Key messages

CESEE populations are expected to decline and age significantly

⬇

Fewer workers, higher public spending, lower productivity

⬇

Growth, living standard convergence, fiscal sustainability

⬇

Labor market reforms, can mitigate—but not fully offset—the growth effects

⬇

Need the full range of complementary policies to boost labor intensity, capital stock, and productivity

Agenda

1. **Demographic prospects for CESEE countries**
2. Labor supply
3. Public spending on pensions and health care
4. Potential effects on productivity
5. Effects on growth and income convergence
6. Policy priorities

The total population of the CESEE region is projected to decline significantly,...

Total Population Growth
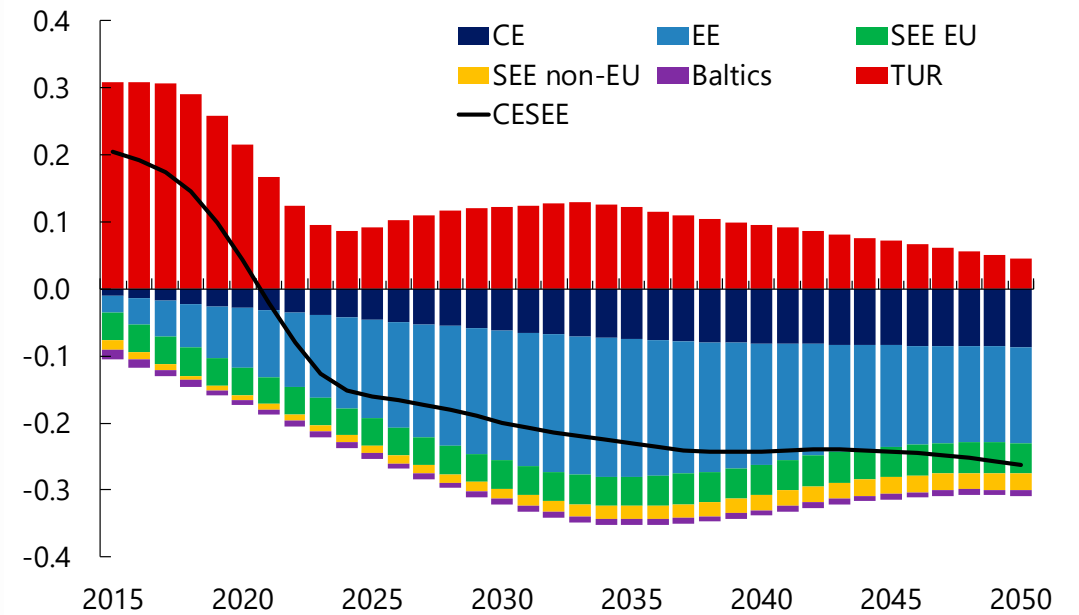(Percent, over whole period)

Legend:
- from 2017 to 2030
- from 2030 to 2050
- from 2017 to 2030
- from 2030 to 2050
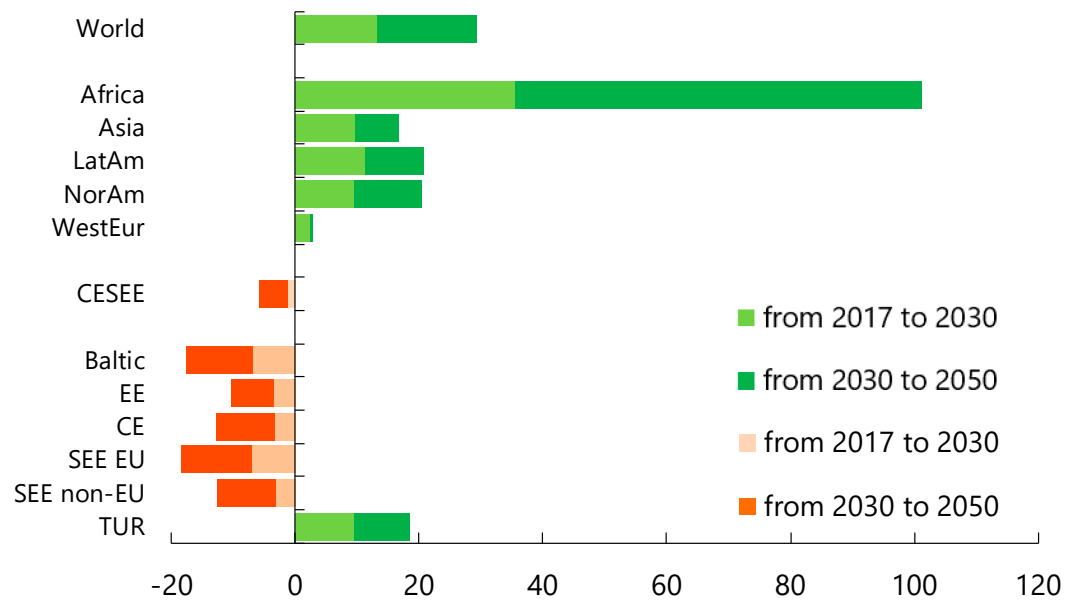
Source: United Nations.

Contributions to Total Population Growth
(Year-over-year percent change)

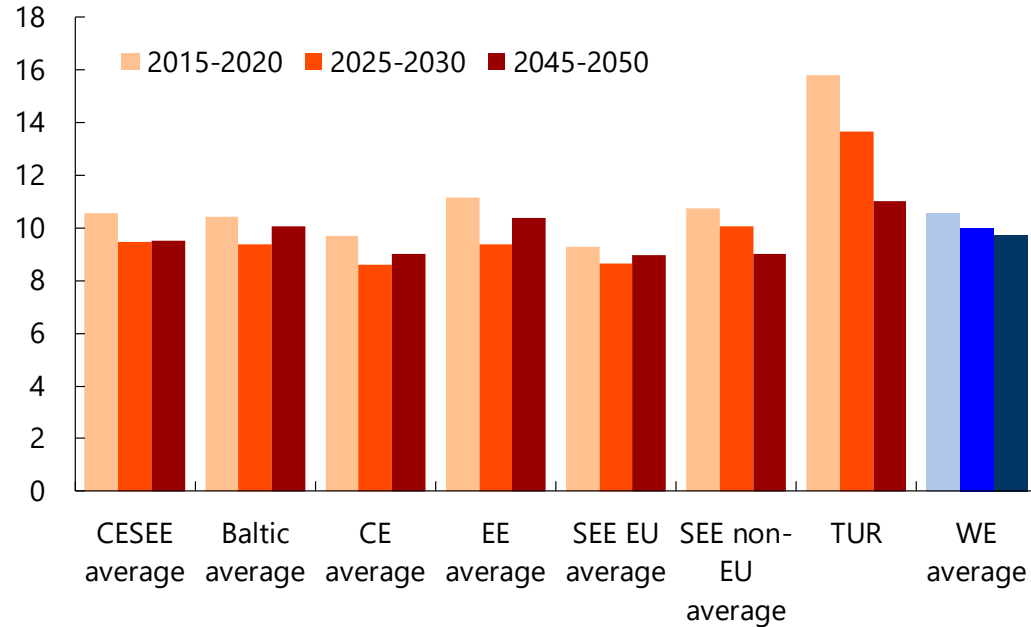Legend: CE, EE, SEE EU, SEE non-EU, Baltics, TUR, CESEE

Sources: United Nations, and IMF staff calculations.

...which is largely the consequence of relatively high mortality rates...

Birth Rates
(Live births per 1000 population)
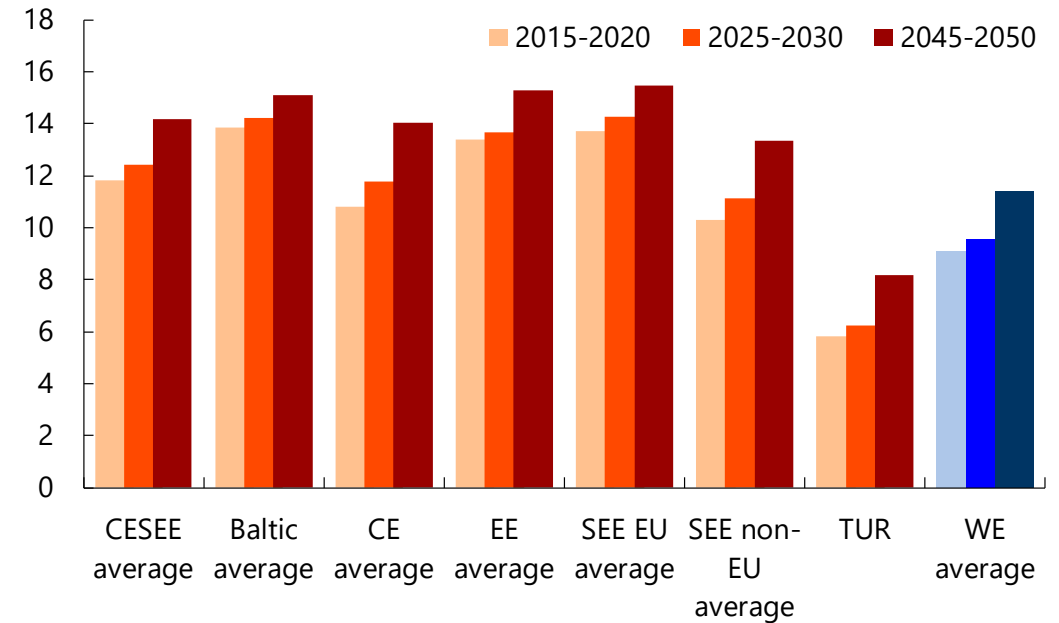
2015-2020 | 2025-2030 | 2045-2050

Sources: United Nations, and IMF staff calculations.

