



2021 Ageing Report: Ageing populations and fiscal sustainability

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The Ageing Report

Ageing Report is published every three years

- Joint report of European Commission and Economic Policy Committee, prepared within the Ageing Working Group
- 7th edition published on 07/05/2021
- 2 volumes: [assumptions & methodology](#) and actual [projections](#)
- [ECOFIN council conclusions](#)
- Long-term projections (2019-2070) for EU Member States + Norway
- Baseline projections + several alternative scenarios
- Results feed into fiscal sustainability analysis

Covering four large spending categories



pensions
11.6% of GDP*



healthcare
6.6% of GDP



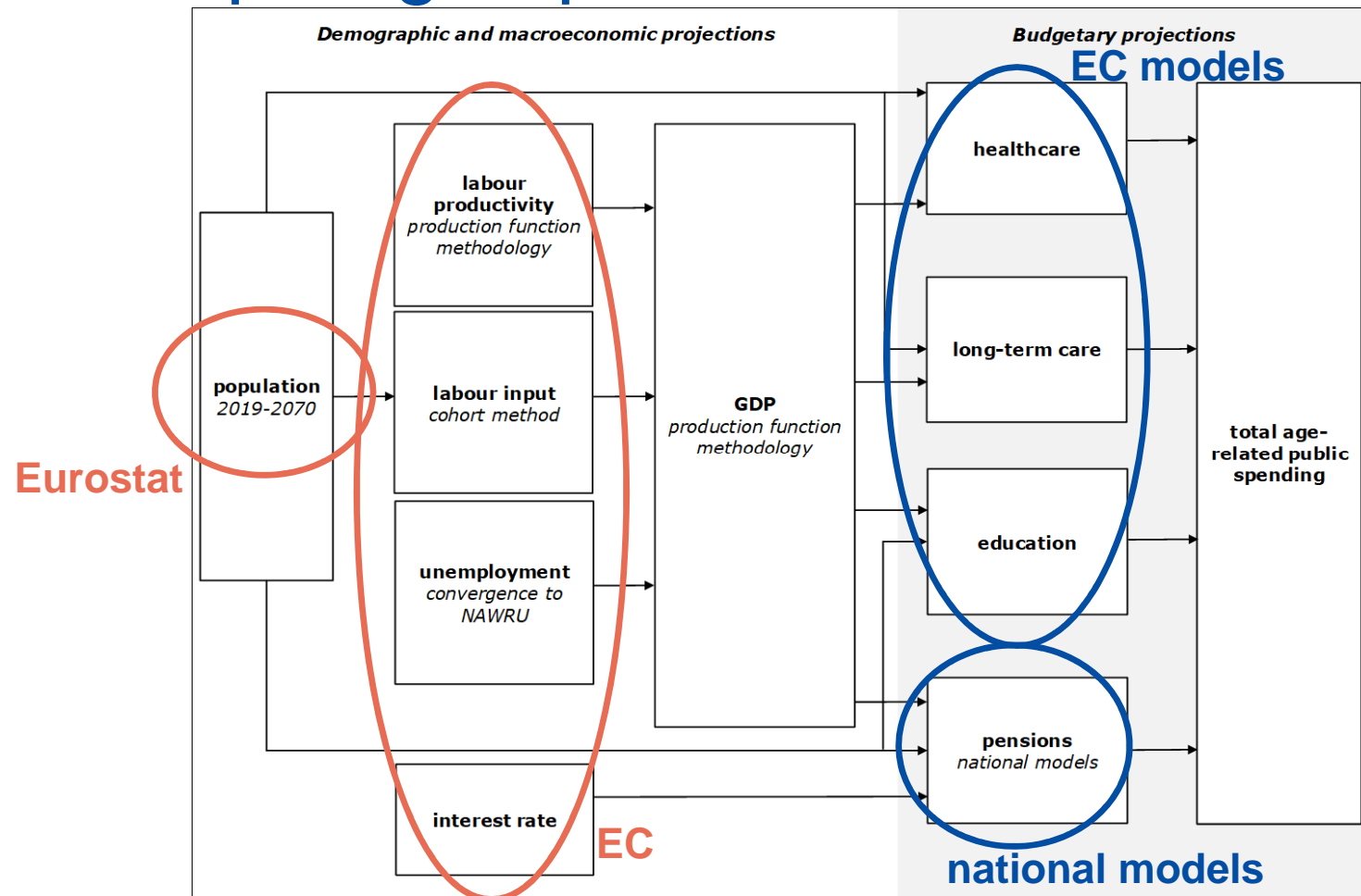
long-term care
1.7% of GDP



education
4.1% of GDP

* avg EU spending in 2019

A two-pronged process

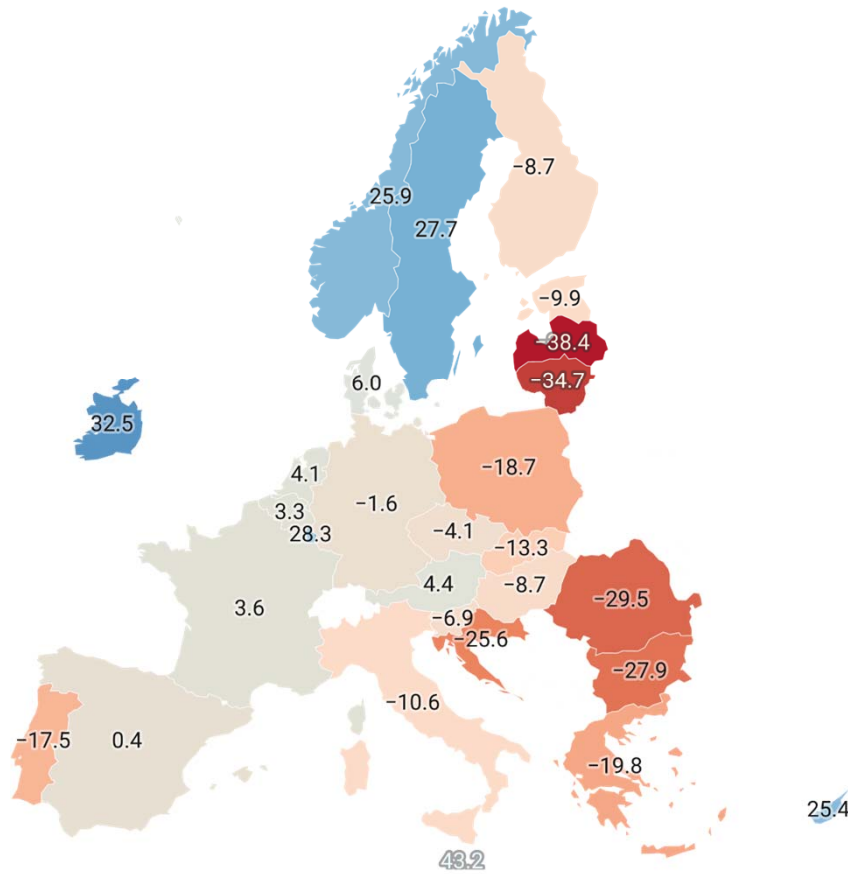


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Demographic and macroeconomic assumptions

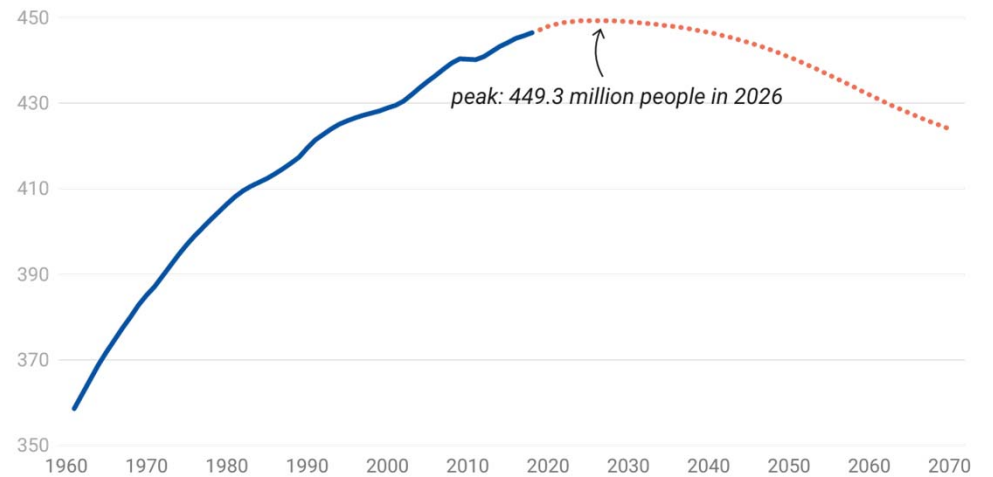
Population to grow in some MS, to shrink in other...

