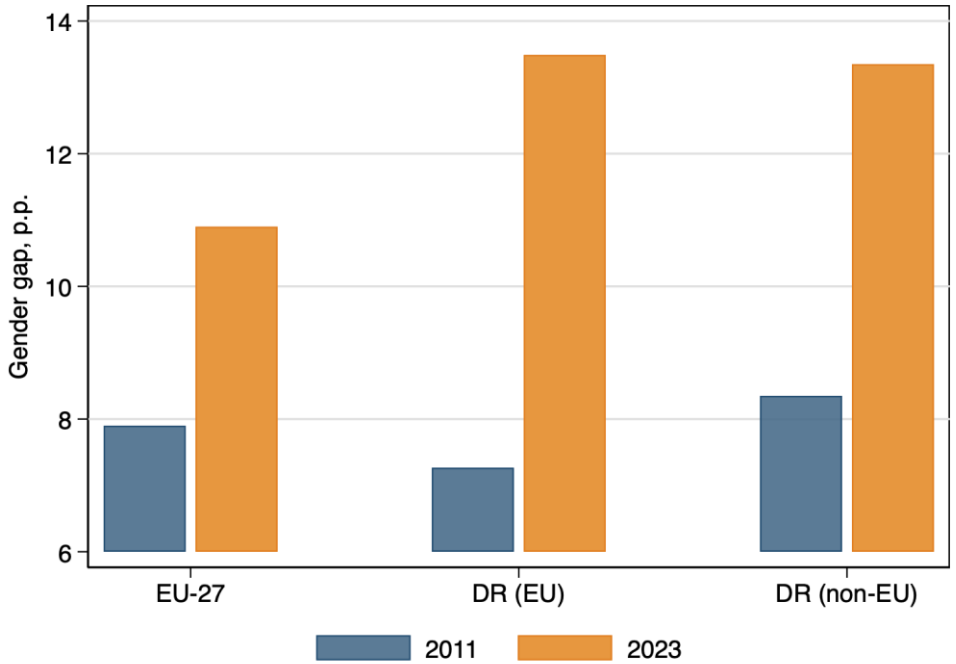
iii. Tertiary education (30-34): Gender gap

(a difference between female- and male-average)

- **Stark gender divide** (female-favouring) in tertiary education, which widened over last decade
- The **gap is larger in the Danube Region**: growth in tertiary education is driven primarily by women



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Overview

The scale and variation of divide in…

- Formal education
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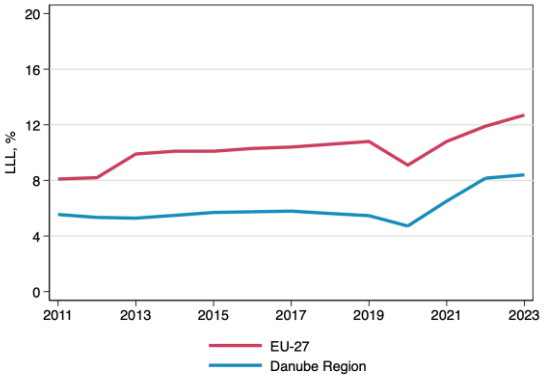
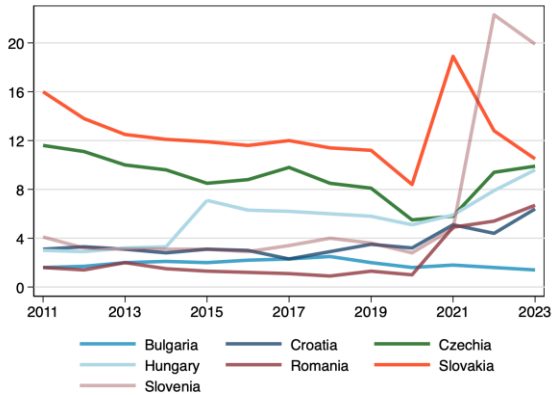
i. Life-long learning (25-64): Trends