Mortality Rates
(Deaths per thousand of population)

2015-2020 | 2025-2030 | 2045-2050
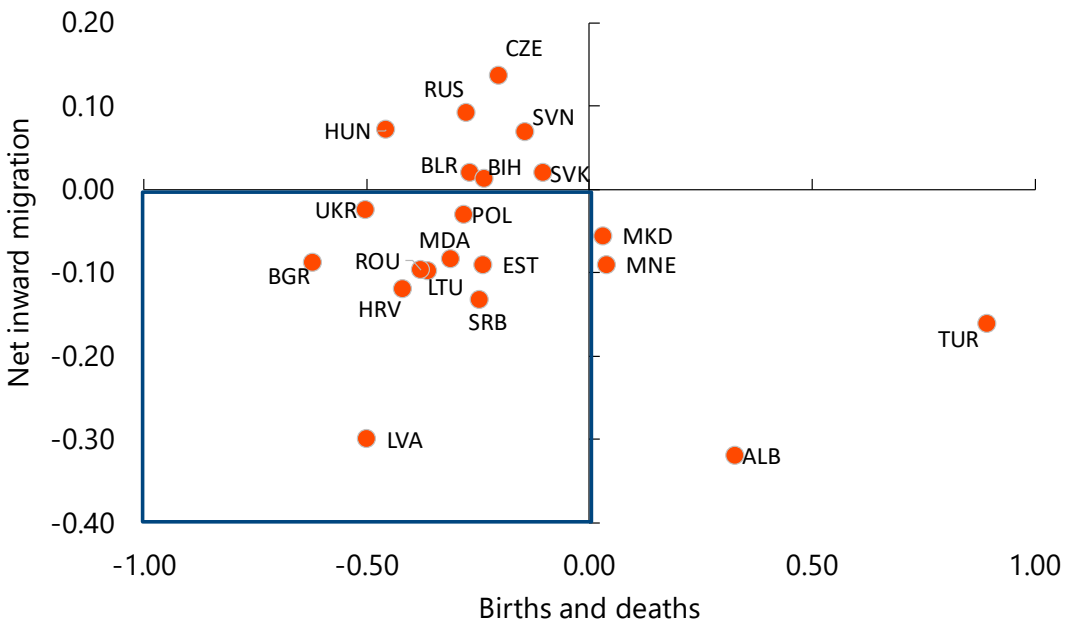
Sources: United Nations, and IMF staff calculations.

...and significant net outward migration

Growth in Population from Migration
(Percentage points of total population growth)

Contributions to Total Population Growth, 2017-2030
(Percent, yearly)

Sources: United Nations, and IMF staff calculations.

Sources: United Nations, and IMF staff calculations.

Half of CESEE countries are projected to experience population losses of 15 percent between now and 2050

Population Changes
(Percent)

Legend: 2017 to 2050, 2017 to 2030

Countries (left to right): BGR, LVA, MLD, UKR, HRV, LTU, ROU, SRB, POL, HUN, BIH, EST, BLR, ALB, SVK, RUS, MKD, SLV, MNE, CZE, TUR
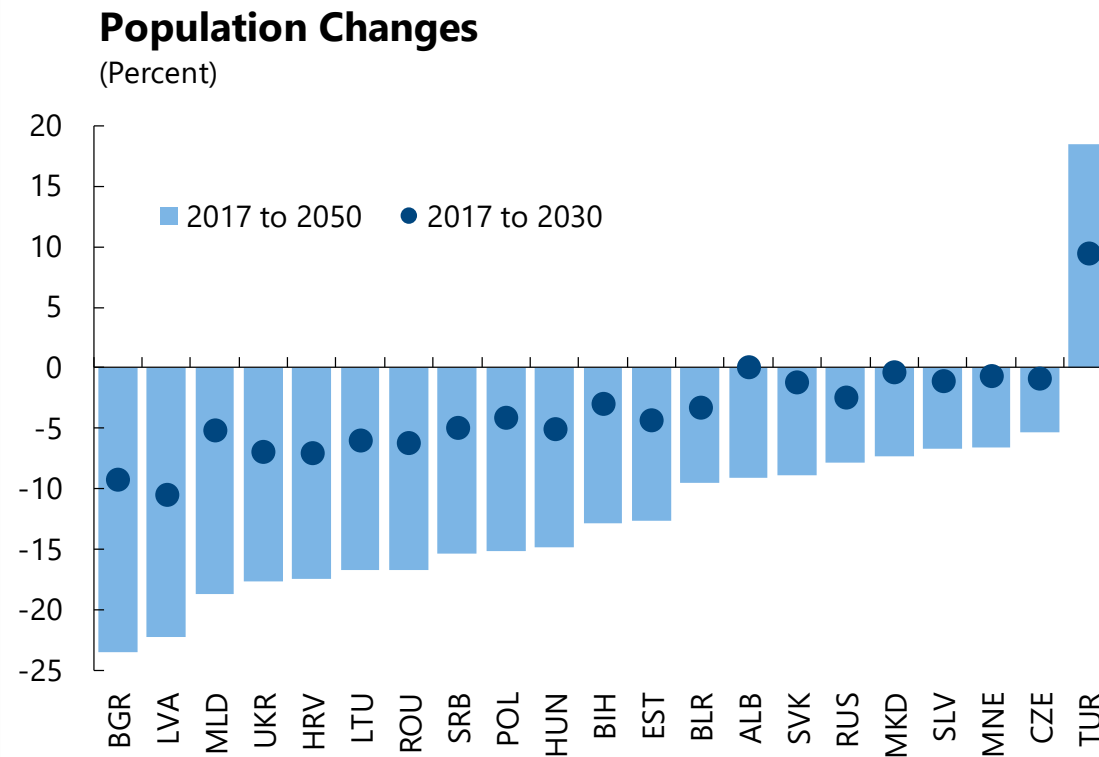
Sources: United Nations, and IMF staff calculations.

In addition, CESEE countries are projected to age more quickly than the Western European average

Median Age: Starting Point vs Change
(Years)

Western European averages

Median age in 2015

Change from 2015 to 2050

MDA, POL, ALB, MKD, SVK, TUR, BIH, CZE, SVN, UKR, EST, MNE, HRV, BLR, ROU, BGR, RUS, SRB, HUN, LVA, LTU

Sources: United Nations, and IMF staff calculations.
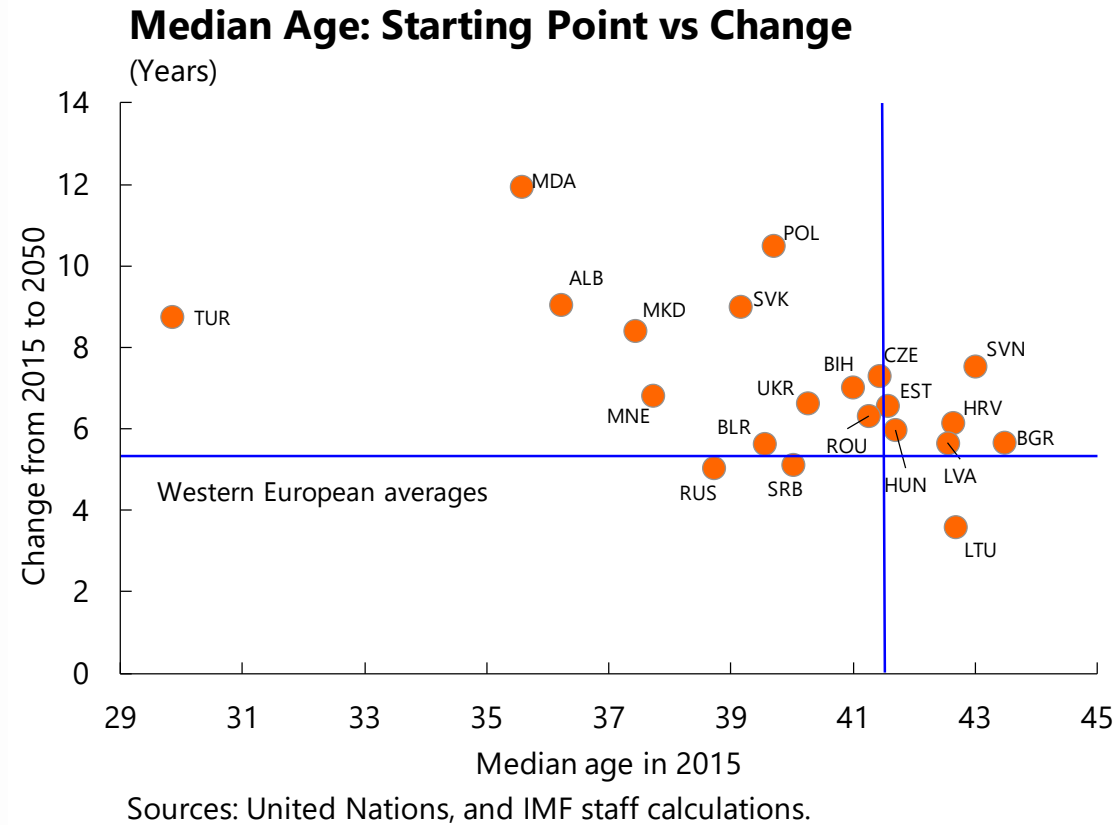
These demographic shifts can have economic implications

- A shrinking labor force could slow potential growth

- An aging labor force could decrease productivity

- Increasing old-age dependence puts pressure on the cost of public services

Agenda

1. Demographic prospects for CESEE countries
2. **Labor supply**
3. Public spending on pensions and health care
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Under current labor market policies, the labor force is projected to decline drastically by 2050

Labor Force Projections under Baseline Scenario
(Percent change from 2015)
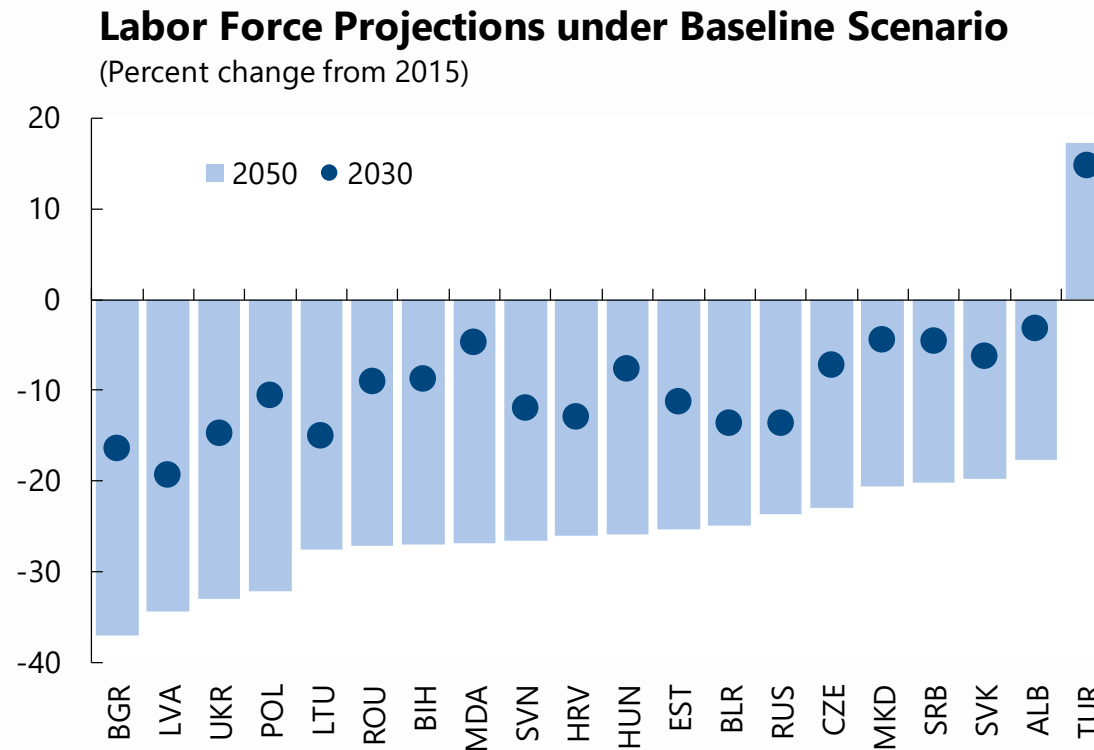
Sources: UN population projections, IMF staff estimates