Change in total population 2019-2070 (%)



Total population 1960-2070 (EU)

million people

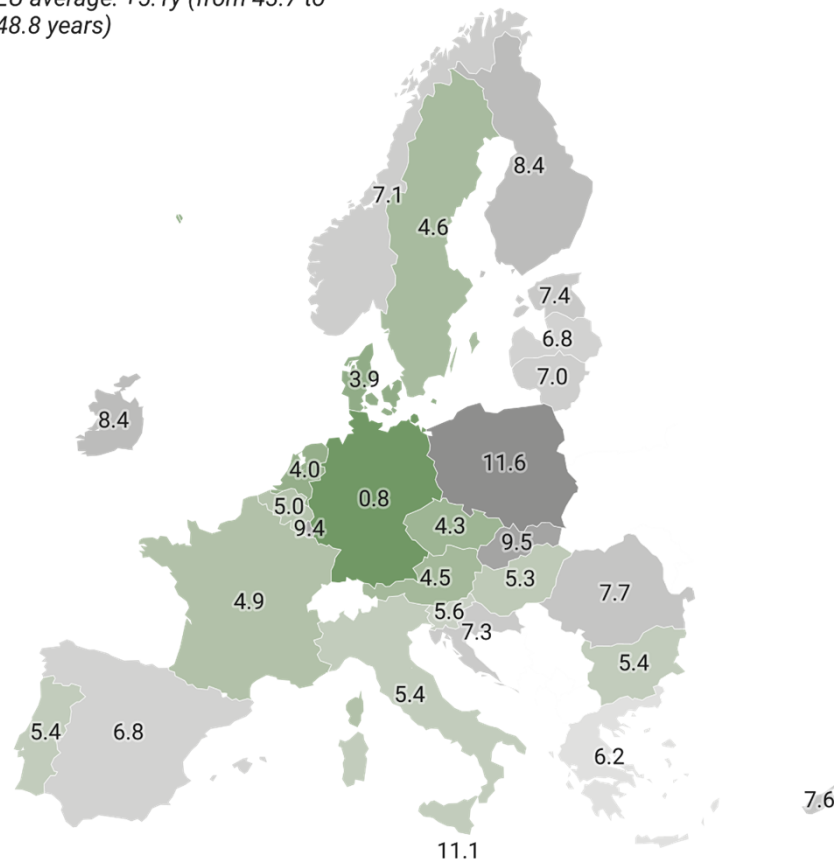


Source: Eurostat • Created with Datawrapper

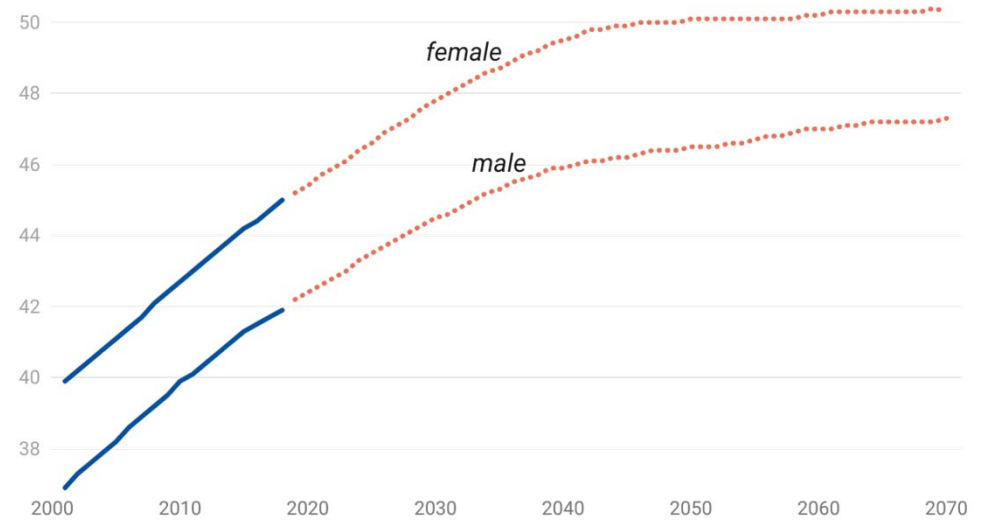
...but to age in all

Change in median age 2019-2070

low high
 EU average: +5.1y (from 43.7 to 48.8 years)



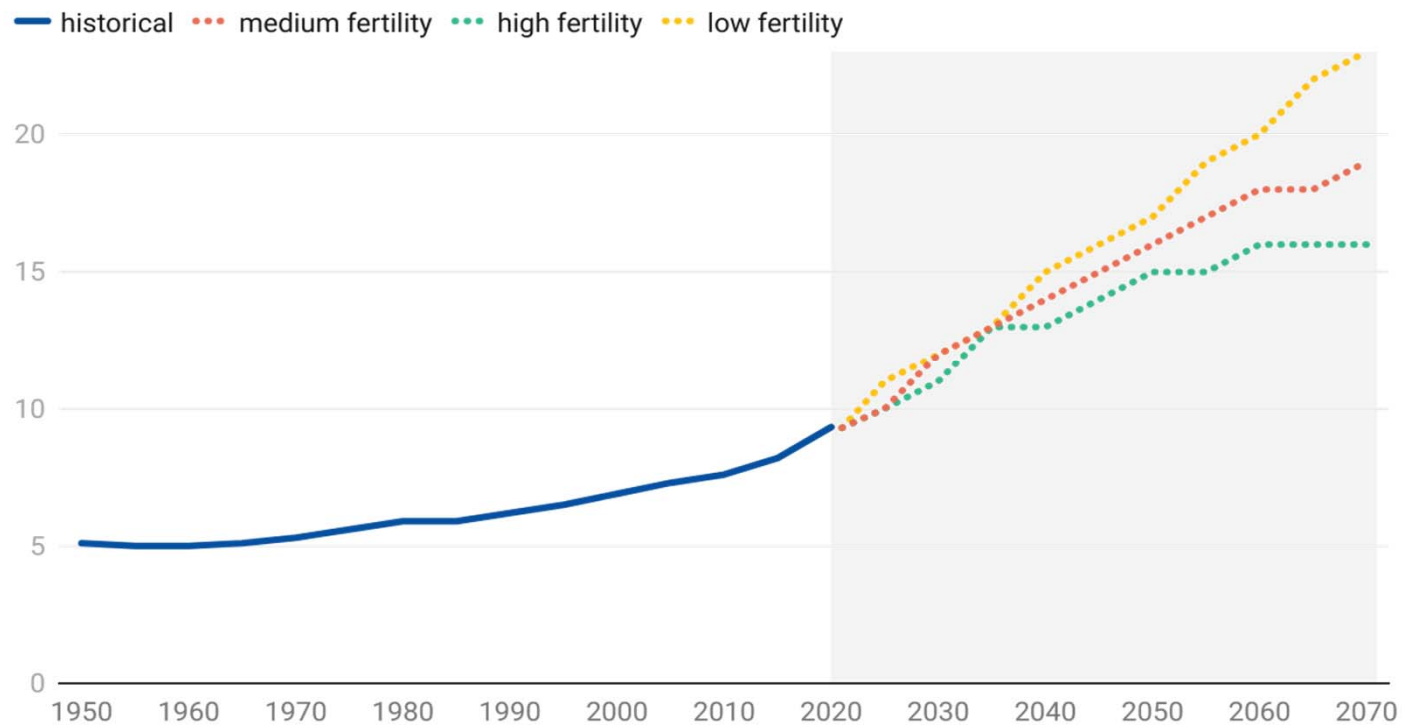
Median age (EU)



