EU Demographic Risk & Scenario Analysis

Structural drivers of demographic risk in EU countries

This report examines demographic risk across EU countries using a composite index capturing ageing pressure, dependency dynamics, fertility structure and volatility indicators.

The analysis focuses on Czechia and Slovakia within a broader EU and regional context.

Data: Eurostat | PostgreSQL (SQL) | Power BI | Python | Scenario-based risk modelling

Personal analytical project | Vladimir Luhovy | 2026

Peer Comparison

CZ–SK core

Low-ageing reference

Other EU

Post-Communist

Southern high-ageing

V4

Slovakia risk score

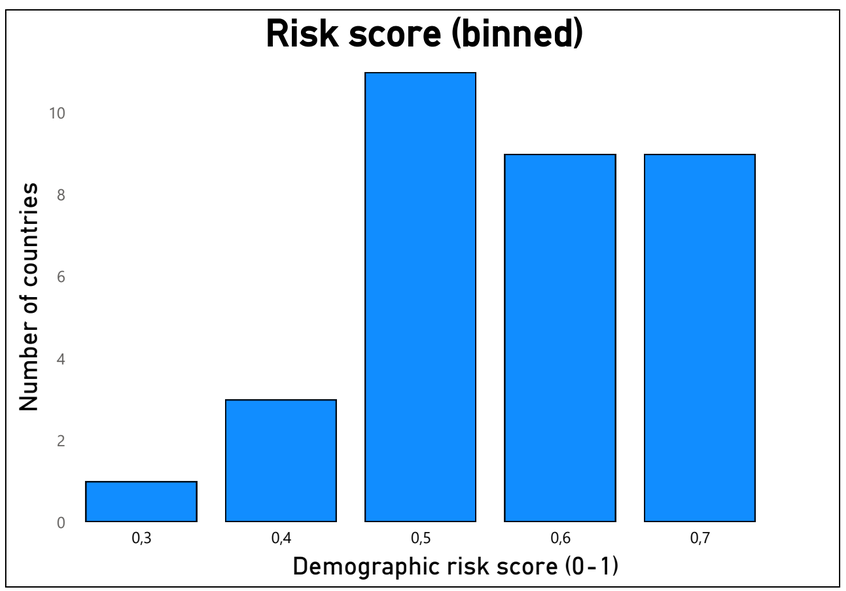
0,65

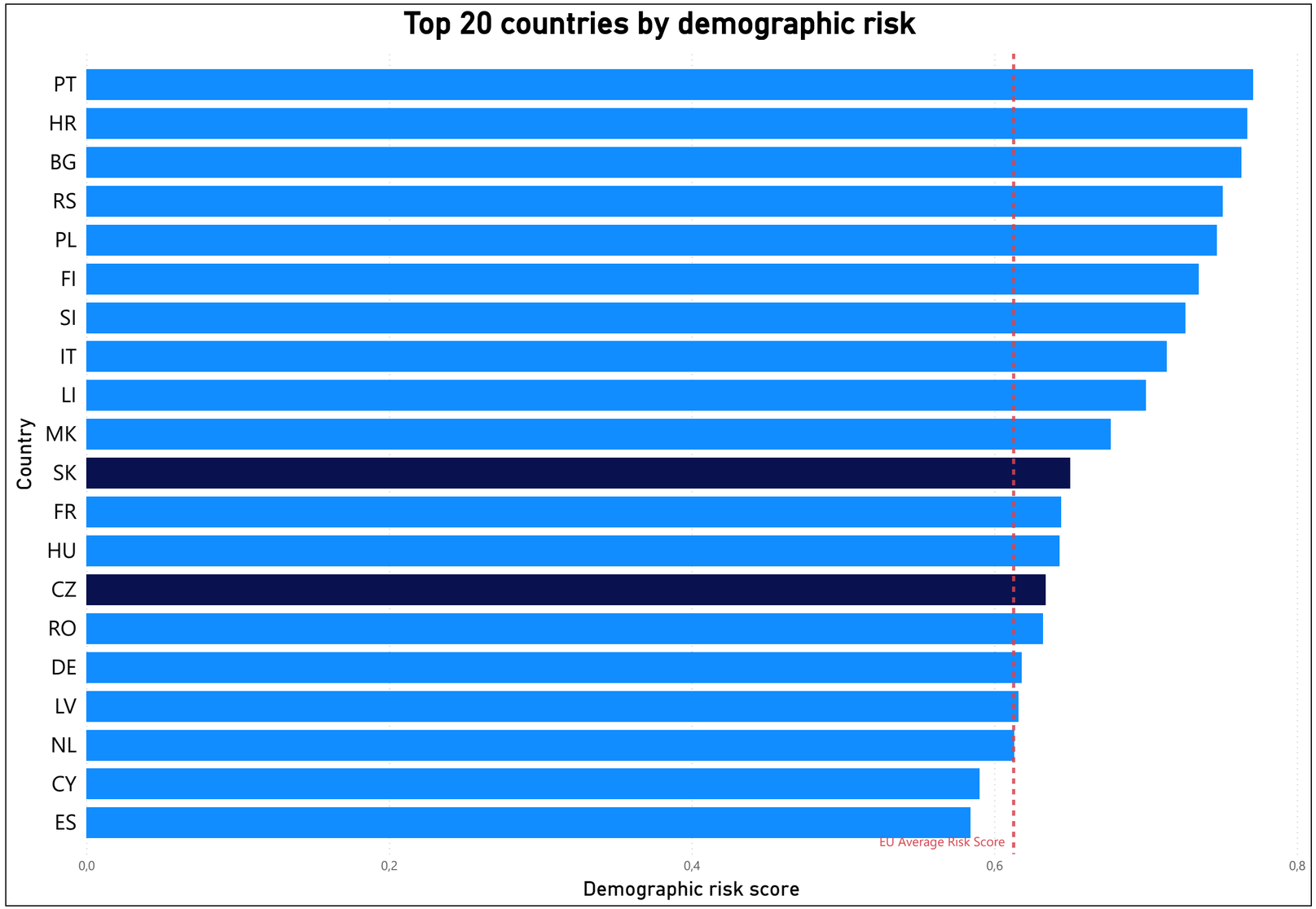
Czechia risk score

0,63

EU average risk score

0,61

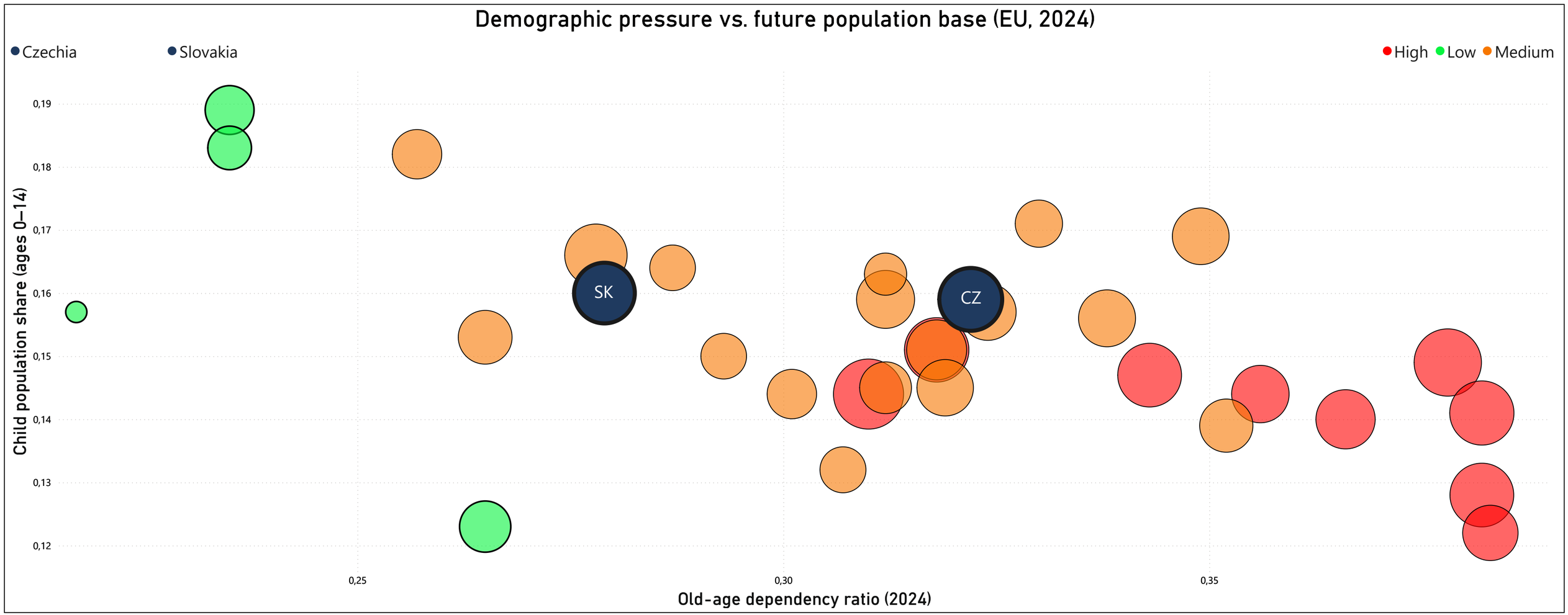




EU Demographic Risk Overview

Demographic risk across EU countries is unevenly distributed, with most countries clustering in