Two reform scenarios to illustrate the potential impact of policies

- **Moderate reform scenario**: assumes moderately paced annual increases in female and older worker labor force participation rates to the highest Western European rates and retirement age increases in line with life expectancy, but not higher than 67

- **Ambitious reform scenario**: assumes rapid annual increases in female and older worker labor force participation rates to the highest Western European rates and retirement age increases in line with life expectancy, beyond 67

In some countries ambitious reforms would be very powerful – in others less so
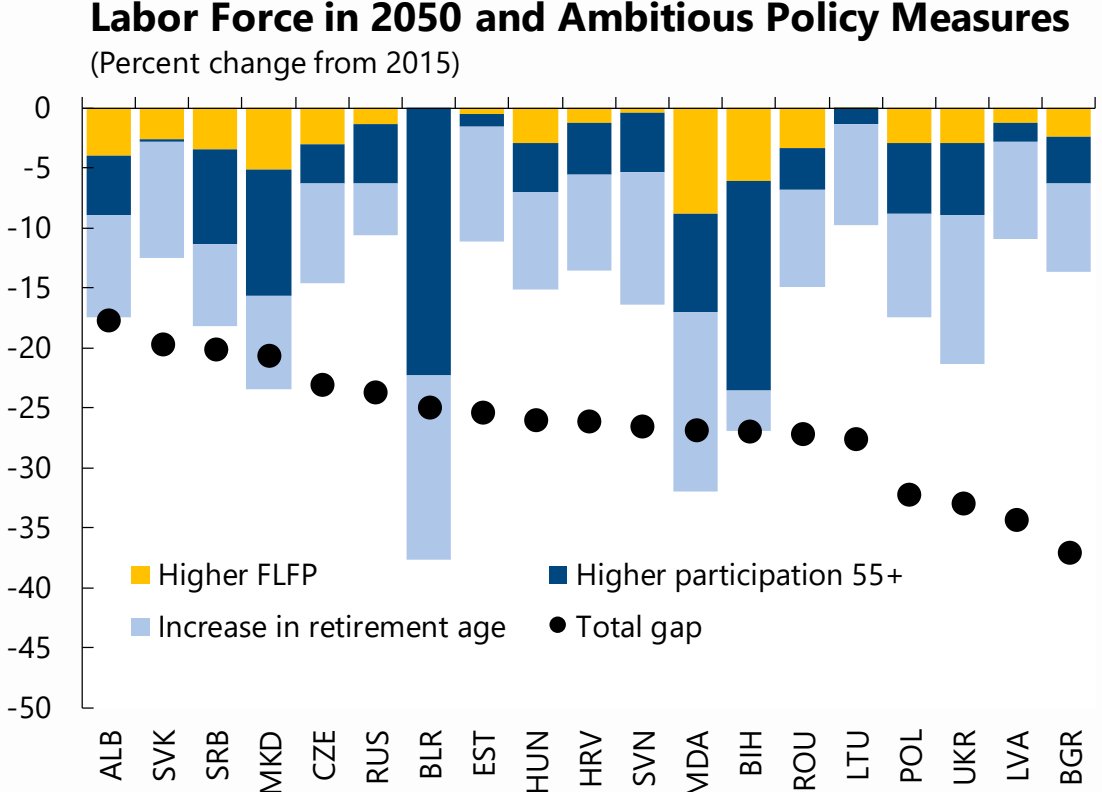
Labor Force in 2050 and Ambitious Policy Measures

(Percent change from 2015)

Legend:
- Higher FLFP
- Higher participation 55+
- Increase in retirement age
- Total gap

Countries (x-axis): ALB, SVK, SRB, MKD, CZE, RUS, BLR, EST, HUN, HRV, SVN, MDA, BIH, ROU, LTU, POL, UKR, LVA, BGR

Agenda

1. Demographic prospects for CESEE countries
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3. **Public spending on pensions and health care**
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Pension and healthcare costs are expected to increase by nearly 4 percentage points of GDP by 2050

- At current replacement rates which are about 33 percent on average

- Or 7 percentage points at 40 percent replacement rates as recommended by the ILO

Change in Age-related Spending, 2015-2050
(Percent of GDP)

Legend:
- Pensions - Increase replacement rate to 40% (ILO minimum)
- Pensions
- Healthcare
- Total

Countries (x-axis): SRB, SVK, EST, ROU, BGR, CZE, MKD, HUN, BLR, LVA, TUR, LTU, POL, HRV, ALB, UKR, RUS, MDA, SVN, BIH

Ambitious labor market reforms with 40% replacement rates would generate savings of nearly 5 pps of GDP
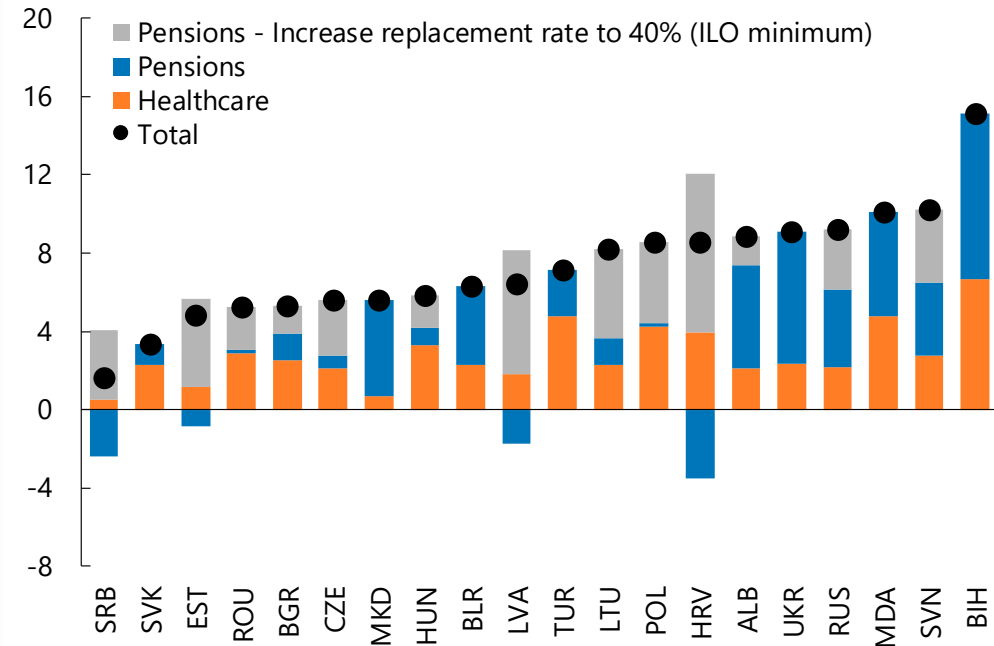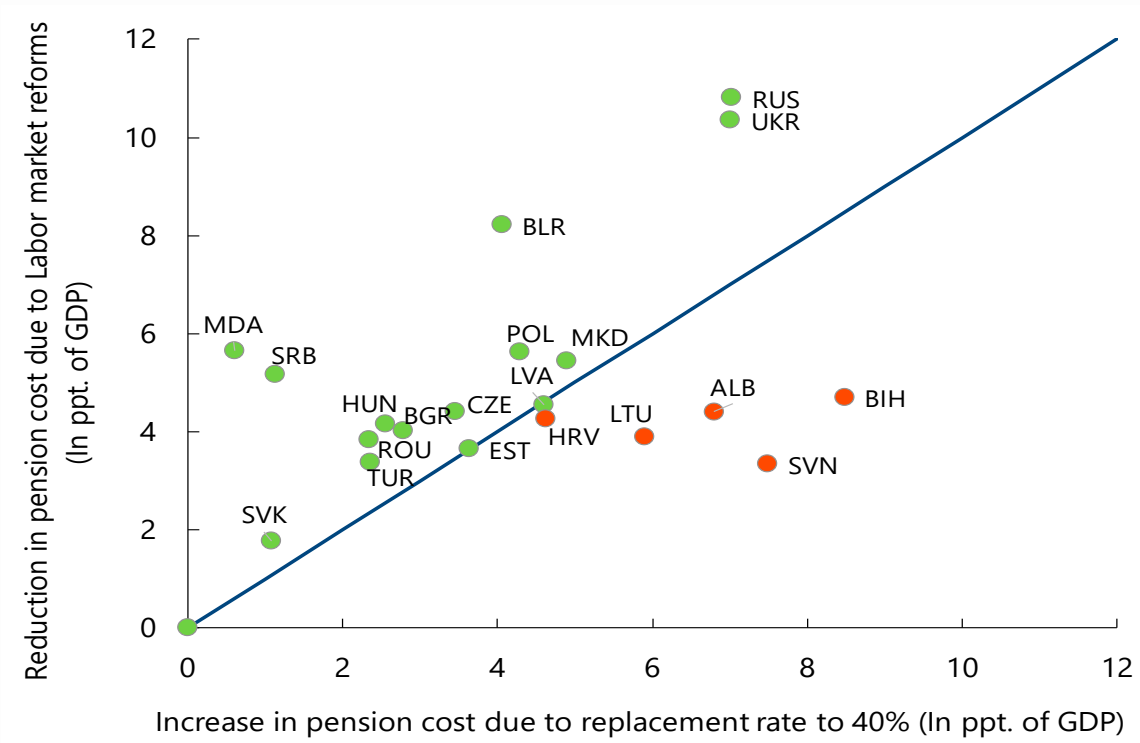
Agenda

1. Demographic prospects for CESEE countries
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4. **Potential effects on productivity**
5. Effects on growth and income convergence
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A priori the impact of an aging workforce on productivity is unknown and externalities play a major role

Positive effects:

- Older workers have more work experience
- Incentives to innovate should increase as skilled labor becomes scarce, increasing the payoffs to automation

Negative effects:

- Age-related deterioration in physical and mental capabilities and depreciation of knowledge
- Older workers might find it more challenging to adapt to changing job requirements
- Innovation may become less profitable as population growth slows, e.g. by reducing market size
- Aging societies may lose some of their "dynamism" slowing the rate of technological progress
- The entry of new firms and entrepreneurship can slow with the aging of population and workforce