Average estimates



'New' EU Member States



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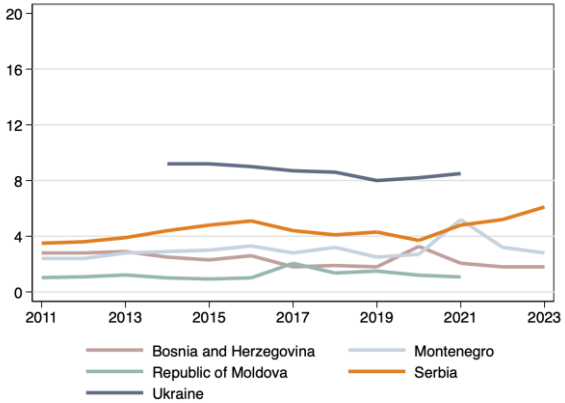
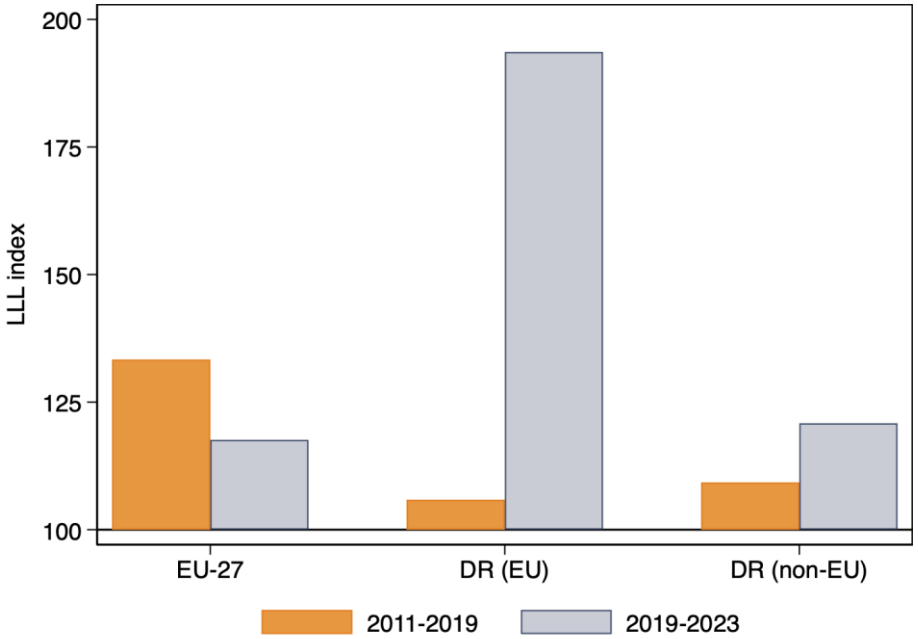


- **DR – EU27 gap ranges steadily at around 3-5 pp below the EU-27 average,** but, in many countries, LLL increased during and after the COVID-19 crisis
- **"Expected" pattern holds:** LLL more intense in EU member states than in the EU (potential) candidate countries

Note: EU-27 and DR average estimates are calculated as simple (not weighted) averages.
Data source: Eurostat segments trng_lfse_01 and trng_lfse_04; Moldova – national statistics.

ii. Life-long learning (25-64): Index change in total population

- **Almost no development in pre-crisis period** in the DR, compared to EU-27
- **Upsurge in LLL** fuelled by COVID-19 and the war in Ukraine (inflow of refugees) in EU countries of the Region and growth on the level of EU-27 average in non-EU countries



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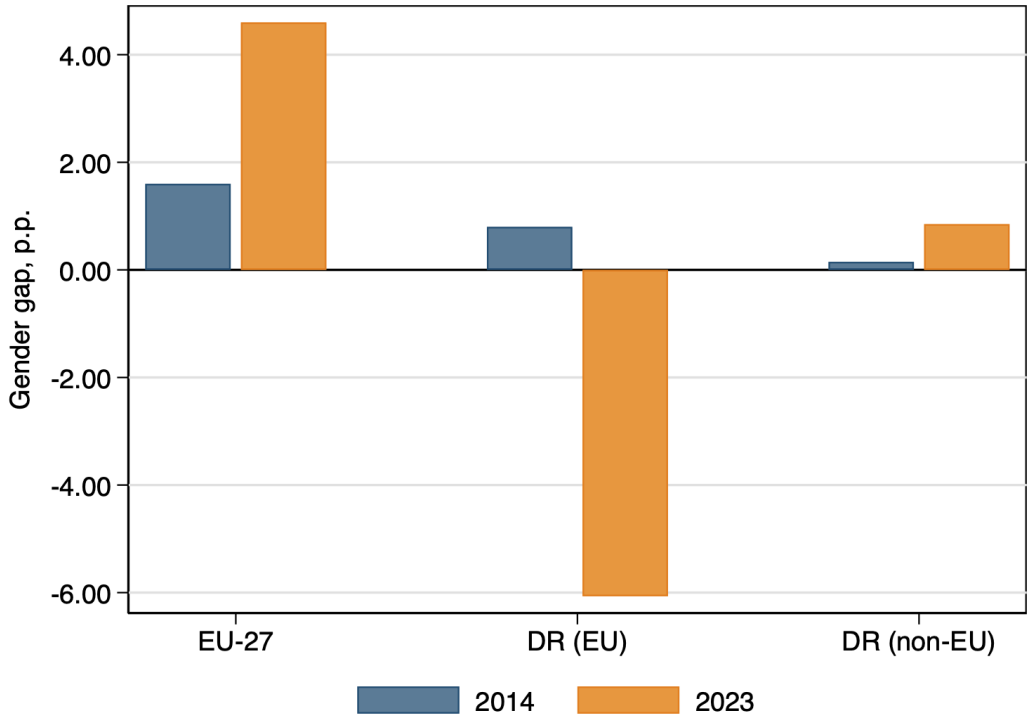
iii. Life-long learning (25-64): Gender gaps