the mid-risk range and a smaller group exhibiting elevated risk levels.

Czechia and Slovakia both score above the EU average, positioning them within the higher-risk segment of the current EU demographic landscape.



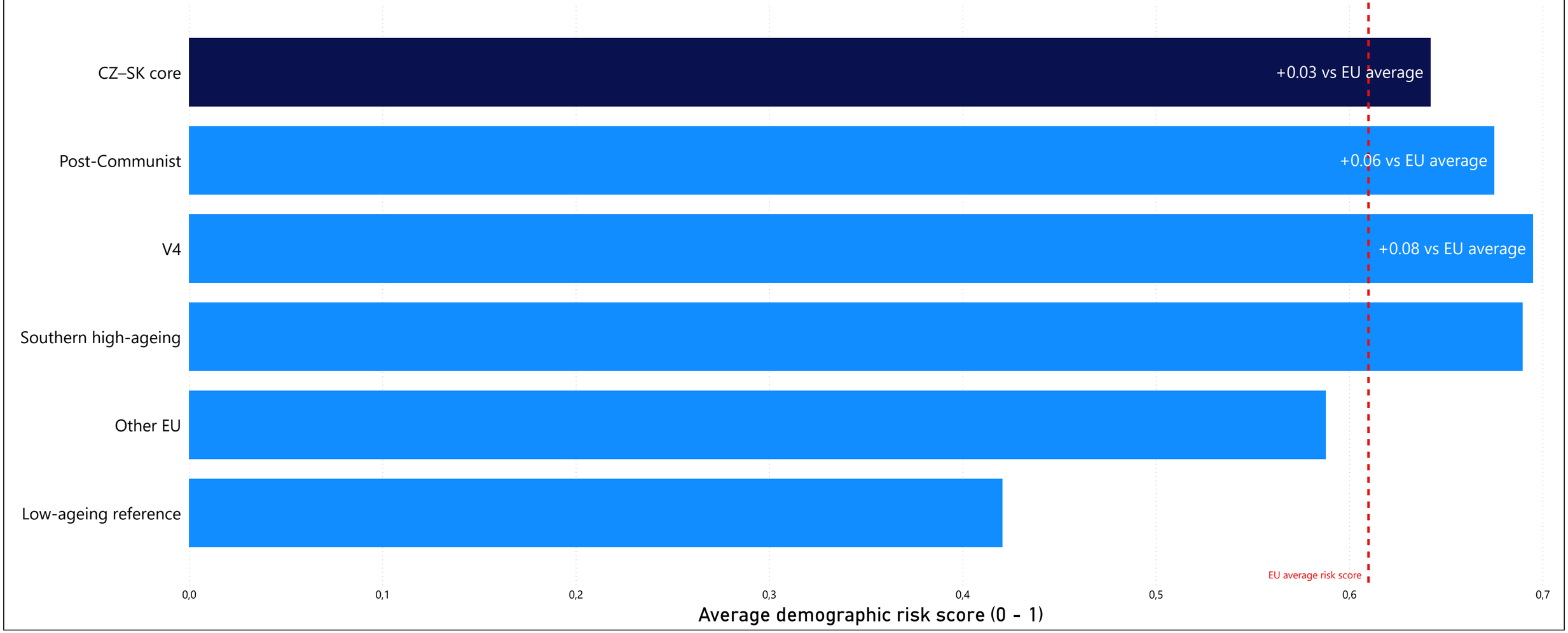
Structural Drivers of Demographic Risk

Czechia and Slovakia combine above-average old-age dependency with only moderate child population shares, placing them under increasing structural demographic pressure.