Source: Eurostat • Created with Datawrapper

Population ageing is a global phenomenon

Share of 60+ in world population

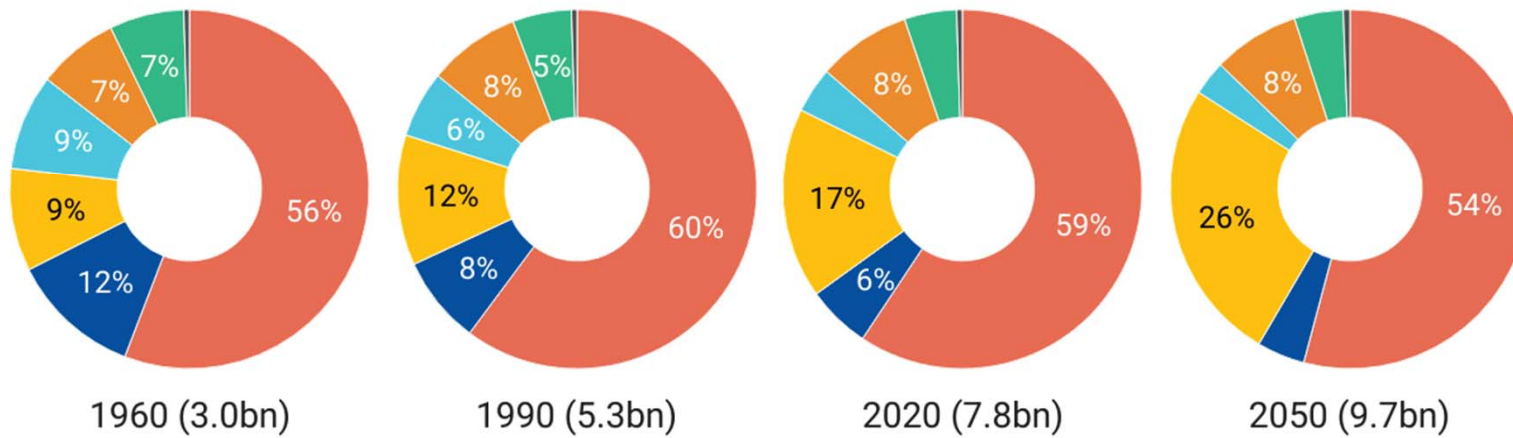


Source: UN • Created with Datawrapper

Against a background of major demographic shifts

Share in world population

Asia EU Africa Rest of Europe Latin America North America Oceania



Source: UN • Created with Datawrapper

Drivers behind overall ageing of EU population

EU	1960	1980	2000	2020	2040	2070
Fertility rate (#live births/woman)	2.6	1.9	1.5	1.5	1.6	1.7
Life expectancy at birth - M	66.4	69.5	73.8	78.7	82.0	86.1
Life expectancy at birth - F	71.8	76.3	80.4	84.2	86.9	90.3
Net migration (% population)	0.0%	0.1%	0.2%	0.3%	0.2%	0.2%

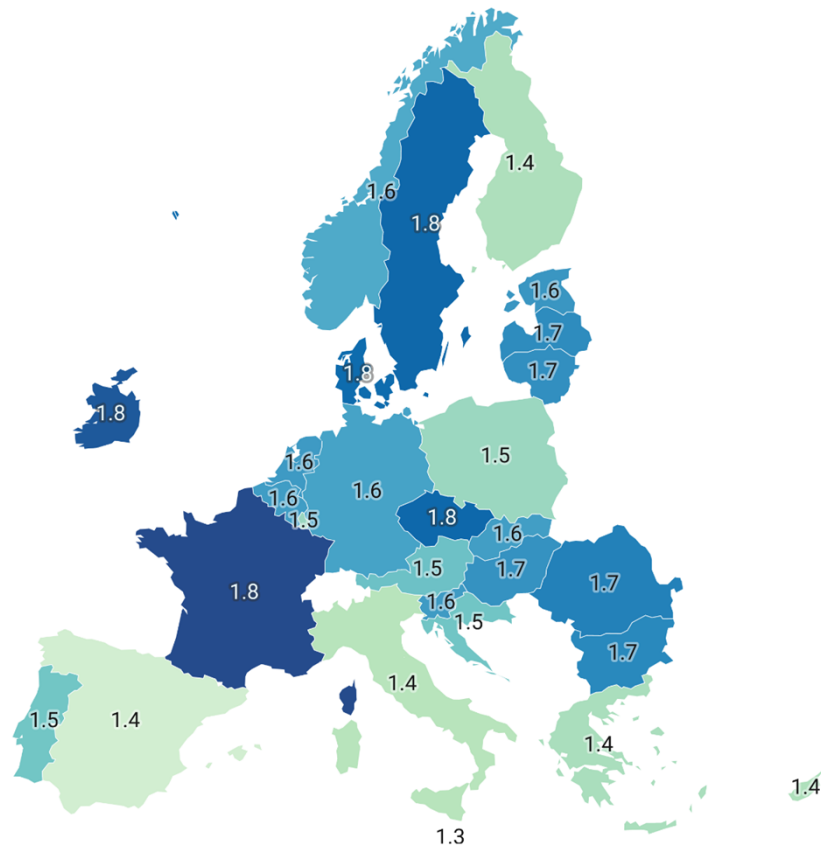
Source: Eurostat, UN

- Fertility rates assumed to rise slowly, from low levels;
- Continuation of steady gains in life expectancy;
- Positive net migration in most countries.

Birth rates have recovered, somewhat

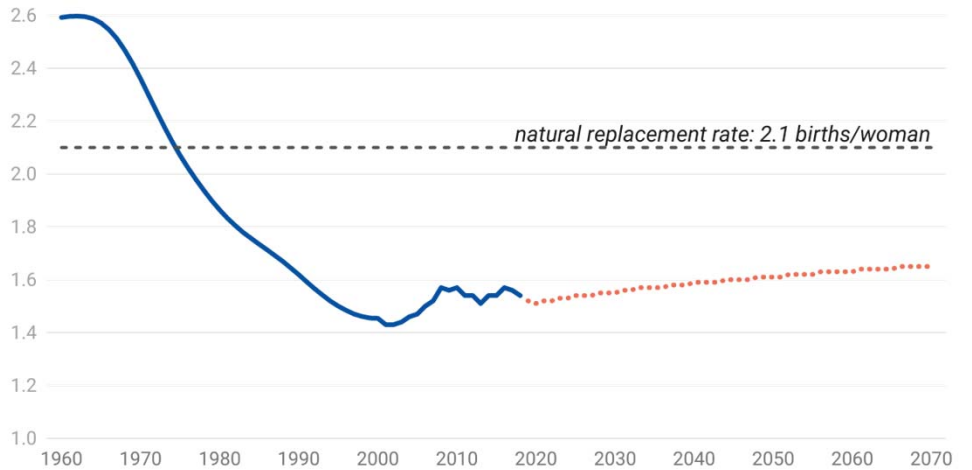
Average fertility rate 2019-2070

number of live births per woman



Total fertility rate (EU)

number of live births per woman

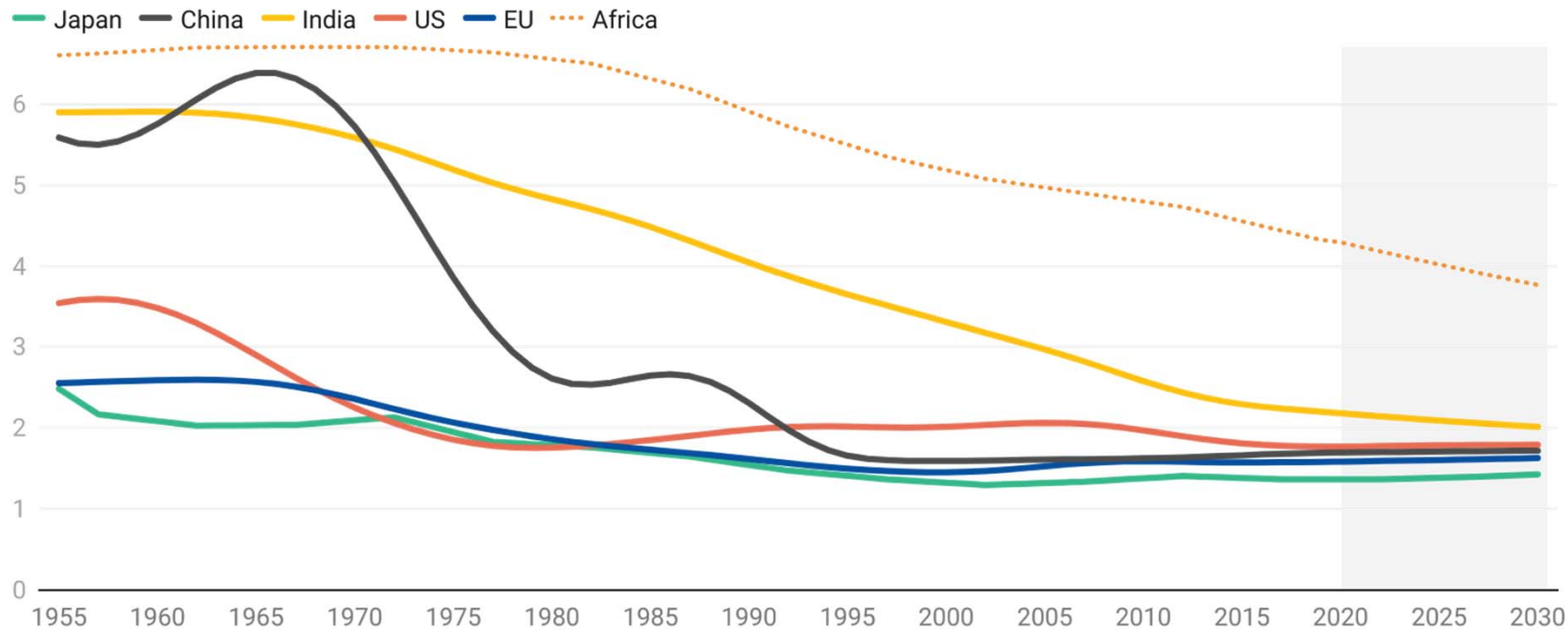


Source: UN until 2000 (EU28); Eurostat as of 2001 (EU27) • Created with Datawrapper