The projected composition of the workforce suggests that productivity growth in CESEE countries is likely to decline
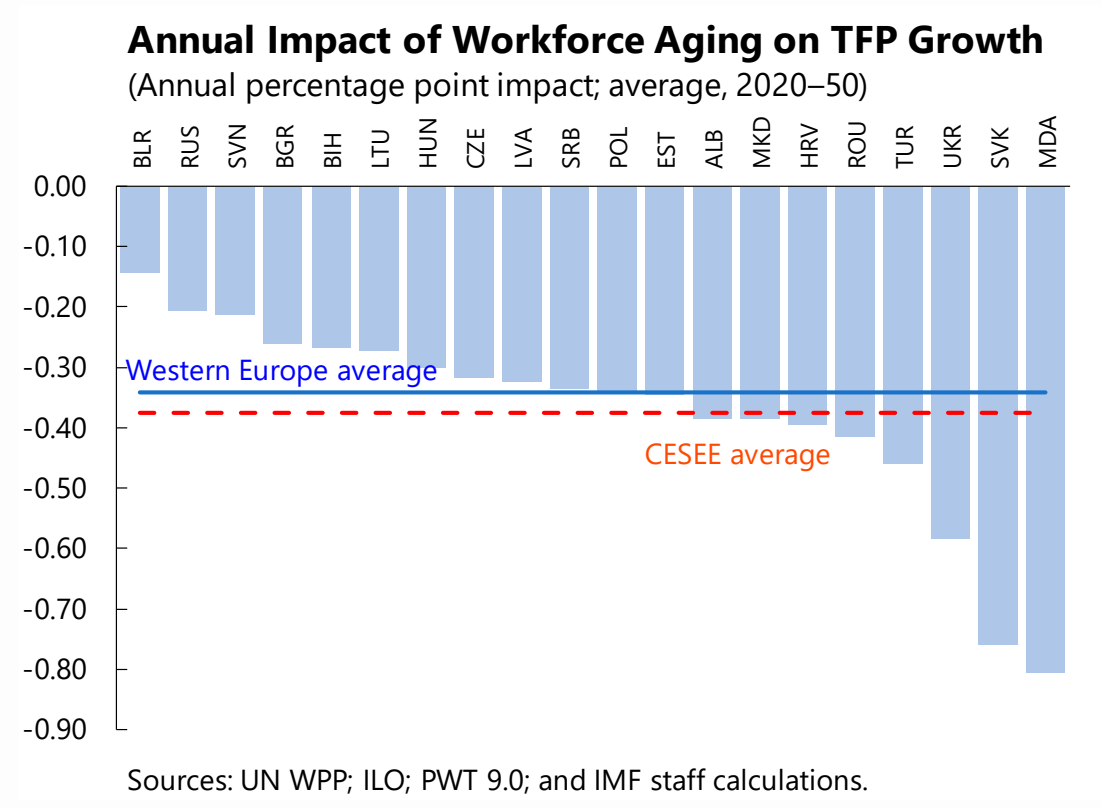
- Empirical question

- A one-percentage-point increase in the share of workers ages 55+ is associated with a **decrease in TFP growth by about 0.6 percentage points** (similar to other findings in the literature)

- Caveats: Statistical uncertainty and past may not be indicative of the future

Average Share of Workers in the Total Workforce, by Age
(In percent)

CESEE, 45-54
CESEE, 55+
Western Europe, 45-54
Western Europe, 55+
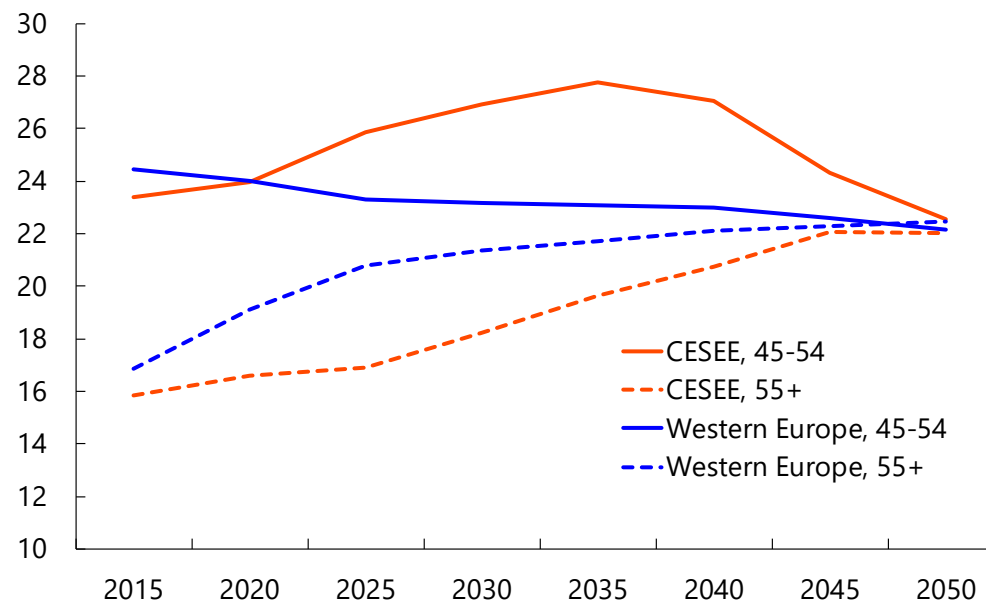
Sources: UN WPP; ILOSTAT; IMF staff calculations.

The average annual decrease of TFP growth is 0.38 pps in CESEE and 0.34 pps in Western Europe in 2020–50
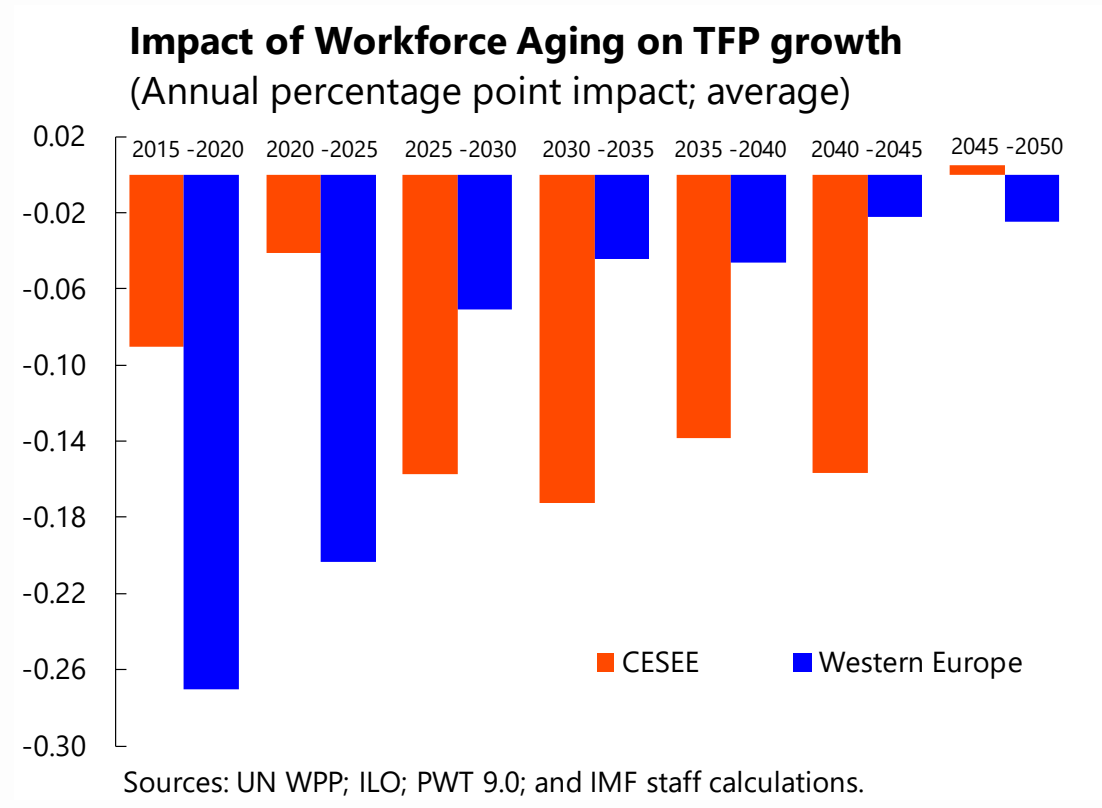
Impact of Workforce Aging on TFP growth
(Annual percentage point impact; average)

Legend: ■ CESEE   ■ Western Europe

Sources: UN WPP; ILO; PWT 9.0; and IMF staff calculations.

Annual Impact of Workforce Aging on TFP Growth
(Annual percentage point impact; average, 2020–50)

Western Europe average
CESEE average

Sources: UN WPP; ILO; PWT 9.0; and IMF staff calculations.

Agenda

1. Demographic prospects for CESEE countries
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4. Potential effects on productivity
5. **Effects on growth and income convergence**
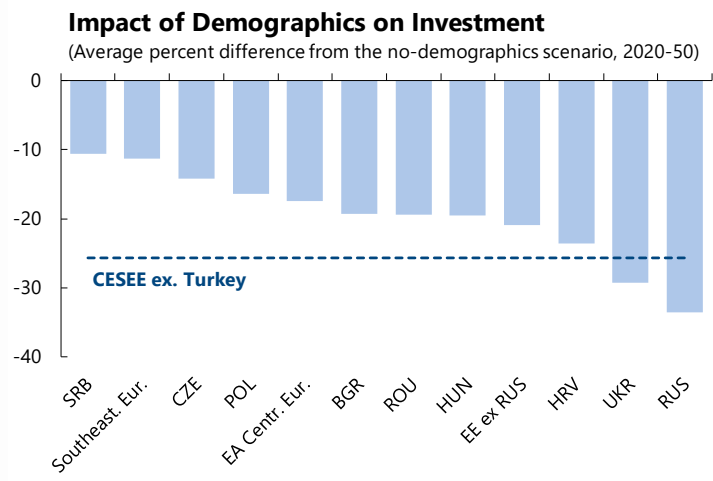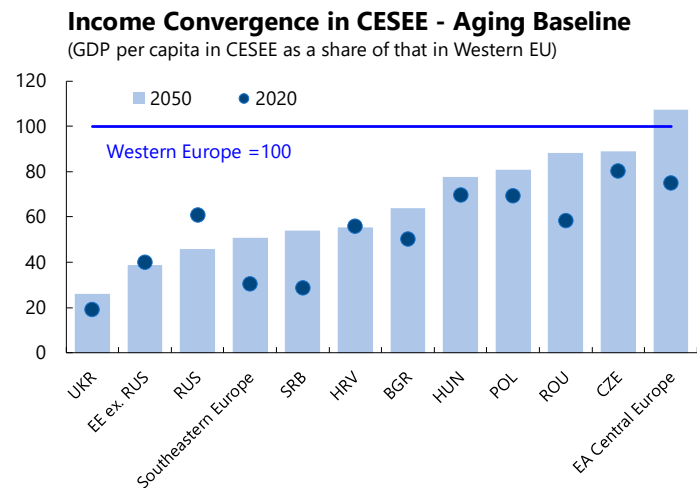6. Policy priorities

EEUMOD: CESEE average GDP growth lower by about 1.2 pps and GDP levels by 31 percent by 2050

Impact of Demographics on GDP Growth
(Average yearly impact from 2020-2050, percentage points)

CESEE ex. Turkey

Source: IMF staff estimates.