Slovakia appears slightly more exposed, reflecting faster ageing dynamics within the regional context.

Bubble size: Ageing speed
Color: Demographic risk tier

Peer comaprison: demographic risk



Regional Context of Demographic Risk

Czechia and Slovakia exhibit demographic risk levels above the EU average, broadly aligned with post-communist and V4 peer groups.

This suggests that the elevated risk observed in CZ-SK primarily reflects regional demographic dynamics rather than an EU-wide anomaly.

In contrast, the heterogeneous composition of the "Other EU" group masks substantial cross-country variation, while low-ageing reference countries remain structurally less exposed.

Risk Score Stability Across Alternative Scenarios (Baseline-anchored ordering)

country_code	Baseline	Ageing-heavy scenario	Fertility-heavy scenario
PT	0,77	0,77	0,79
HR	0,77	0,76	0,76
BG	0,76	0,76	0,76
RS	0,75	0,74	0,74
PL	0,75	0,74	0,72
FI	0,74	0,75	0,72
SI	0,73	0,72	0,72
IT	0,71	0,69	0,76
LI	0,70	0,70	0,70
MK	0,68	0,67	0,64
SK	0,65	0,64	0,63
CZ	0,63	0,63	0,62

Scenario Robustness Insight

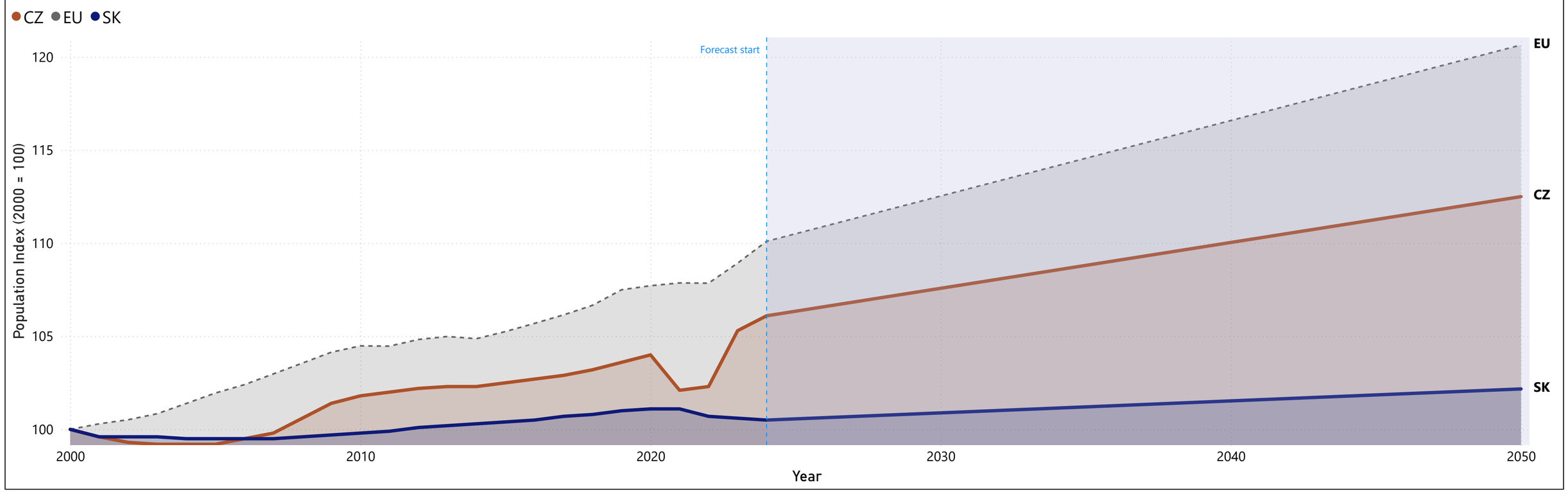
Across alternative weighting scenarios, the relative positioning of high-risk countries remains largely stable, indicating limited sensitivity to modelling assumptions.

Czechia and Slovakia retain similar risk tiers under ageing-heavy and fertility-heavy assumptions, indicating that their elevated demographic risk reflects structurally persistent pressures rather than a single modelling choice.

Color intensity reflects relative demographic risk tier.