Similar international fertility trends

Total fertility rate - major economies

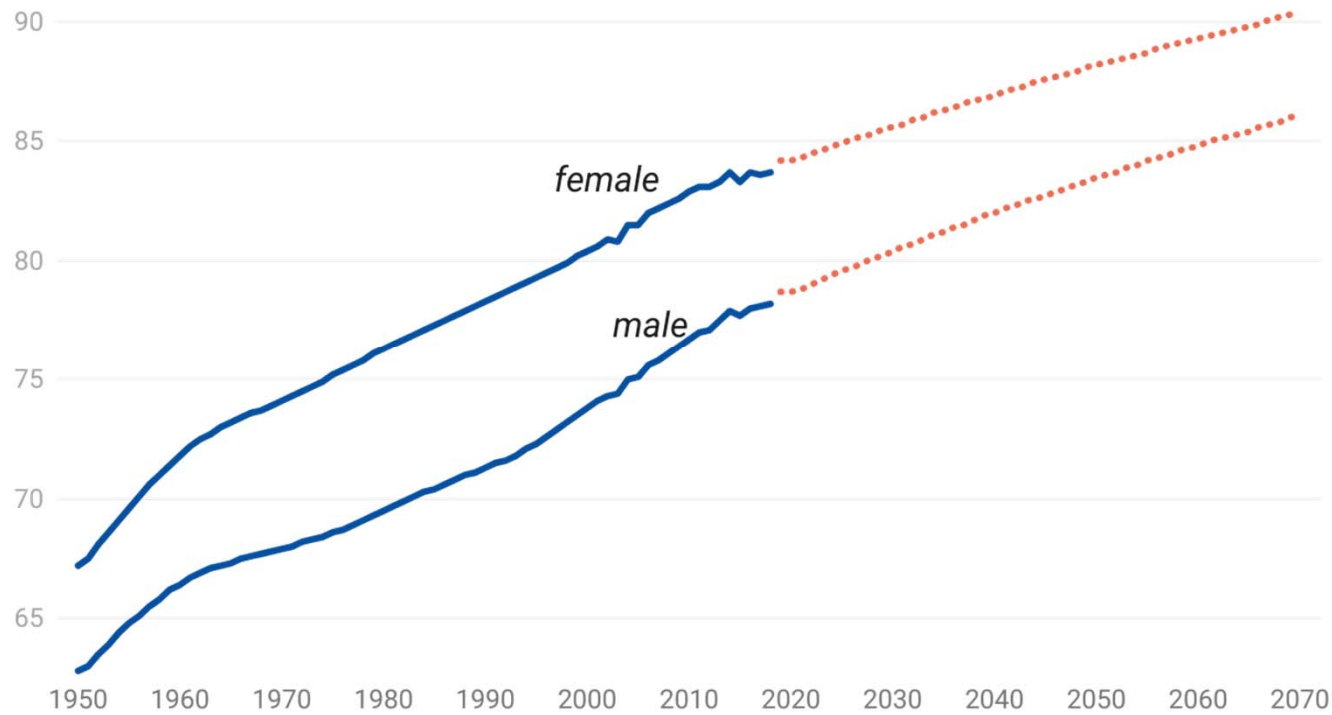
number of live births per women



Source: UN • Created with Datawrapper

Continuous rise in life expectancy

Life expectancy at birth (EU)

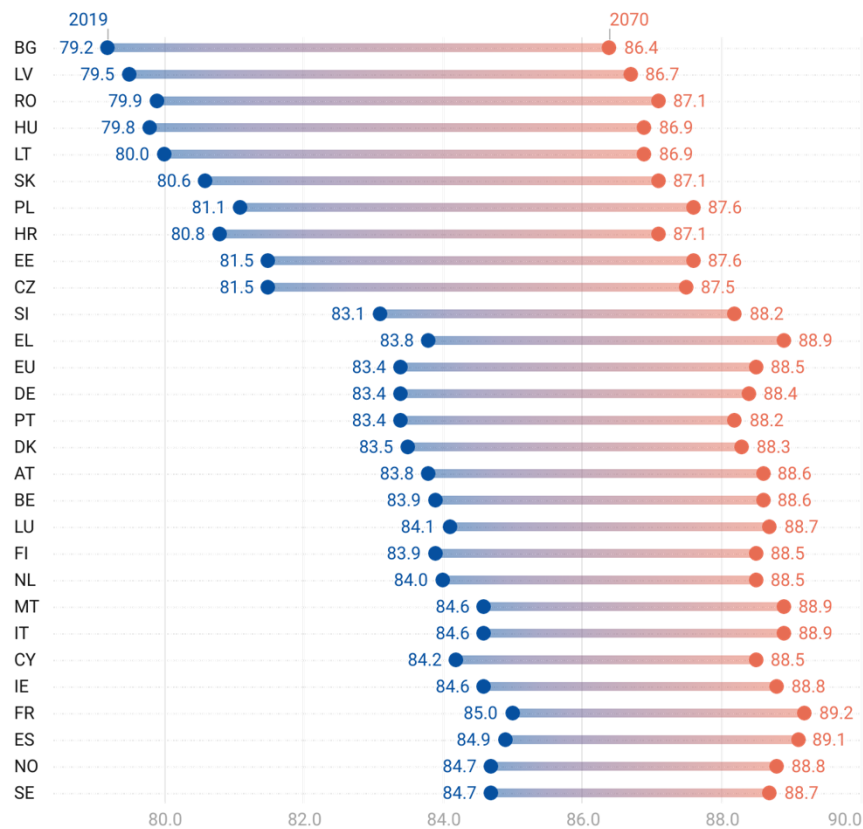


Source: UN until 2000 (EU28); Eurostat as of 2001 (EU27) • Created with Datawrapper

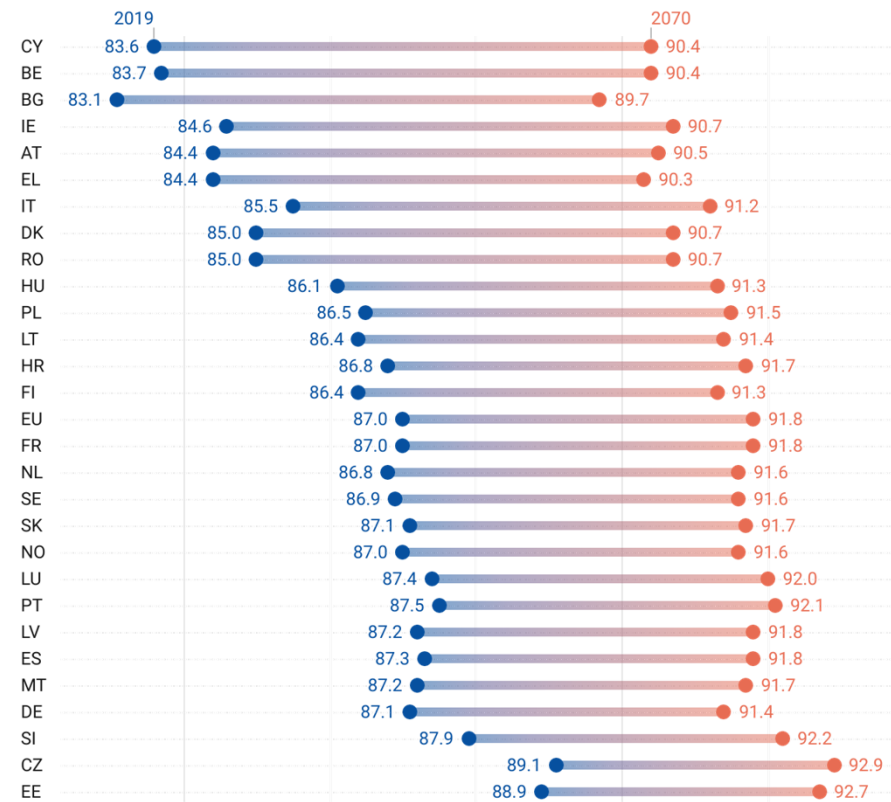
Assuming upward convergence

Life expectancy at 65

male



female




ranked by largest increase 2019-2070
Source: Eurostat - Created with Datawrapper

Migration assumed in line with recent 'trend'