Income Convergence in CESEE - Aging Baseline
(GDP per capita in CESEE as a share of that in Western EU)

2050   2020

Western Europe =100

Source: IMF staff estimates.

Impact of Demographics on Investment
(Average percent difference from the no-demographics scenario, 2020-50)

CESEE ex. Turkey

Source: IMF staff estimates.

Impact of Demographics on the Deficit-to-GDP Ratio
(Percent of GDP; change between 2020-50)

CESEE ex. Turkey

Source: IMF staff estimates.

Moderate and ambitious labor market reforms would improve GDP growth by about 0.2 and 0.4 pps
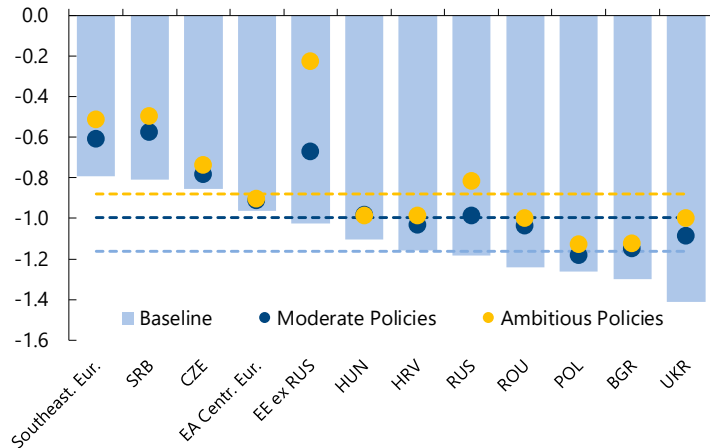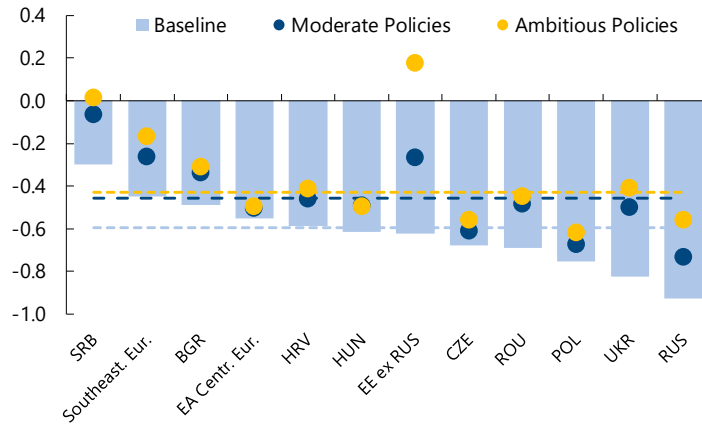
Impact of Demographics on GDP Growth
(Average yearly impact from 2020-2050, percentage points)

Baseline · Moderate Policies · Ambitious Policies

Countries: Southeast. Eur., SRB, CZE, EA Centr. Eur., EE ex RUS, HUN, HRV, RUS, ROU, POL, BGR, UKR

Source: IMF staff estimates.

Impact of Demographics on GDP Per Capita Growth
(Average yearly impact from 2020-2050, percentage points)

Baseline · Moderate Policies · Ambitious Policies

Countries: SRB, Southeast. Eur., BGR, EA Centr. Eur., HRV, HUN, EE ex RUS, CZE, ROU, POL, UKR, RUS

Source: IMF staff estimates.

Impact of Demographics on Deficit-to-GDP Ratio
(Percent of GDP; change between 2020-50)

Baseline · Moderate Policies · Ambitious Policies

Countries: UKR, EE ex RUS, HRV, HUN, EA Centr. Eur., POL, RUS, CZE, BGR, Southeast. Eur., ROU, SRB
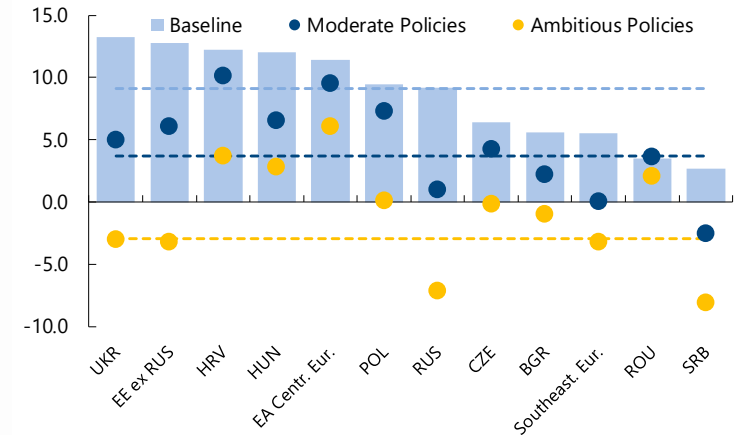
Source: IMF staff estimates.

Agenda

1. Demographic prospects for CESEE countries
2. Labor supply
3. Public spending on pensions and health care
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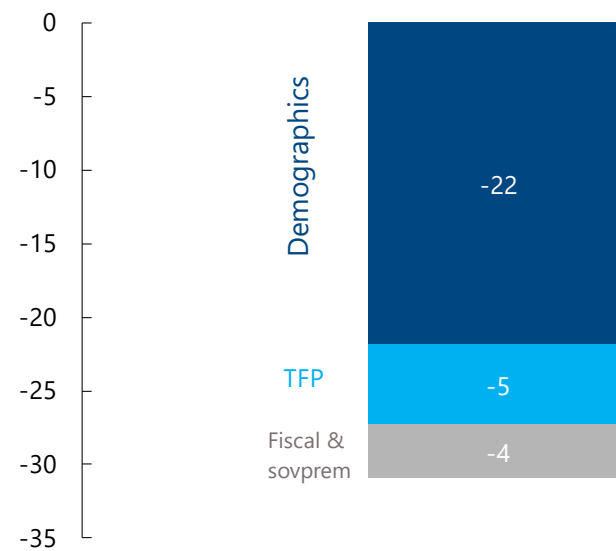5. Effects on growth and income convergence
6. **Policy priorities**

For many countries, the nature of the problem is largely labor-driven,…

- Overall impact in unmitigated scenario is -31 percent of GDP by 2050

- The driving channel is labor (but also capital and productivity)

Impact Channels of Demographics on GDP in CESEE ex TUR
(Percentage points; 2050)

Sources: UN WPP; WEO, PWT; IMF staff calculations.

...but for most CESEE economies, increasing participation rates alone will not fully offset shrinking workforces

Impacts of Labor Market Reforms

	Baseline	Moderate labor reforms	Ambitious labor reforms
GDP growth	-1.16	-1.00	-0.88
GDP per capita growth	-0.60	-0.46	-0.43
GDP	-30.9	-27.0	-24.2
GDP per capita	-16.9	-13.1	-12.2

(Rows 1 and 2: average yearly impact over 2020–50;

rows 3 and 4: level deviation by 2050; percentage points)

This motivates looking at the full range of complementary policy option

- Increase L through boosting **labor intensity**, retaining and attracting **skilled workers**, incl. **foreign workers,** boosting **health** and **life expectancy**;

- Support K though **financial** and **governance** reforms, and preserving public **infrastructure**;

- Boost TFP though **product market reforms**, improving **education** and **training**;

- Ensure fiscal sustainability through raising **retirement ages**, and more **efficient public spending**

Considerable heterogeneity across CESEE countries means different policy priorities for each country

	Labor Supply (1)	Participation Female 25-45 (2)	Participation Female 55+ (3)	Participation Male 55+ (4)	Retirement Age (5)	Workforce aging (6)	Old-age Dependancy (7)	Age-related Spending (8)
Albania	Medium-low	Medium-high	Medium-high	Medium-low	Medium-low	Medium-high	Medium-high	High
Bosnia and Herzegovina	Medium-high	Medium-high	High	High	Medium-low	Medium-low	Medium-high	High
Bulgaria	High	Medium-low	Medium-low	Medium-high	Medium-high	Medium-low	Medium-high	Medium-high
Croatia	Medium-high	Medium-low	High	Medium-high	Medium-low	Medium-high	Medium-high	High
North Macedonia	Medium-high	Medium-high	High	Medium-low	Medium-high	Medium-high	Medium-low	Medium-high
Montenegro	Medium-high	Data not available	Data not available	Data not available	Data not available	Data not available	Medium-low	Data not available
Romania	Medium-high	Medium-high	High	High	Medium-high	Medium-high	Medium-high	Medium-high
Serbia	Medium-high	Medium-high	Medium-high	Medium-high	Medium-low	Medium-low	Medium-low	Medium-low

Policy focus | **Low** | **Medium-low** | **Medium-high** | **High** | Data not available

Note:

(1) Change in labor supply (in percent): Green above 0; Yellow between -20 and 0; Orange between -30 and -20; Red below -30;

(2) Female LFP ages 25-45 (in percent): Green above 90, Yellow between 77.5 and 90; Orange between 60.5 and 77.5; Red below 60.5;

(3) Female LFP ages 55-64 (in percent): Green above 63, Yellow between 63 and 52.1; Orange between 35.2 and 52.1; Red below 35.2;

(4) Male LFP 55-64 (in percent): Green above 77, Yellow between 64.7 and 77; Orange between 54.2 and 64.7; Red below 54.2;

(5) Retirement age: Green above 67, Yellow between 67 and 65; Orange between 65 and 60; Red below 60;

(6) Change in share of workforce above 55 years (in percentage points): Green below 3; Yellow between 3 and 6; Orange between 6 and 10; Red above 10;

(7) Ratio of population above 65 years to population aged 20-64 (in percent): Green below 40, Yellow between 40 and 50; Orange between 50 and 60; Red above 60.

(8) Increase in age-related spending (in percent of GDP): Green below 0, Yellow between 0 and 4; Orange between 4 and 8; Red above 8.

Thank you!

Additional Slides

Main themes in a nutshell

- The populations of Central, Eastern, and Southeastern European (CESEE) countries (ex Turkey) are expected to decrease and age significantly over the next 30 years.

  - ➢ Increasing demands on health care and pension resources
  - ➢ Shrinking labor force
  - ➢ An aging workforce potentially decreases productivity growth

- Implications for growth, convergence to higher living standards, and fiscal sustainability. Will CESEE grow old before becoming rich?