Demographic Outlook to 2050 (Indexed Population, 2000 = 100)

Historical trend with linear extrapolation of post-2000 dynamics



Key Takeaway

Despite broadly similar starting points in 2000, Czechia, Slovakia and the EU exhibit increasingly divergent population trajectories over time.

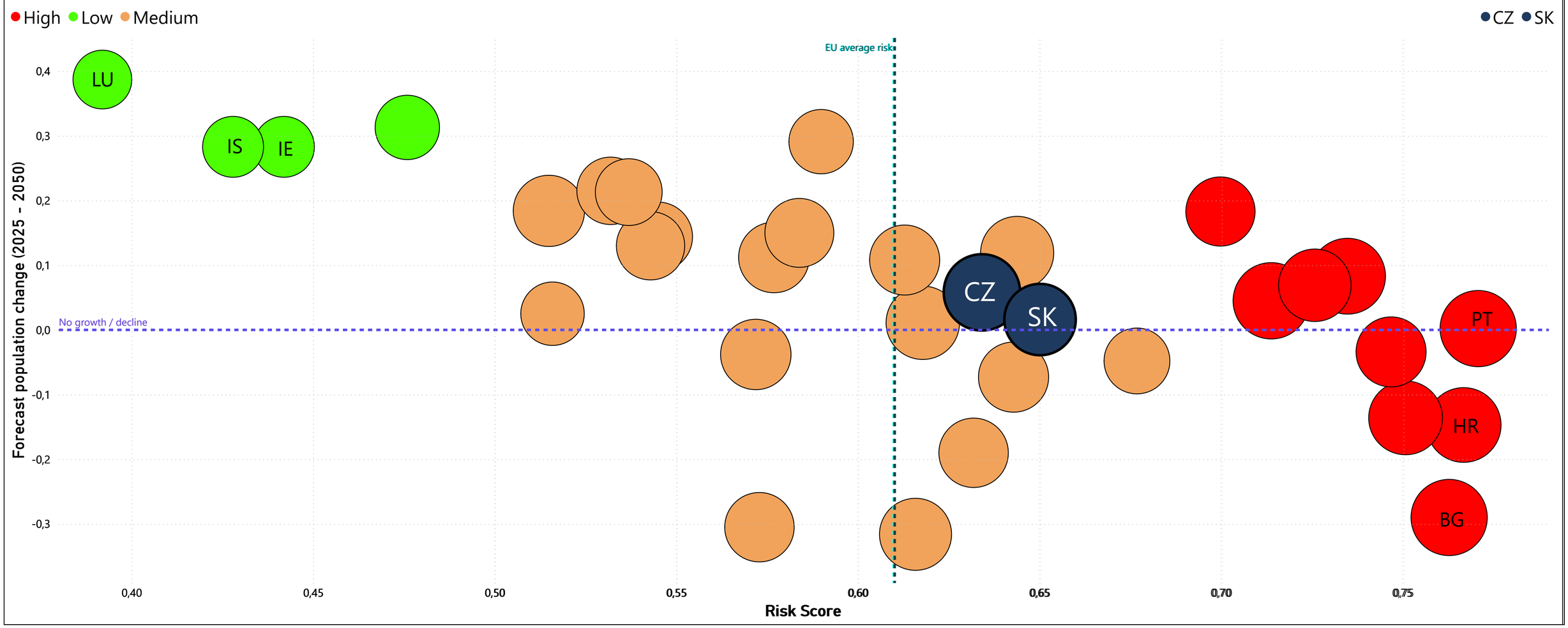
Czechia's indexed population growth remains moderately positive, while Slovakia shows near-stagnation, and the EU average continues to expand more steadily.

The post-2024 projection suggest that recent demographic dynamics are likely to persist rather than reverse, reinforcing long-term structural differences across countries.

Methodological note:

Population outlook is based on trend extrapolation of post-2000 dynamics. Illustrative scenario, not an official demographic projection.
Index values show relative population change (2000 = 100). A value of 110 indicates a 10% increase since 2000.

Current risk vs population change (2025–2050)



Interpretation

Higher current demographic risk is strongly associated with population decline by 2050.

Czechia and Slovakia cluster around the EU average risk threshold, with limited demographic upside and elevated exposure to adverse ageing dynamics.

Forecast based on trend extrapolation of post-2000 population dynamics. Illustrative scenario, not an official demographic projection.