(a difference between female- and male-average)

- In post-crisis period: **a sharp increase in LLL**
  - among **women** in the EU-27
  - among **men** in the DR (EU) region



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Overview

The scale and variation of divide in…

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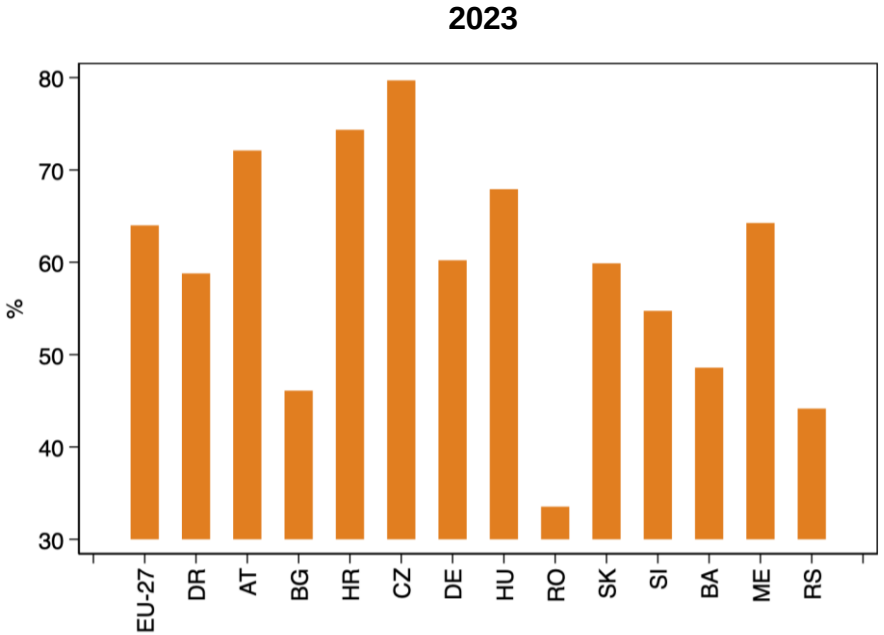
- Basic competencies

i. ICT skills 2023 (25-54): Share of individuals with basic or above basic overall digital skills

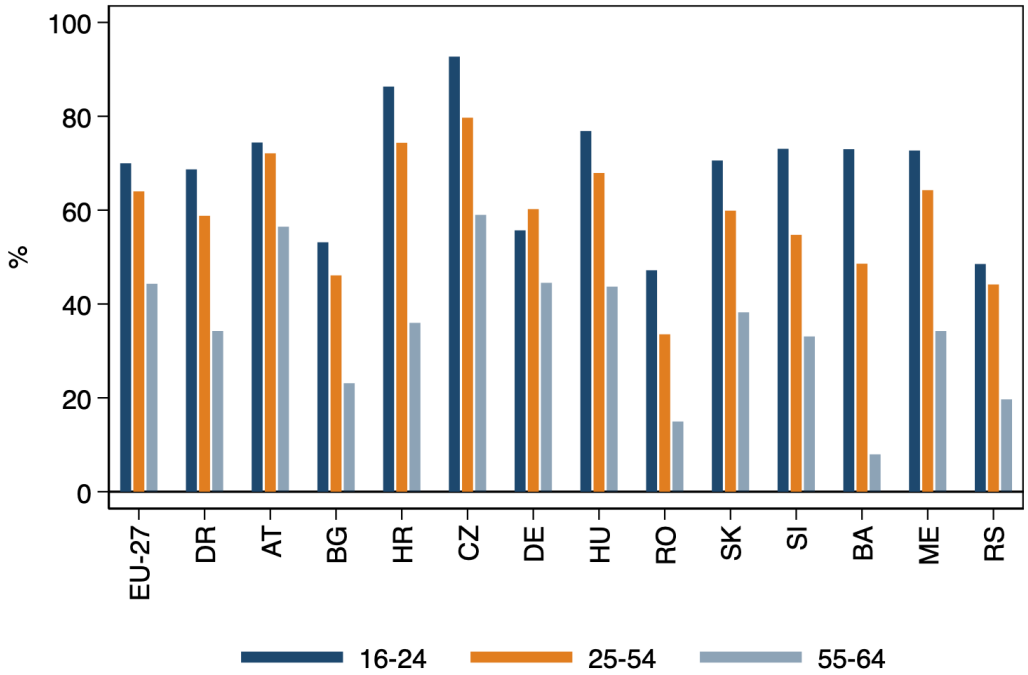
- **On average, DR – EU-27 gap almost closed by 2023 (ca 5 pp):** major improvement in digital skills across all countries in all age groups over last decade
- **Stark disparities across DR countries**, with AT, HR, CZ above the EU-27 average and BG, RO, RS below