- Labor market reforms, which will have to be tailored for each country, can mitigate—but not fully offset—the growth effects of shrinking and aging populations, although they could help ease fiscal pressures

Regional Definitions

Central, Eastern, and Southeastern Europe (CESEE): Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Republic of North Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey, Ukraine.[1]

Baltic states: Estonia, Latvia, Lithuania.

Central European New Member States (CE): Czech Republic, Hungary, Poland, Slovakia, Slovenia.

Eastern Europe (EE): Belarus, Moldova, Russian Federation, Ukraine.

Southeastern European EU Member States (SEE EU): Bulgaria, Croatia, Romania.

Southeastern European Non-EU Member States (SEE non-EU or Western Balkans): Albania, Bosnia and Herzegovina, Republic of North Macedonia, Montenegro, Serbia.[1]

Western Europe (WE): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, United Kingdom.

A declining labor force could be remedied through higher fertility, inward migration or labor force participation

- **Fertility**: There is little evidence that direct financial incentives to boost fertility are effective

- **Inward migration**: Most CESEE countries do not have long-term strategies for inward migration

- **Labor force participation**: There is particular room to improve the participation of older workers and women

In most countries, even ambitious reforms would ultimately be overwhelmed by population changes

Labor Force Projections, 2050

(Percent change, 2015=100)

Legend:
- Under ambitious policies scenario
- Under moderate policies scenario
- Baseline 2050

Countries (x-axis): LVA, BGR, LTU, POL, EST, RUS, HRV, ROU, UKR, HUN, SVN, CZE, SVK, SRB, ALB, BIH, MKD, MDA, BLR
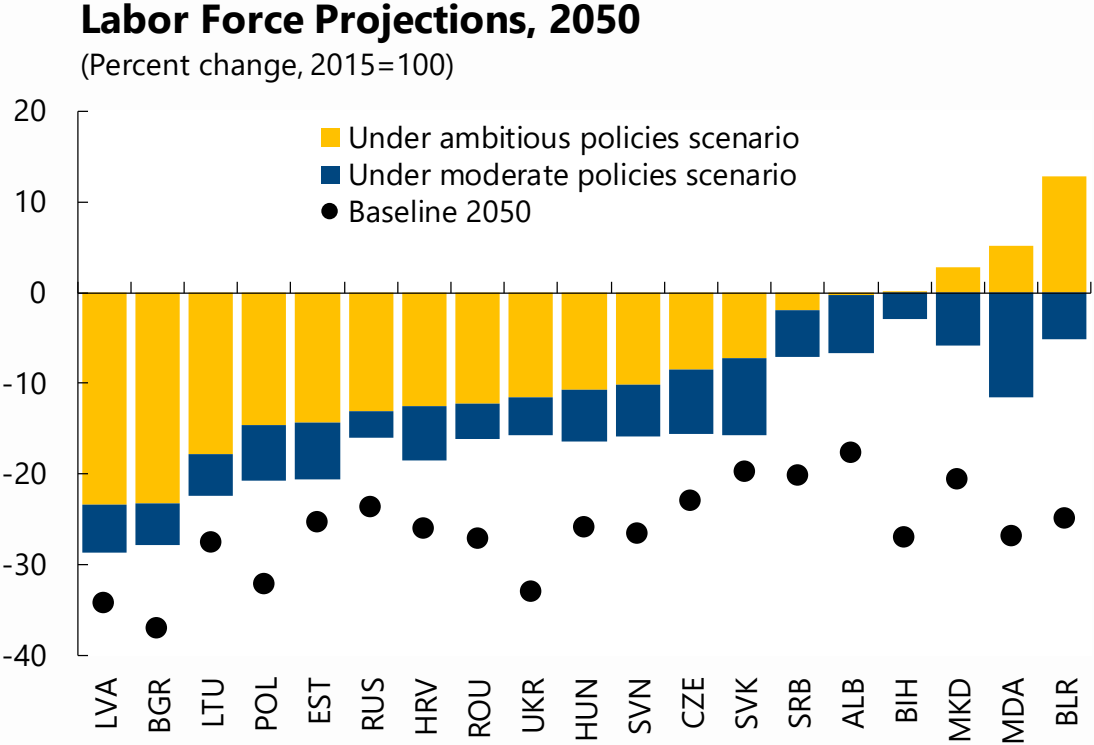
Sources: UN population projections, and IMF staff calculations.

Shares of Older Workers (Percent of total workforce)

Country	2015	2020	2025	2030	2035	2040	2045	2050
MDA	18.2	19.3	17.9	18.2	20.2	23.9	30.0	31.5
SVK	15.4	15.9	16.1	18.6	22.2	25.1	27.1	27.9
EST	21.5	22.7	22.9	23.9	24.6	25.9	28.2	27.1
LVA	19.9	21.8	22.3	22.8	22.8	23.7	25.7	25.2
ROU	17.2	16.3	18.9	22.6	24.1	23.8	25.2	24.0
LTU	19.4	21.6	21.9	22.0	21.0	20.6	21.9	23.8
BGR	19.2	19.1	19.6	21.6	23.6	23.8	24.8	23.4
ALB	16.6	18.5	18.2	18.2	18.4	19.8	20.9	23.0
CZE	17.1	17.0	17.8	21.1	24.5	23.9	23.3	22.3
HRV	15.2	15.7	15.4	16.8	18.4	19.6	20.0	21.7
SRB	16.0	16.1	16.9	18.6	19.7	20.2	21.2	21.6
UKR	11.8	17.2	16.7	17.4	19.0	21.3	23.1	21.4
POL	15.6	14.7	14.1	15.3	17.8	20.6	21.5	21.2
MKD	14.5	15.0	15.7	16.3	17.5	19.3	20.5	20.9
HUN	15.6	14.5	15.9	18.5	21.1	20.2	19.6	20.5
RUS	15.6	16.6	15.4	16.1	17.1	18.8	20.7	19.0
BIH	13.1	14.1	13.9	14.4	15.1	15.9	16.8	17.5
TUR	9.4	10.4	11.5	12.8	14.1	15.4	16.3	17.0
SVN	12.8	14.3	15.8	16.6	18.0	18.5	18.0	16.3
BLR	12.5	13.4	12.6	12.5	13.1	14.7	16.2	14.9
Avg CESEE	15.8	16.7	17.0	18.2	19.6	20.8	22.0	22.0
Avg WE	16.9	19.1	20.8	21.3	21.7	22.1	22.3	22.5

Sources: ILOSTAT, UN WPP ; and IMF staff calculations.
Note: Older workers are defined as workers aged 55 years or older. Data labels use International Organization for Standardization (ISO) codes. CESEE = Central, Eastern, and Southeastern Europe; WE = Western Europe.

Old-Age Dependency Ratio (65+/(20 – 64))

Country	2015	2020	2025	2030	2035	2040	2045	2050
SVN	28.8	35.0	41.1	46.7	51.8	55.9	61.8	66.8
POL	24.3	30.0	36.4	39.3	41.2	44.8	51.4	60.8
CZE	28.8	34.0	37.1	39.1	41.1	46.7	54.5	58.9
HRV	31.2	35.3	39.8	43.7	45.8	49.2	53.0	57.4
EST	31.0	35.0	39.2	42.3	44.5	48.1	51.5	56.3
BGR	32.6	36.2	39.2	41.0	42.8	46.5	51.4	54.9
SVK	21.5	26.5	31.4	35.2	37.5	41.4	47.7	53.9
BIH	24.9	28.5	33.3	39.1	42.6	46.3	49.6	53.2
ROU	27.4	31.7	35.3	35.2	40.3	45.1	50.7	52.7
HUN	27.9	33.3	36.6	37.0	39.0	43.7	50.0	52.4
LVA	31.5	34.7	39.0	42.4	44.3	47.0	48.9	52.3
ALB	20.6	23.4	29.0	35.6	40.1	43.6	46.6	51.0
LTU	30.7	32.4	36.7	42.2	45.3	47.6	47.7	47.9
UKR	24.7	27.9	31.6	34.6	35.5	37.6	41.1	46.8
MNE	22.8	27.0	31.0	34.9	36.8	39.3	42.3	46.6
MKD	19.5	22.9	26.5	30.2	33.8	36.8	40.6	45.8
SRB	26.8	31.8	34.3	35.9	37.3	39.6	42.6	45.3
BLR	22.2	25.1	30.2	34.5	36.1	37.6	39.6	43.8
RUS	20.7	25.1	30.1	34.1	33.4	34.2	36.0	40.0
MDA	14.5	18.9	23.0	27.2	27.9	29.4	32.9	39.9
TUR	13.4	14.9	17.3	20.2	23.3	27.2	31.6	36.2
Avg CESEE	25.0	29.0	33.2	36.7	39.1	42.3	46.3	50.6
Avg WE	30.6	33.6	37.5	42.1	46.7	50.3	53.0	55.2

Sources: ILOSTAT, UN WPP ; and IMF staff calculations.
Note: Older workers are defined as workers aged 55 years or older. Data labels use International Organization for Standardization (ISO) codes. CESEE = Central, Eastern, and Southeastern Europe; WE = Western Europe.

Baseline Pension and Health Care Projections

$$\frac{PE}{GDP} = \frac{\frac{PE}{pensioners}}{\frac{GDP}{workers}} \times \frac{pensioners}{pop65+} \times \frac{pop15-64}{workers} \times \frac{pop65+}{pop15-64}$$

1. Replacement rate

2. Coverage Ratio

3. Inverse LFP

4. Old-age dependency ratio

$$\frac{HE}{GDP} = \frac{\frac{HE_{0-64}}{pop\ 0-64}}{\frac{GDP}{workers}} \times \frac{pop0-64}{workers} \times \left(1 + \alpha \times \frac{pop\ 65+}{pop\ 0-64}\right) ; \text{ where } \alpha = \frac{\frac{HE_{65+}}{Popul\ 65+}}{\frac{HE_{0-64}}{Popul\ 0-64}}$$

1. Generosity of health care package for the young

2. Inverse of LFP

3. Ratio of the per capita health spending for the older population to the per capita health spending for the young (α) and the old-age dependency ratio

A one-percentage-point increase in the share of workers ages 55+ is associated with a decrease in TFP growth by about 0.6 percentage points

$$\Delta logYL_{it} = \alpha_i + \gamma_t + \sum_s \beta_s w_{sit} + \delta yadr_{it} + \varphi oadr_{it} + \varepsilon_{it}$$

Variables	(1) Labor Productivity	(2) TFP	(3) Human Capital	(4) Capital-Output Ratio[1]	(5) Labor Productivity	(6) TFP	(7) Human Capital	(8) Capital-Output Ratio[1]
Share of Workers in 45–54 Age Cohort					0.205	0.238**	–0.0216	–0.113**
					(1.565)	(2.003)	(–1.051)	(–2.254)
Share of Workers older than 55 years	–0.731***	–0.608***	–0.0142	0.291***	–0.810***	–0.687***	–0.00477	0.335***
	(–4.006)	(–3.563)	(–0.461)	(3.931)	(–4.254)	(–4.115)	(–0.170)	(4.457)
Old-age Dependency Ratio	0.224	0.149	–0.0162	–0.209	0.309	0.239	–0.0260	–0.258**
	(0.670)	(0.441)	(–0.390)	(–1.605)	(0.923)	(0.740)	(–0.664)	(–2.020)
Young-age Dependency Ratio	0.0337	–0.00976	–0.00437	–0.0364***	0.0680*	0.0334	–0.00791	–0.0551***
	(0.924)	(–0.227)	(–0.425)	(–2.847)	(1.709)	(0.756)	(–0.672)	(–4.175)
Observations	4,150	2,883	3,585	4,152	4,150	2,883	3,585	4,152
Number of Countries	167	116	144	167	167	116	144	167
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Dummies[2]	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
Anderson Correlations LR Test p-value	0	0	0	0	0	0	0	0

Source: Staff calculations.
Note: Robust *z*-statistics in parentheses. *** p < 0.01; ** p < 0.05; * p < 0.1. TFP = total factor productivity.
[1] Adjusted by $\alpha/(1 - \alpha)$.
[2] Time dummies for years 1990–95; 1998/99; 2008/09.