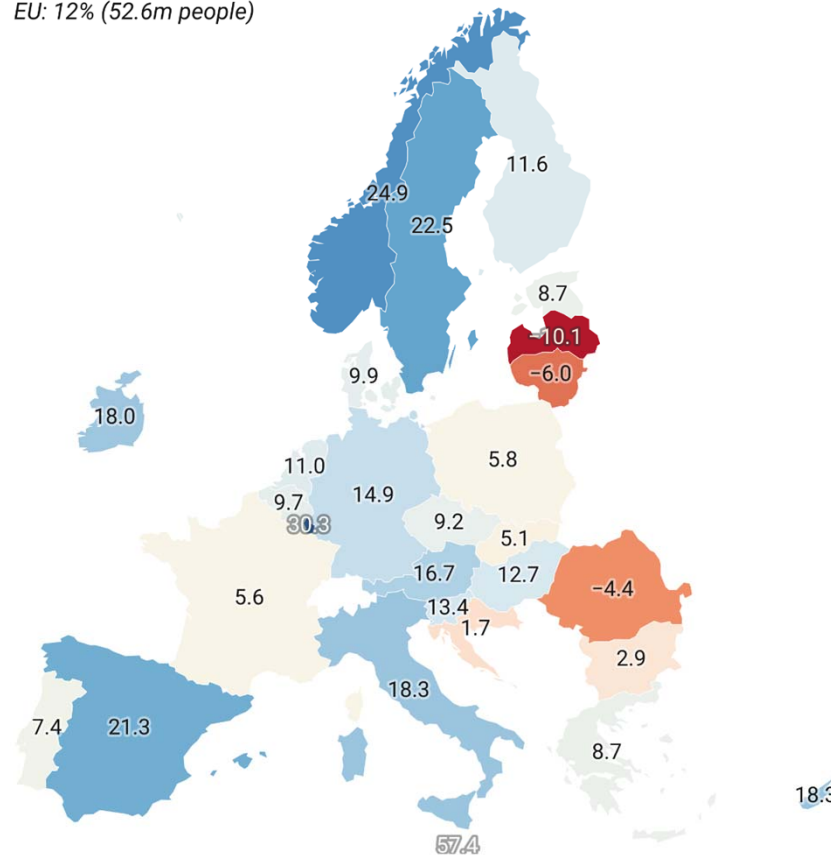
Net migration

Cumulative net migration in 2019-2070 as % of 2019 population



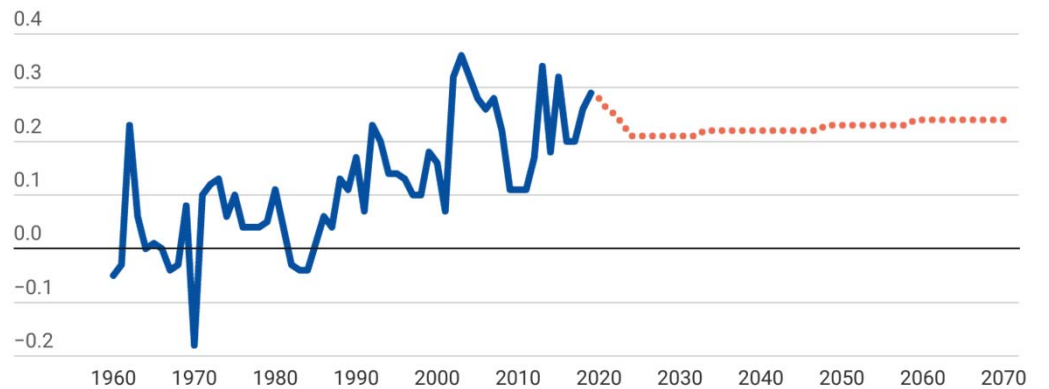
 outward inward

 EU: 12% (52.6m people)



Net migration 1960-2070 (EU)

net migration as % of total population

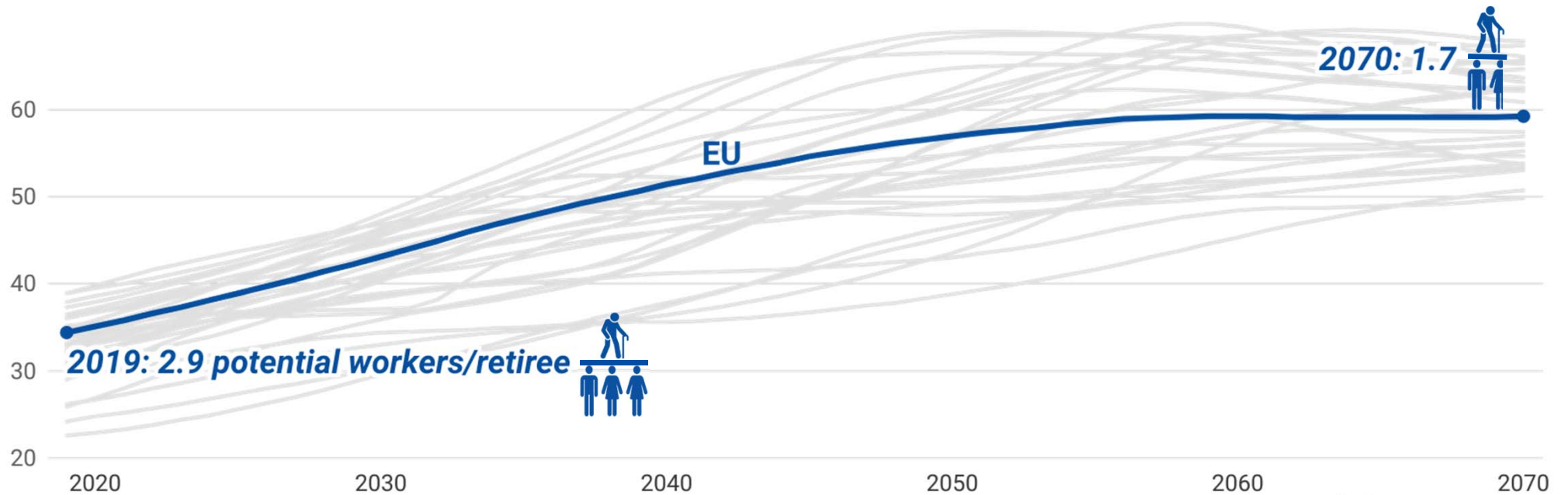


1960-2019: historical data (includes statistical adjustment); 2020-2070: projections
 Source: Eurostat • Created with Datawrapper

The result: a profound demographic shift

Old-age dependency ratio (%)

number of people 65+ / number of people 20-64

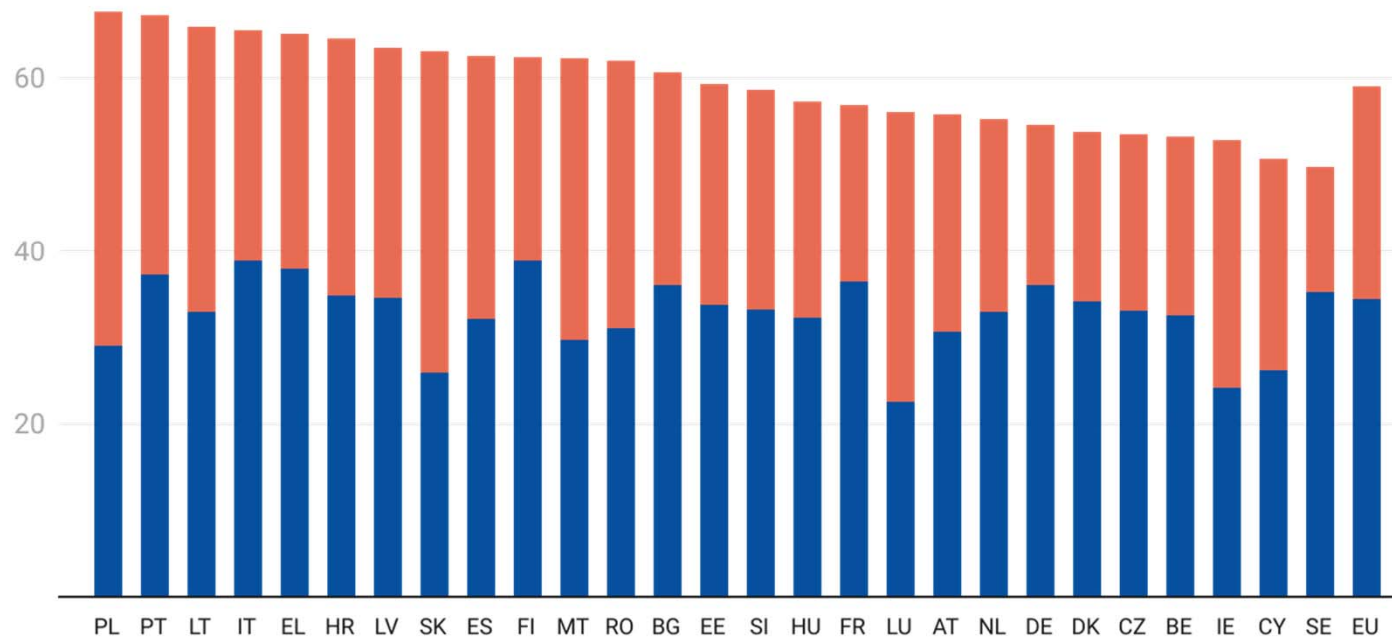


Sharp rise in old-age dependency ratio

Old-age dependency ratio (%)

number of people 65+ / number of people 20-64

■ 2019 ■ increase 2019-2070 (pps)