Data source: Eurostat segment eq_dskl07.

ii. ICT skills 2023: By age

- **Highest ICT skills among youth** (16-24) in all countries, apart from DE
- **Age divide** in ICT competence is more pronounced in the DR, than in EU-27
- Most **stark age disparities**: BG, HR, HU, SI, BA, ME

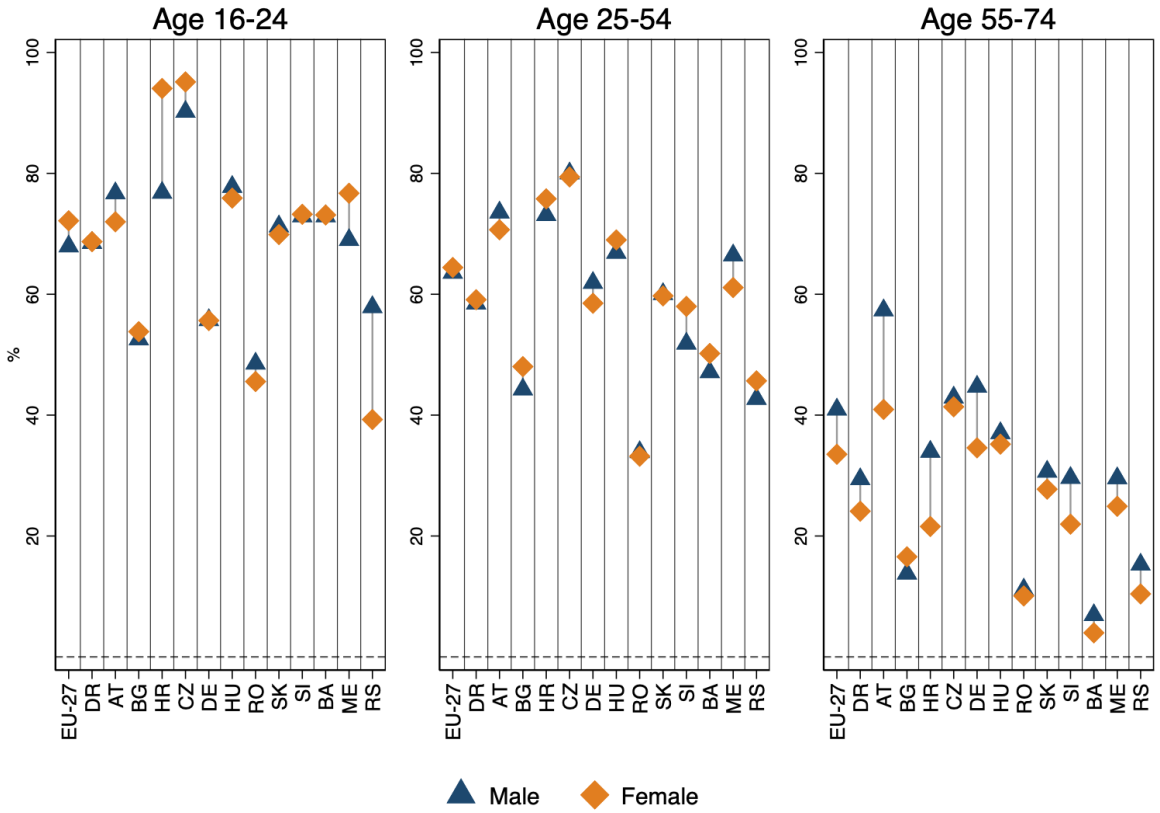


Data source: Eurostat segment eq_dskl07.

iii. ICT skills 2023:

By age & gender

- **In 2023, gender gaps are smaller than one may expect:** negligible gaps in most of the countries (16-24 & 25-54) with HR and RS being exceptions
- Among older individuals, men have, if anything, better digital skills
- **Age disparities more pronounced than gender gaps**



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The scale and variation of divide in…