The Europe-oriented version (EEUMOD) of the IMF's Flexible System of Global Models

- Nine individual Central, Eastern, and Southeastern European countries and six Central, Eastern, and Southeastern European country blocks.

- Countries modeled individually are Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, Russia, Serbia, and Ukraine.

- The country blocks are the remainder of Eastern Europe (Belarus and Moldova); Central European Euro Area (Estonia, Latvia, Lithuania, Slovakia, Slovenia); Southeastern Europe (Albania, Bosnia and Herzegovina, Republic of North Macedonia, Montenegro); two euro area blocks (Austria, Belgium, Germany, Finland, France, Ireland, Netherlands, Portugal, Luxembourg, Malta; Greece, Italy, Spain, and Cyprus); and an Other European Union block (Denmark, Sweden, the United Kingdom).

- The rest of the world is split into the United States, China, Japan, Turkey, and aggregated blocks for Emerging Asia, Latin America, Other Advanced Countries, Oil Exporters, and Remaining Countries.

Although the distributions of older worker shares overlap, the historical distribution might not adequately capture the dynamics relevant for future workforce aging and TFP growth.
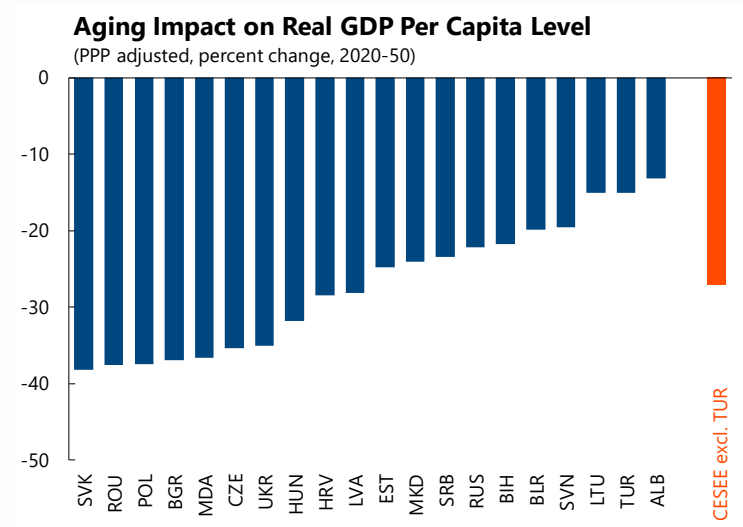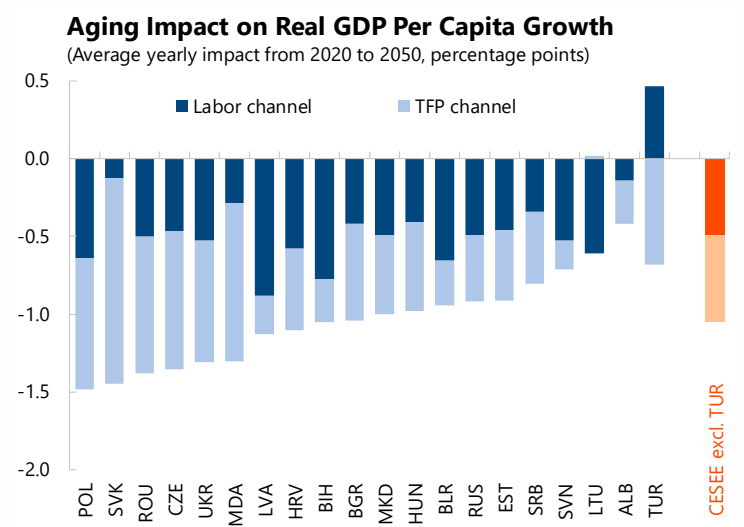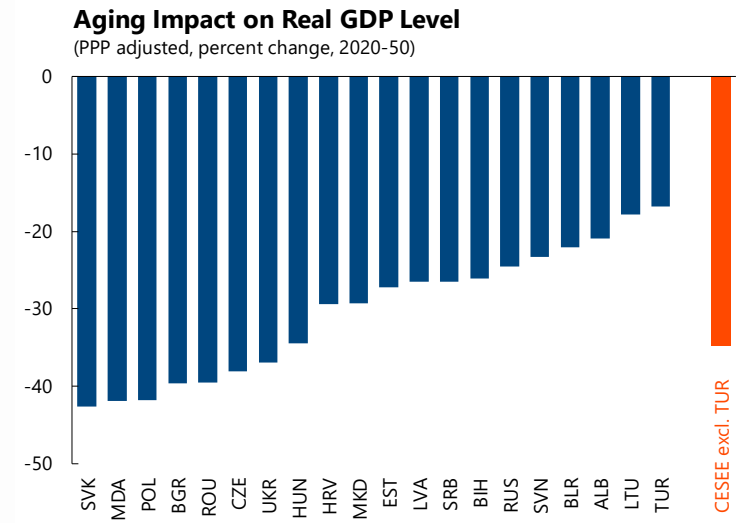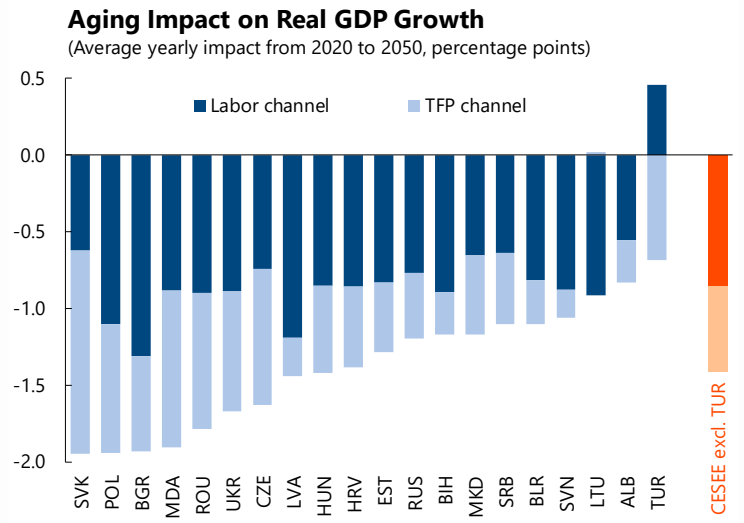
Distributions of Older Worker Shares

(In percent of total workforce)

ILO sample 1990-2015

Projections 2015-2050
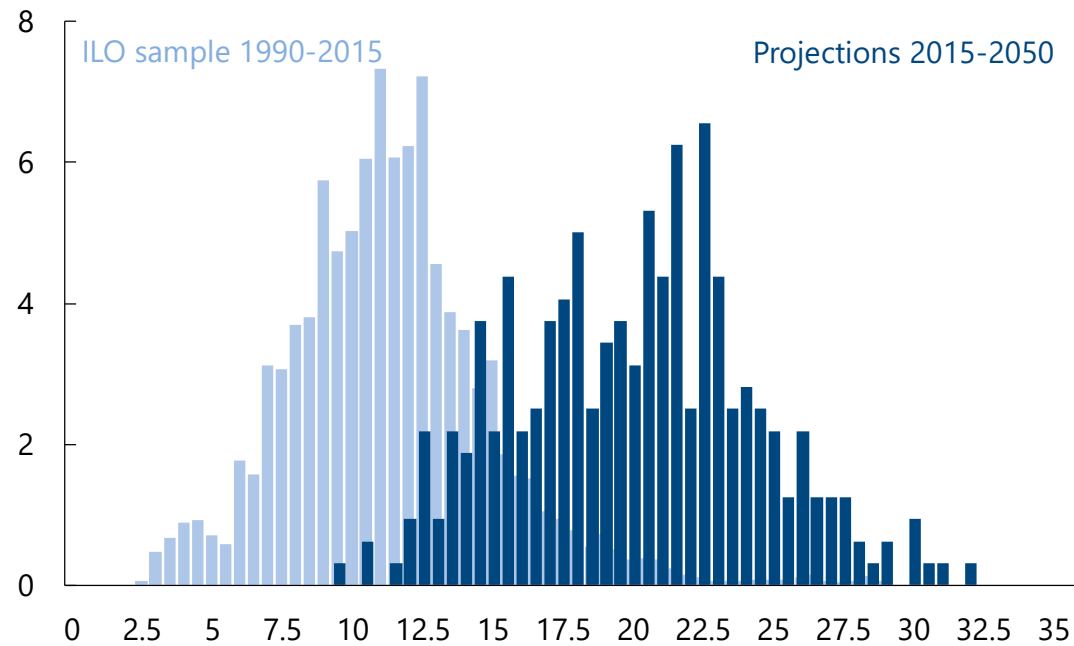
Sources: UN WPP; ILO; PWT 9.0; and IMF staff calculations.