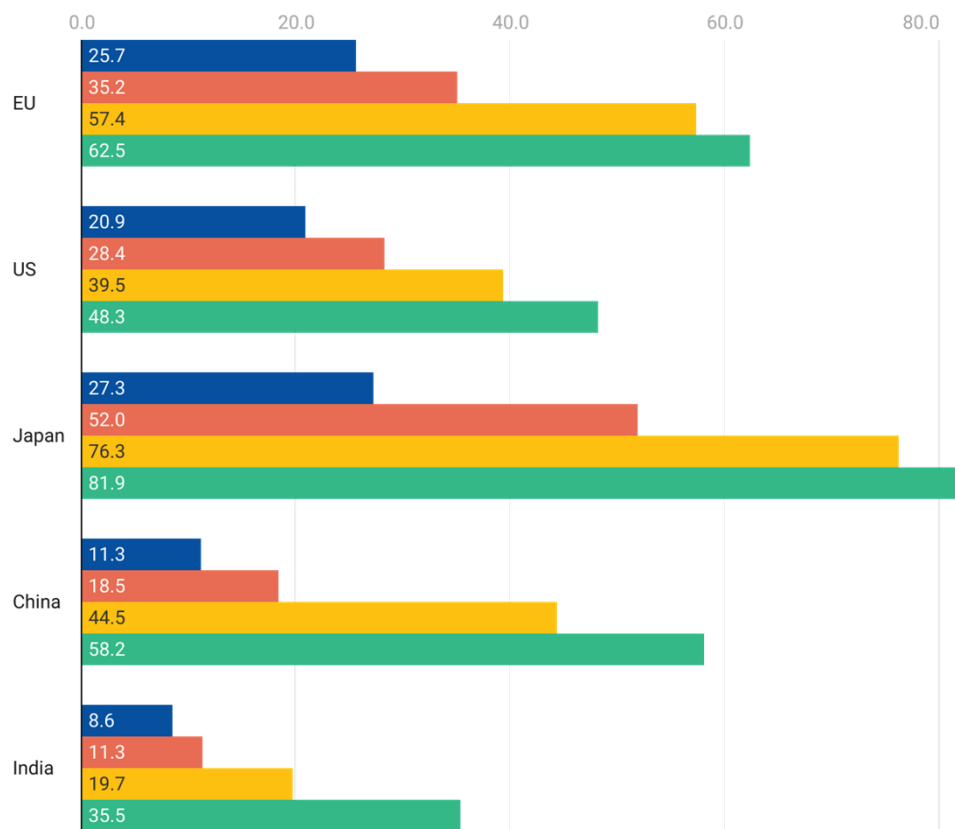


Ageing process is already advanced in the EU

Old-age dependency ratio - selected countries

number of people 65+ / number of people 20-64

■ 2000 ■ 2020 ■ 2045 ■ 2070



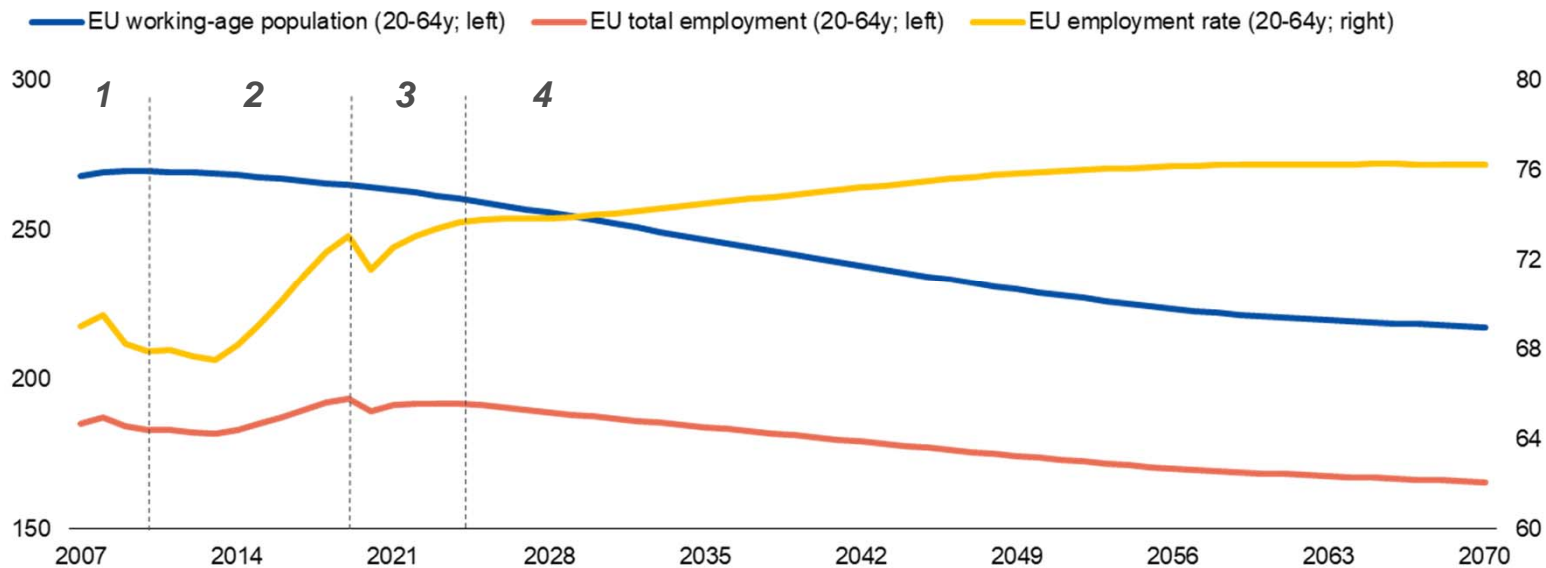
Source: UN • Created with Datawrapper

Policy implications

- A population that is on average older
 - has different needs: healthcare, long-term care;
 - behaves differently: work less (labour ↓), save less (capital ↓), consumption pattern, housing preferences;
 - puts pressure on sustainability of pay-as-you-go pension systems.

The employment outlook

Employment and working-age population



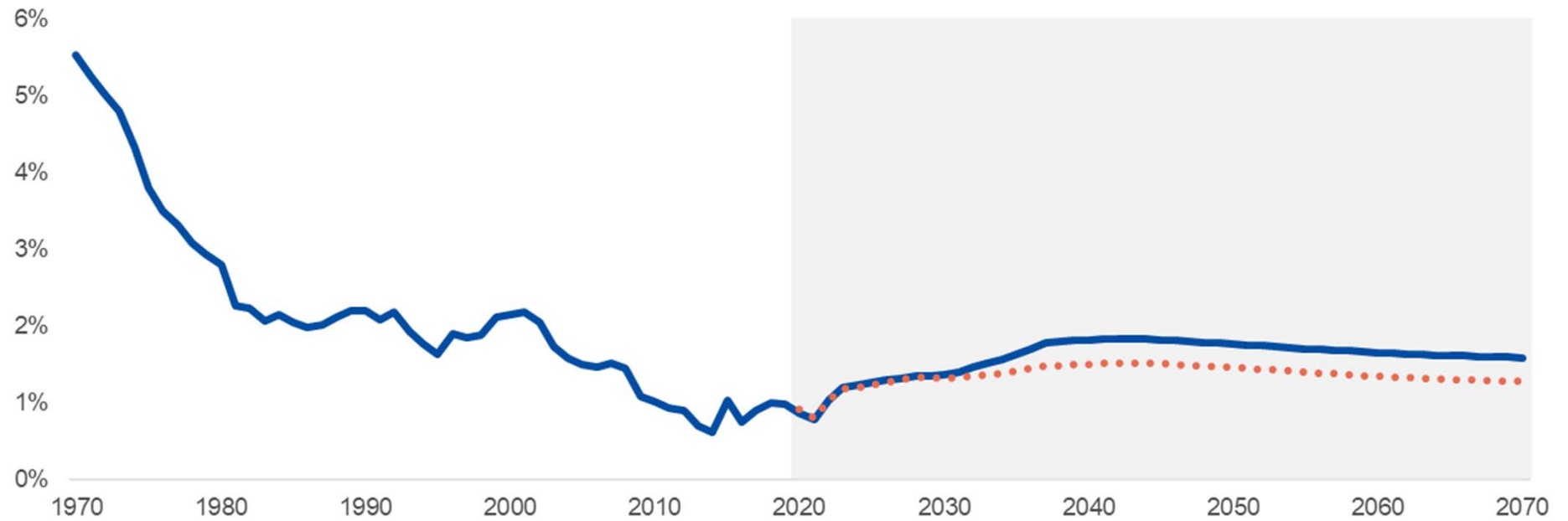
Source: 2021 Ageing Report

1. until 2010: sluggish employment and slow growth in working-age population
2. 2011-2019: rising employment, working-age population started to decline
3. 2020-2023: impact of the Covid-19 crisis and subsequent recovery
4. as of 2024: both employment and working-age population decline