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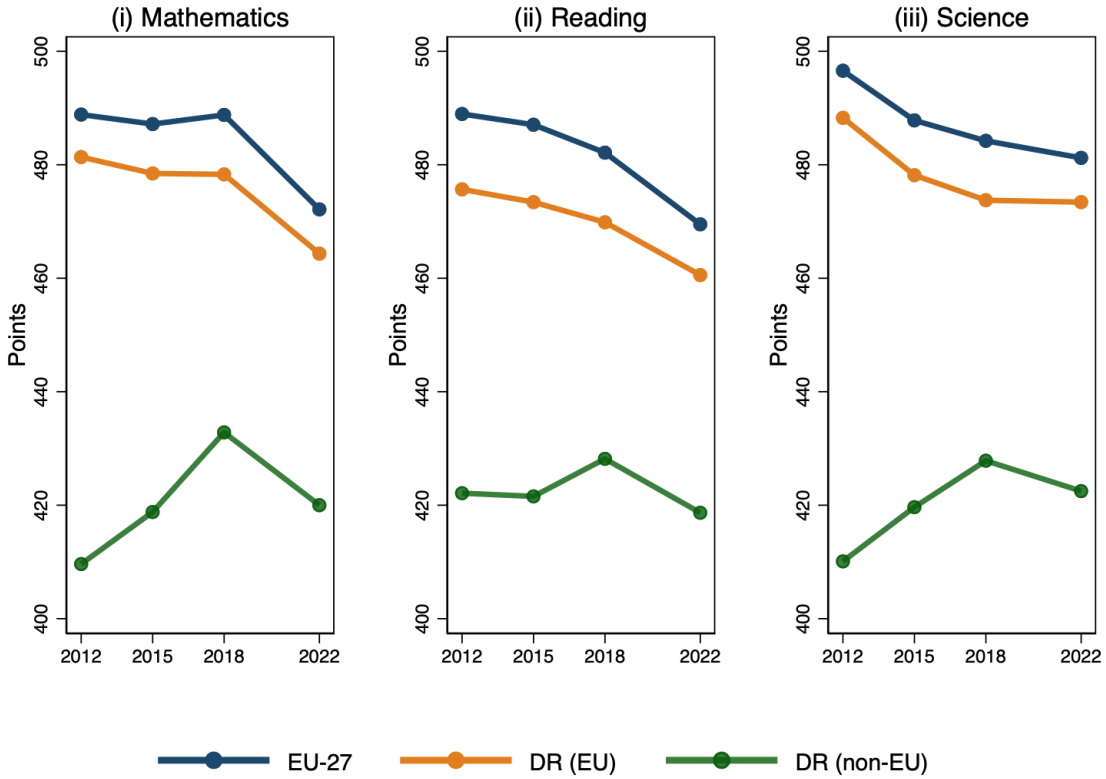
i. PISA: Trend

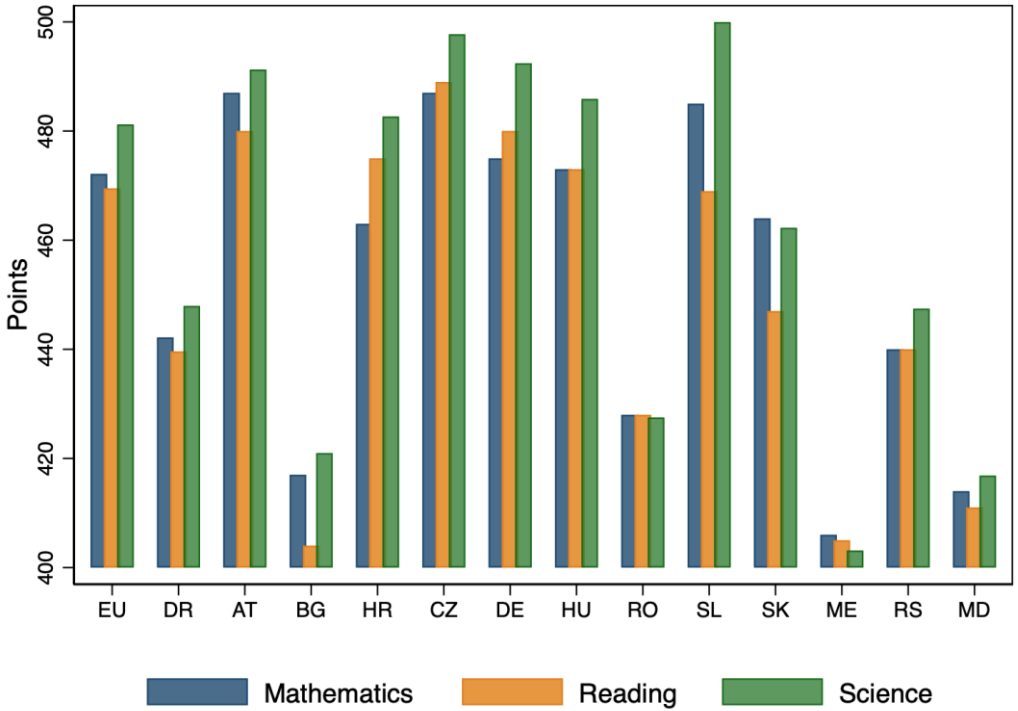
- **Notable improvement in the DR (non-EU)** region in mathematics and science up until 2018, in contrast to **stagnating/declining trend** in EU-27 & DR (EU)
- **Sizeable decline (or continuing stagnation)** in all domains and regions between 2018 and 2022