Production function: CESEE average GDP growth lower by about 1.4 pps and GDP levels by 35 percent by 2050

Aging Impact on Real GDP Growth
(Average yearly impact from 2020 to 2050, percentage points)

Aging Impact on Real GDP Level
(PPP adjusted, percent change, 2020-50)

Aging Impact on Real GDP Per Capita Growth
(Average yearly impact from 2020 to 2050, percentage points)

Aging Impact on Real GDP Per Capita Level
(PPP adjusted, percent change, 2020-50)

Production function: CESEE GDP per capita would still increase from 52 to 60 percent of WE average by 2050


CESEE Relative Income Levels in Aging Scenarios

(In percent, GDP per capita in CESEE as a share of that in Western EU)

- 2020
- 2050- based on WEO 2023 growth
- 2050- based on historical 2000-2018
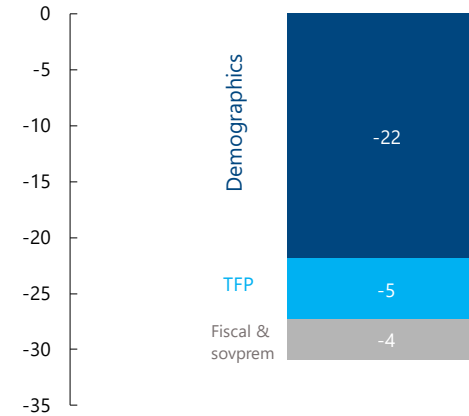- 2050- based on Western Europe path

Western Europe =100
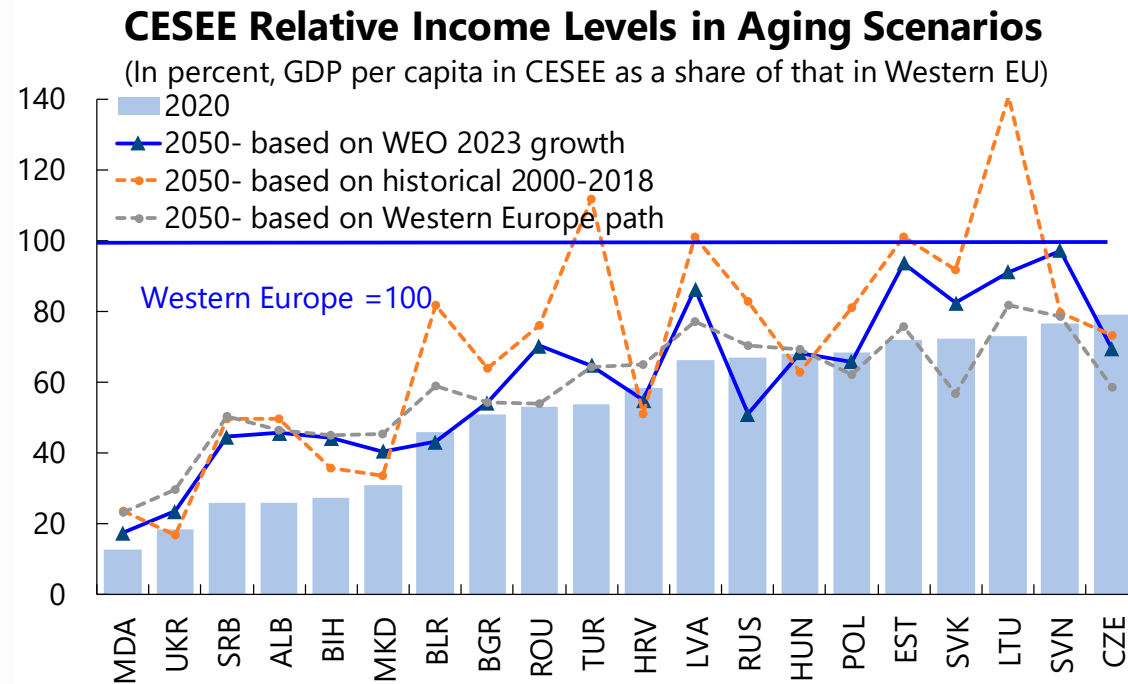
Sources: UN WPP; WEO; and IMF staff calculations.

1/ The exercise explores three sets of "no-aging" growth rates: i) the WEO projected 2023 potential growth; ii) the historical average growth of individual countries during 2000-2018; iii) the historical average growth of the respective Western European country group (devided into two income groups) at a similar income level
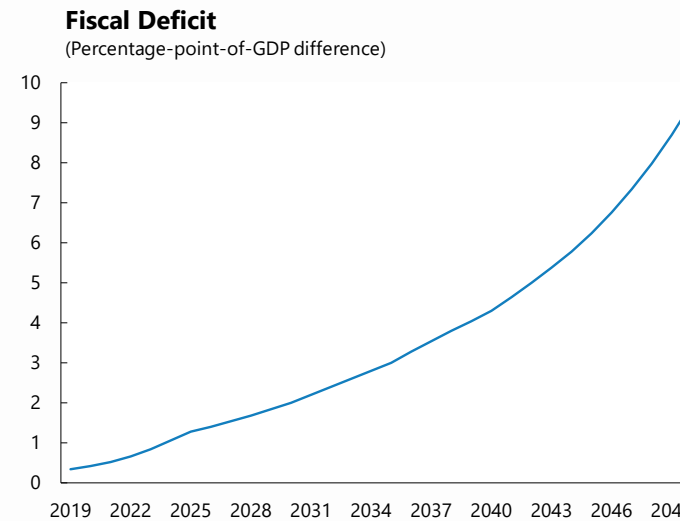
Effect of demographic shocks on the average of CESEE countries
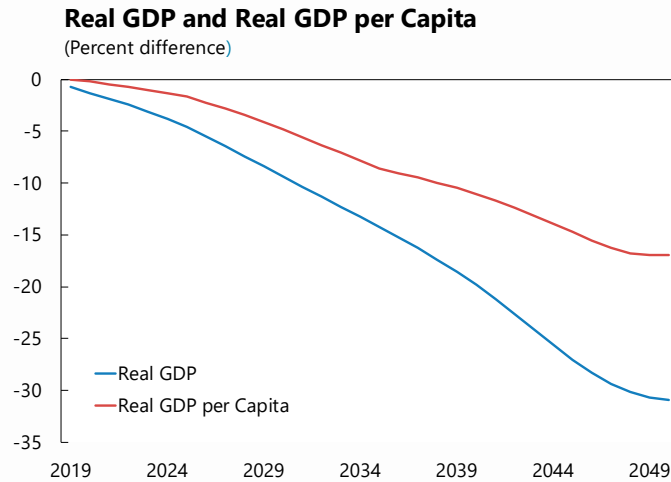
Real GDP and Real GDP per Capita
(Percent difference)

Real GDP
Real GDP per Capita

Impact Channels of Demographics on GDP in CESEE ex TUR
(Percentage points; 2050)

Demographics −22
TFP −5
Fiscal & sovprem −4

Sources: UN WPP; WEO, PWT; IMF staff calculations.

Real Consumption and Real Investment
(Percent difference)

Real Investment
Real Consumption

Fiscal Deficit
(Percentage-point-of-GDP difference)
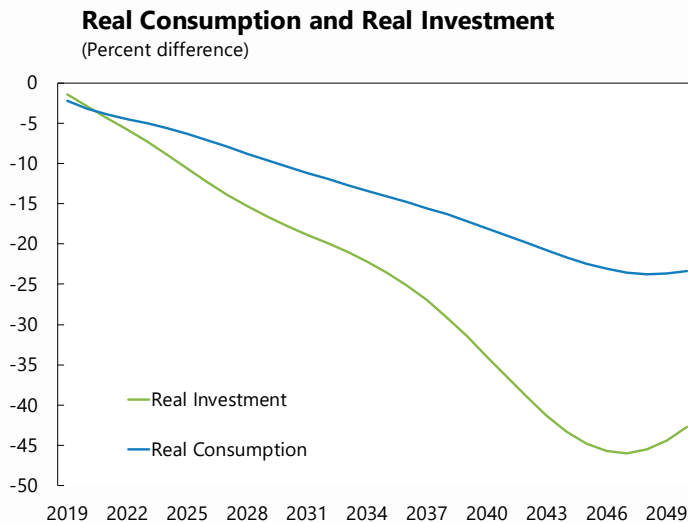
The net impact of alternative fiscal reactions is small for GDP growth but significant for debt

(Average yearly impact over 2020–50, percentage points)

	Accommodating deficits	Higher taxes
Real GDP	-1.2	-1.0
Real GDP per capita	-0.6	-0.5
Debt/GDP in 2050	76.0	11.9

Policies to Increase Effective Labor Inputs

- **Boosting working-age population** to bring in foreign workers

- **Boosting labor intensity:**
  - Considerable room to increase labor participation and employment rates of women and older workers
  - Increased spending on lower labor tax wedges, lower unemployment replacement rates, and active labor market policies tend to boost participation and employment

- The quality of institutions matters in **retaining and attracting skilled workers**

- Achievement of a 5.9-year **gain in life expectancy** at birth solely by reducing mortality from heart diseases to that of populations with the highest life expectancies (United Nations 2012)

Policies to Support Capital Deepening

- **Subsidizing** private capital investment not advisable – can lead to inefficient capital allocation

- **Financial sector reforms** encourage efficient allocation

- **Governance reforms** are a useful complement when capital accounts open and domestic banking systems open to foreign competition

- Pressure to squeeze out **public investment** should be resisted, good public infrastructure also being a condition for private investment

Policies to Boost Productivity

Allocation of labor and capital can explain a large part of the differences in TFP:

- **Product market reforms** are associated with a higher capital stock and help boost TFP

- Strengthening state-owned enterprise governance or privatizing state-owned enterprises, reductions in red tape, and reducing the size of informal sector

Human capital drives growth differences across countries over long periods of time:

- **Educational** attainment can be improved through e.g. regular assessments, not necessarily higher public spending

- **Lifelong learning** to encourage greater participation of older workers

- **Preserve spending on education and training** despite fewer young people

Policies to Ensure Sustainability of the Public Finances

- Moderate **labor reform** scenario helps offset about half, ambitious reforms fully, the projected increase in aging-related government spending and debt in 2020—2050

- **Raising retirement ages** with **improvements in life expectancy** would reduce the number of pensioners and complement efforts to boost the labor force participation of older workers

- Fiscal space also needs to be preserved for measures to increase labor participation and raise skills. This motivates a broader examination of **tax systems** and more efficient **public expenditure**

Considerable heterogeneity across CESEE countries means different policy priorities for each country

- **Labor supply** is particularly pressing for Bulgaria, Latvia, Poland, and Ukraine

- **Participation of younger women** is noticeably low in Moldova and Turkey; **participation of older women** is low in Bosnia and Herzegovina, Croatia, Republic of North Macedonia, Romania, Turkey, and Ukraine, whereas that of **older men** is particularly low in Bosnia and Herzegovina, Romania, Slovenia, Turkey, and Ukraine

- **Reform of retirement ages** especially beneficial in Belarus, Moldova, Russia, Turkey, and Ukraine, both from the point of view of labor supply and fiscal sustainability

- **Workforce aging** is rapid in Moldova and Slovakia

- **Old-age dependency** is more pressing in the Central European countries, notably Poland and Slovenia

- **Fiscal pressures** from age-related spending especially acute in Albania, Bosnia and Herzegovina, Croatia, Lithuania, Moldova, Poland, Russia, Slovenia, and Ukraine