The productivity outlook

Labour productivity growth (EU)

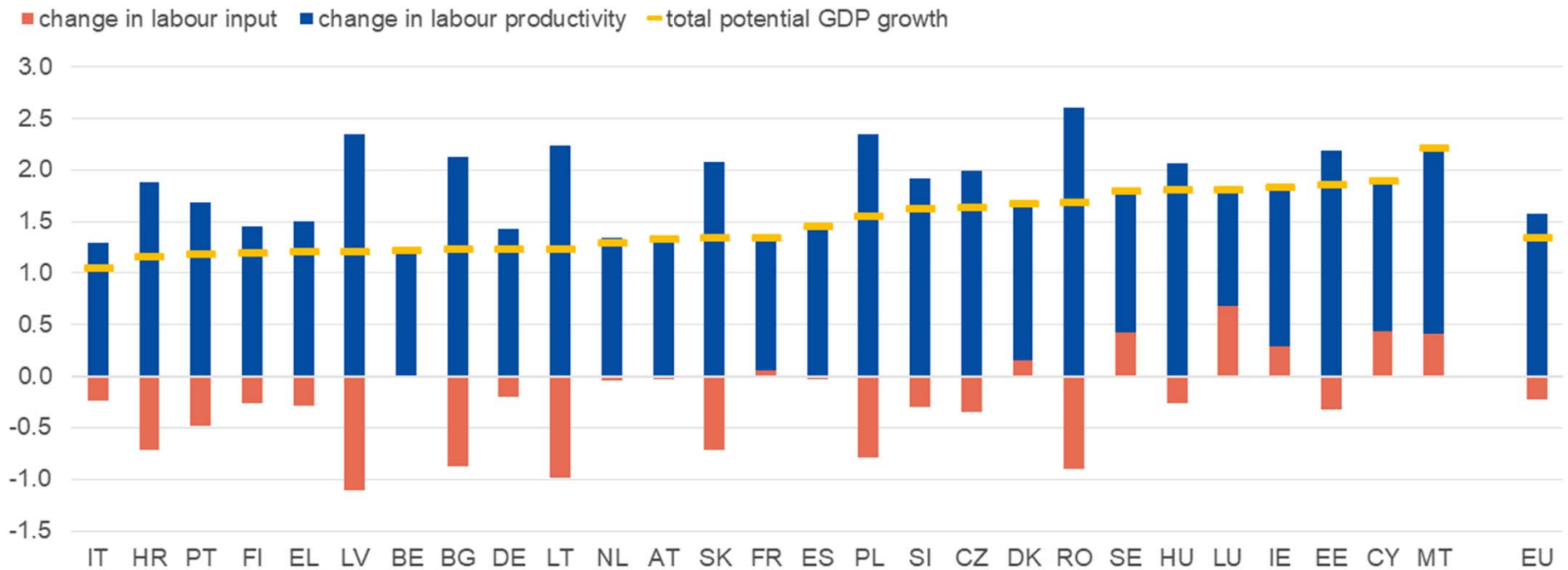
— baseline TFP risk scenario



Source: 2021 Ageing Report

Long-term potential growth driven by productivity

Average potential GDP growth 2019-2070 (%)

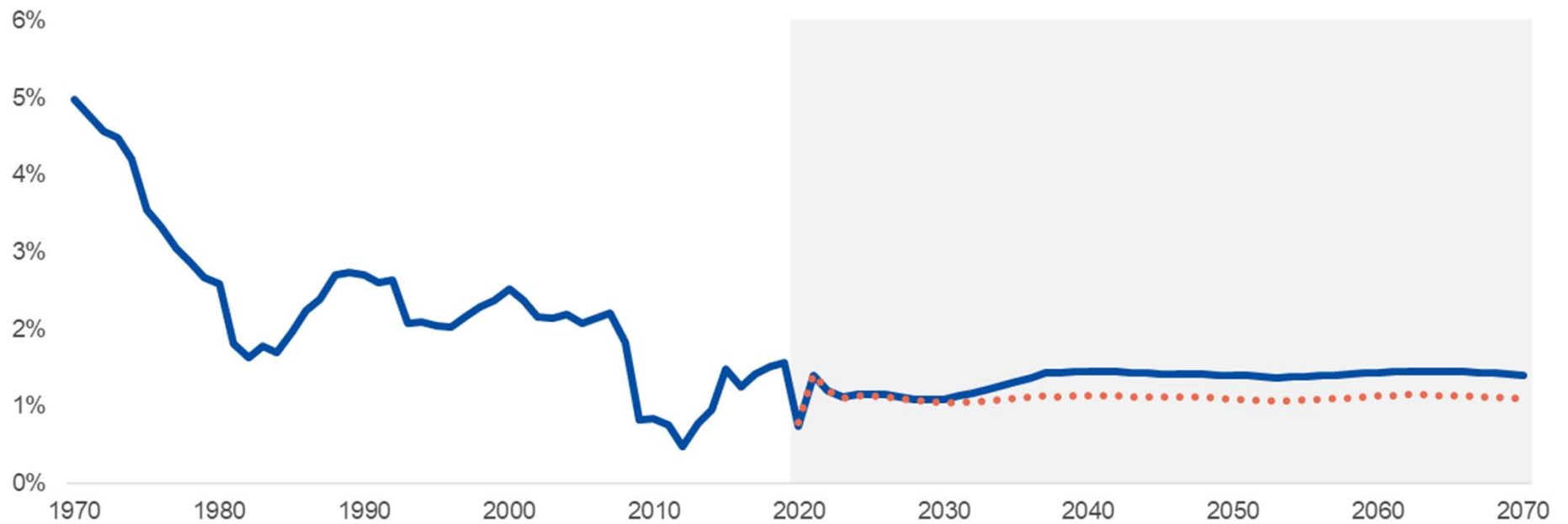


Source: 2021 Ageing Report

New 'moderate' normal

Potential GDP growth (EU)

— baseline TFP risk scenario



Source: 2021 Ageing Report

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Long-term budgetary projections