Note: EU-27, DR (EU) and DR (non-EU) average estimates are calculated as simple (not weighted) averages.
Data source: OECD PISA

ii. PISA 2022: Cross-country variation

- Notable **DR - EU gaps** of around 30 points in all domains
- CZ **above EU-27** in all domains; HR in reading and science; HU in science; SL in math and science
- BG, RO, SK, ME, RS, MD notably **below the EU-27 level**

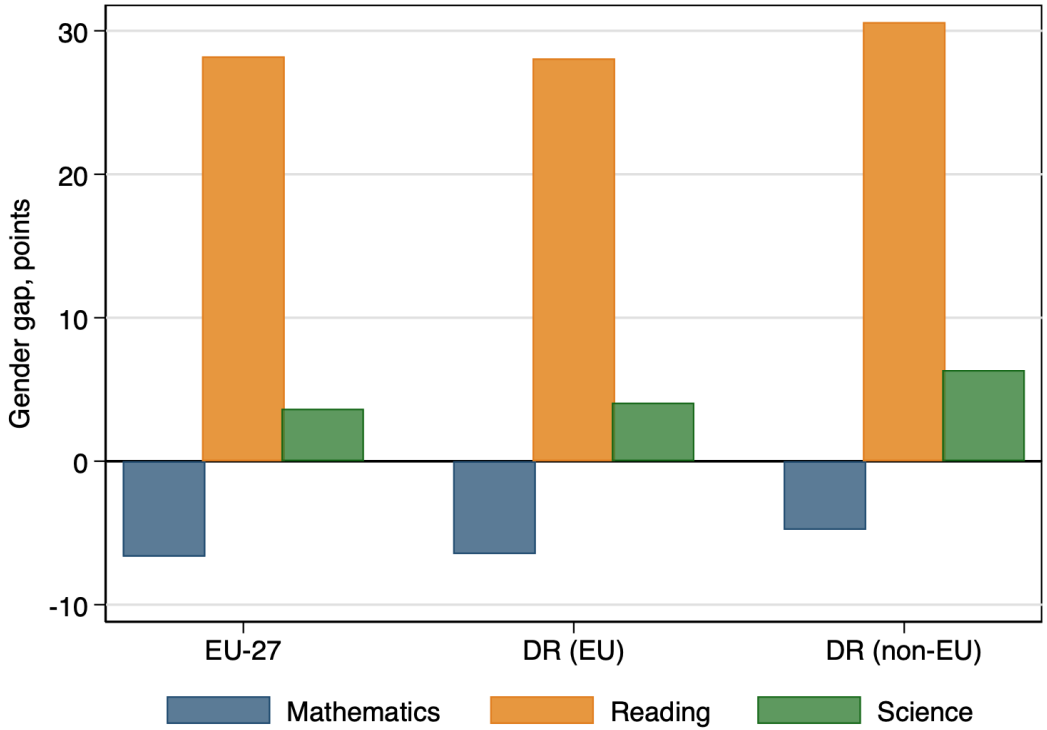


Note: EU-27 and DR are average estimates are calculated as simple (not weighted) averages.
Data source: OECD PISA

iii. PISA 2022: Gender gaps

(a difference between female- and male-average)

- **Similar gender divide** across the regions
  - sizeable **female-favouring gap** in reading (27 to 31 points) and marginal gap science (4 to 7 points)
  - marginal **male-favouring gap** in mathematics (5 to 7 points)

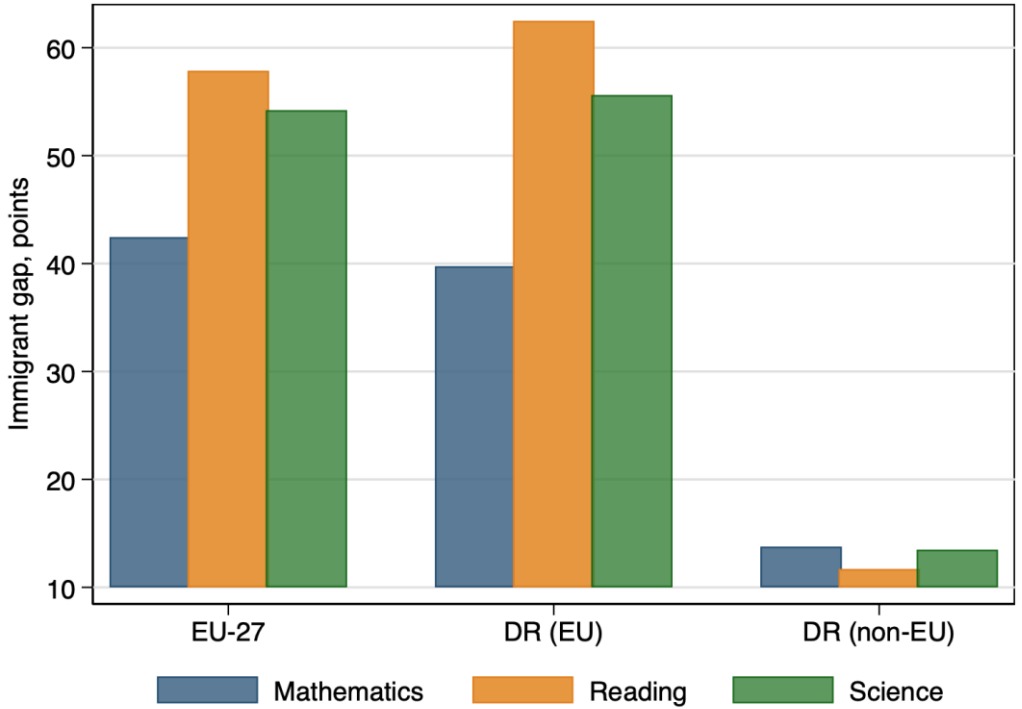


Note: EU-27, DR (EU), DR (non-EU) are average estimates are calculated as simple (not weighted) averages.
Data source: OECD PISA

iv. PISA 2022: Immigrant gaps

(a difference between native- and foreign-born average)

- **No sizeable origin-driven divide** in DR (non-EU) region
- Foreign-born attain **much lower levels in all three competencies** in EU-27 and DR (EU):
  - the absolute gaps are highest for reading and science both in EU-27 and DR (EU)



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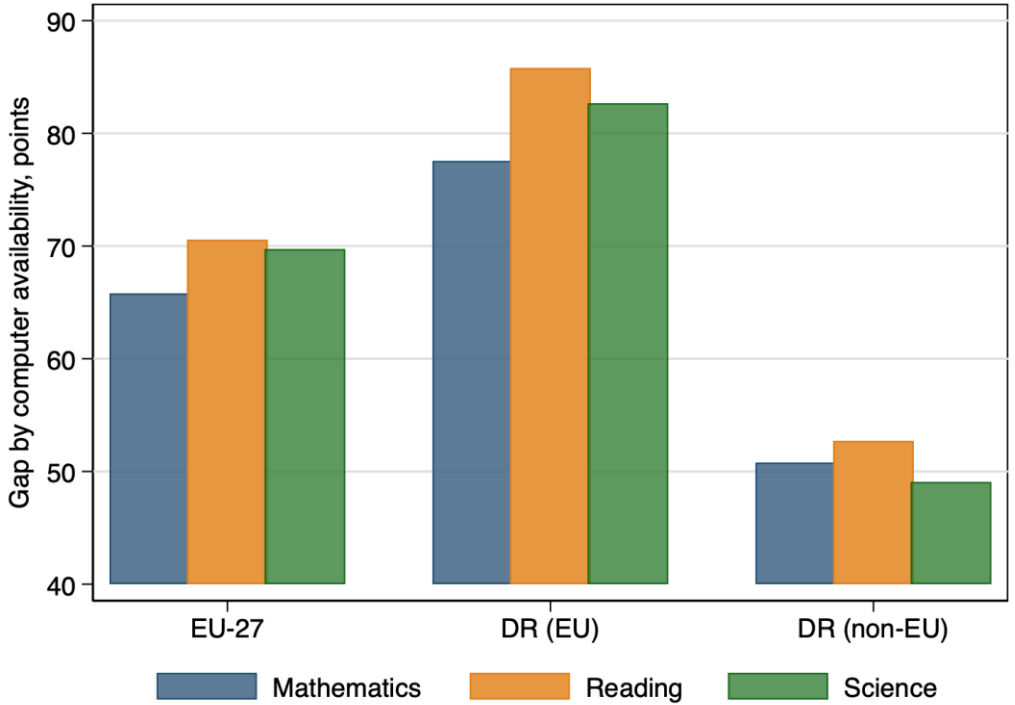
Data source: OECD PISA

v. PISA 2022: Gaps by availability of computer

(a difference between average for those with and without available computer)

… as a proxy for socio-economic status

- The **largest disparity** for all regions
- The absolute gaps are **highest** for DR (EU) and **lowest** for DR (non-EU)



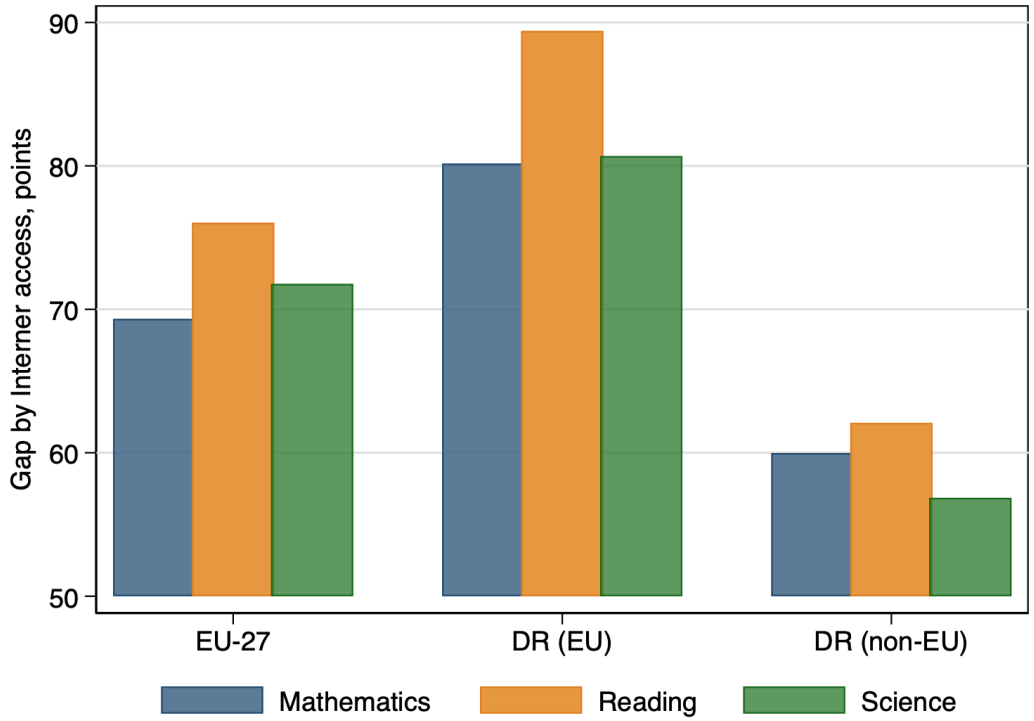
Note: EU-27, DR (EU), DR (non-EU) are average estimates are calculated as simple (not weighted) averages.
Data source: OECD PISA

vi. PISA 2022: Gaps by Internet access

(a difference between average for those with and without Internet access)

… as a proxy for socio-economic status

- Even **stronger divide in scores**
- **Gaps are largest** for reading in all regions



Note: EU-27, DR (EU), DR (non-EU) are average estimates are calculated as simple (not weighted) averages.
Data source: OECD PISA

Takeaways:

The regional education/skills divide

- Overall **positive dynamics** in the DR and signs of a gradual catch-up in several education and skills indicators (share of tertiary education, digital skills, etc.)
- Yet, shares of tertiary graduates, LLL uptake, level of basic competencies in the DR overall remain **steadily below the EU-27 average**
- Only in ICT skills the DR average **almost compares to that of EU-27**
- Ample cross-country disparities within the DR persist, with **sizeable EU / non-EU divide** in tertiary education, LLL, and basic competencies, albeit a sizeable improvement in the latter over last decade
- **Disappearing EU / non-EU divide** in ICT skills among those ages 16 to 54, as non-EU countries of the DR converge to the EU-27 level, while some DR (EU) countries, incl. BG and RO, lag far behind

Takeaways:

The demographic and socio-economic education/skills divide

- **Gender divide in tertiary education** widens at higher pace in the DR ← *outmigration of highly-educated men*
- **Strong gender divide in LLL** in the DR, with notably less women participating in LLL
- **Age divide in the ICT skills** is stronger in the DR than EU-27, while **gender divide in ICT skills** is of smaller magnitude in the DR than EU-27
- Marginal **gender divide in mathematics and science**, yet steadily lower **reading** competence among males in the DR and EU-27 alike
- **Migration-driven divide in basic competences** is stark in EU-27 and DR (EU), yet not in the DR (non-EU) ← *difference in the profile of immigrants*
- **Socio-economic divide in basic competencies** is the most pronounced across the DR and EU-27, yet of smaller magnitude in DR (non-EU) countries

Way forward

- Many countries in the Danube Region (mainly non-EU) still **lag behind in formal educational attainment, digital skills and basic competencies**
- Decades-long demographic decline, fuelled by outmigration and stagnating fertility, will face Danube Region with **demographic outlooks even more grim than EU-27 overall** → **widening already looming skill gaps and shortages further**
- **Narrowing within-region education/skill divide** and addressing **gender, migration-driven and socio-economic disparities in skills and competencies** is essential to…
  - (i) support inclusivity and welfare growth
  - (ii) provide the economies with workers, equipped with skills and knowledge needed and rewarded on the labour market

Thank you for your attention!

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Danube Region country codes and grouping

AT	Austria	MD	Republic of Moldova
BA	Bosnia and Herzegovina	ME	Montenegro
BG	Bulgaria	RO	Romania
CZ	Czechia	RS	Serbia
DE	Germany	SI	Slovenia
HR	Croatia	SK	Slovakia
HU	Hungary	UA	Ukraine

DR (EU)	AT, BG, CZ, DE, HR, HU, RO, SI, SK
DR (non-EU)	BA, ME, MD, UA
'Old' member states	AT, DE
'New' member states	BG, CZ, HR, HU, RO, SI, SK
EU (potential) candidate countries	BA, ME, MD, UA