For reminder: coverage of Ageing Report



pensions
11.6% of GDP*



healthcare
6.6% of GDP



long-term care
1.7% of GDP

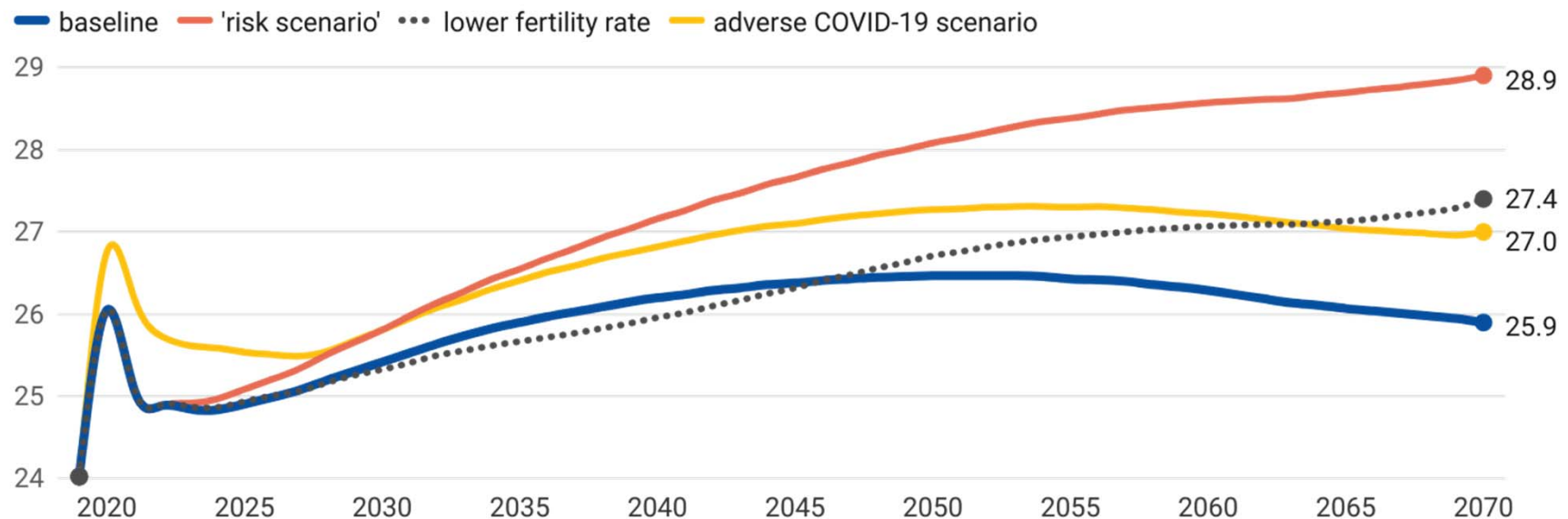


education
4.1% of GDP

* avg EU spending in 2019

Rise in age-related expenditure

Total cost of ageing (%GDP) - EU

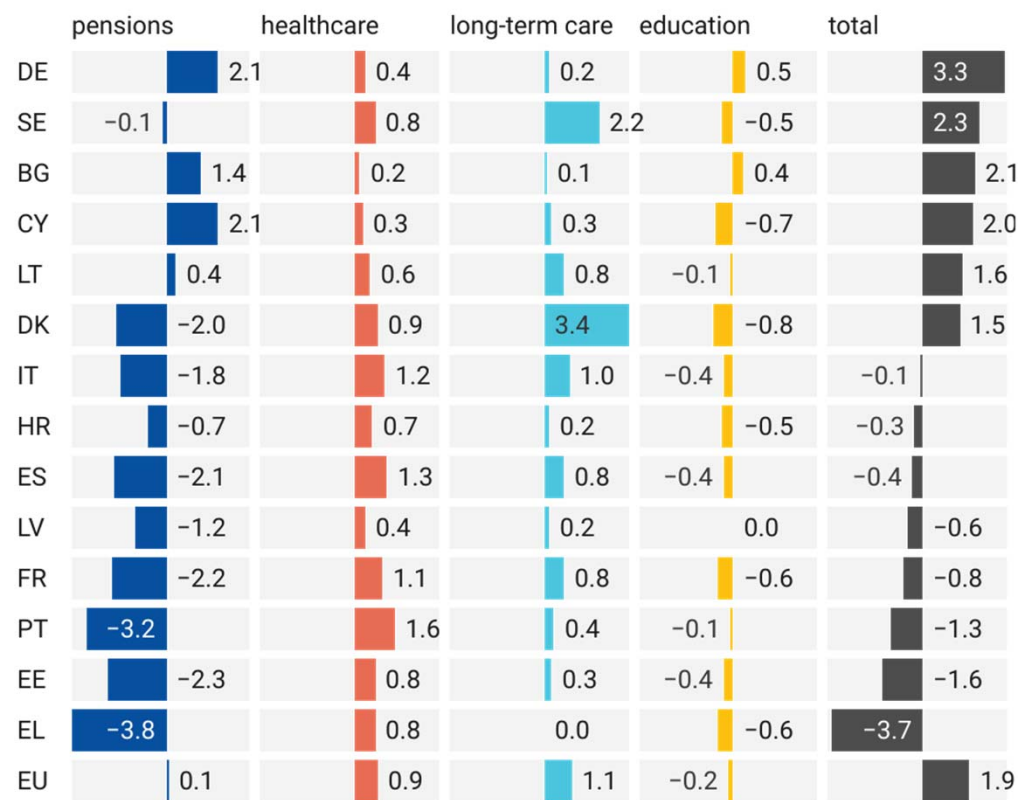
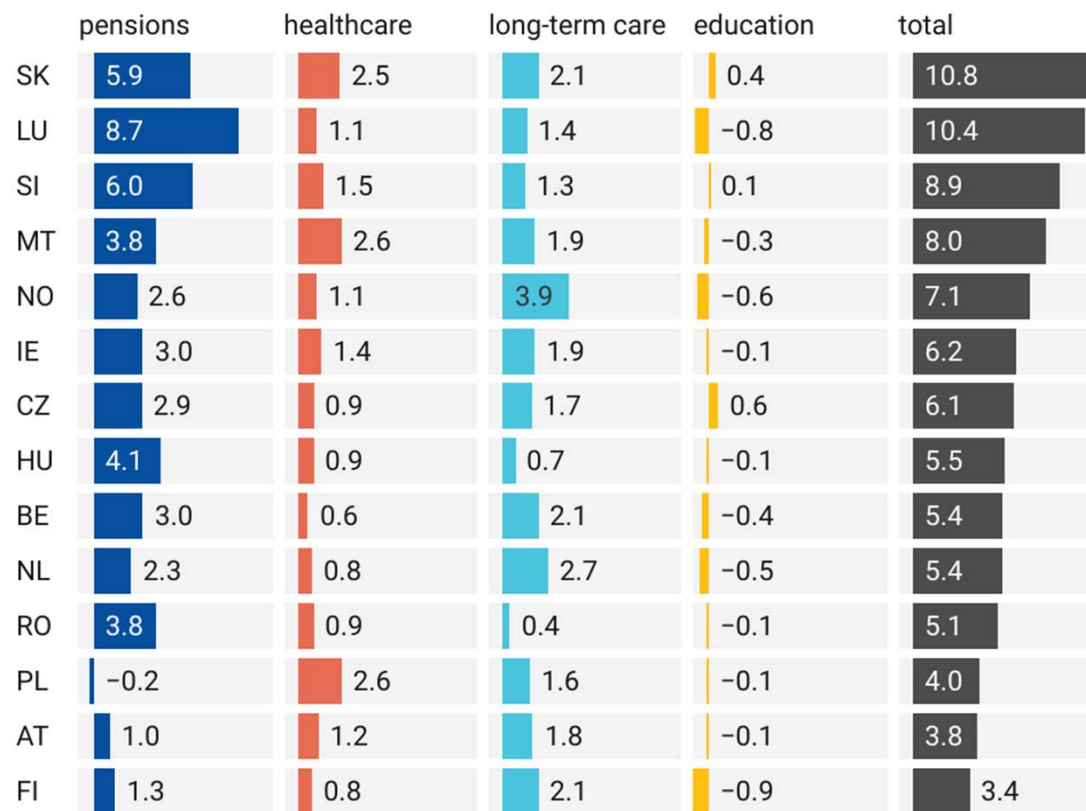


The 'risk scenario' captures the impact of non-demographic factors on healthcare and long-term care expenditure. It assumes a partial continuation of upward healthcare expenditure trends, notably due to technological progress, and an upward convergence of coverage and costs of long-term care towards the EU average. It does not affect the pension and education projections.

Source: 2021 Ageing Report • Created with Datawrapper

Total cost of ageing (%GDP) - baseline

change in expenditure 2019-2070



Source: 2021 Ageing Report • Created with Datawrapper

What if... impact of COVID-19 were more severe?

Total cost of ageing - lagged recovery scenario

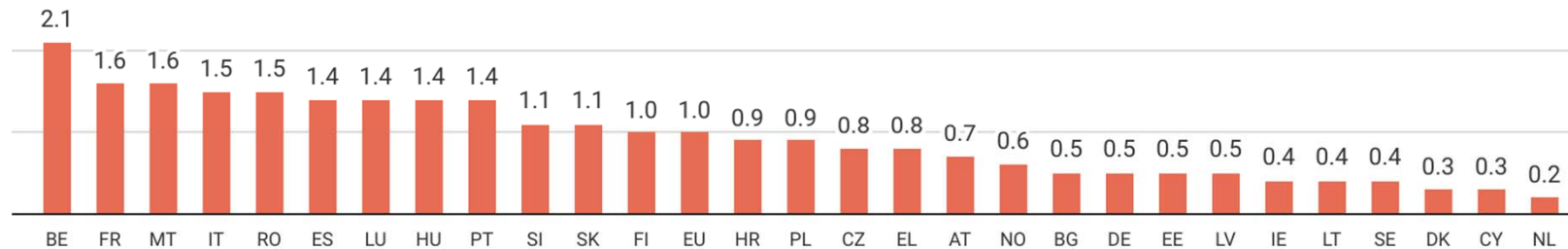
pps of GDP change in 2019-2070, deviation from baseline



scenario assumes a more pronounced cyclical downturn and a longer recovery phase

Total cost of ageing - adverse structural scenario

pps of GDP change in 2019-2070, deviation from baseline



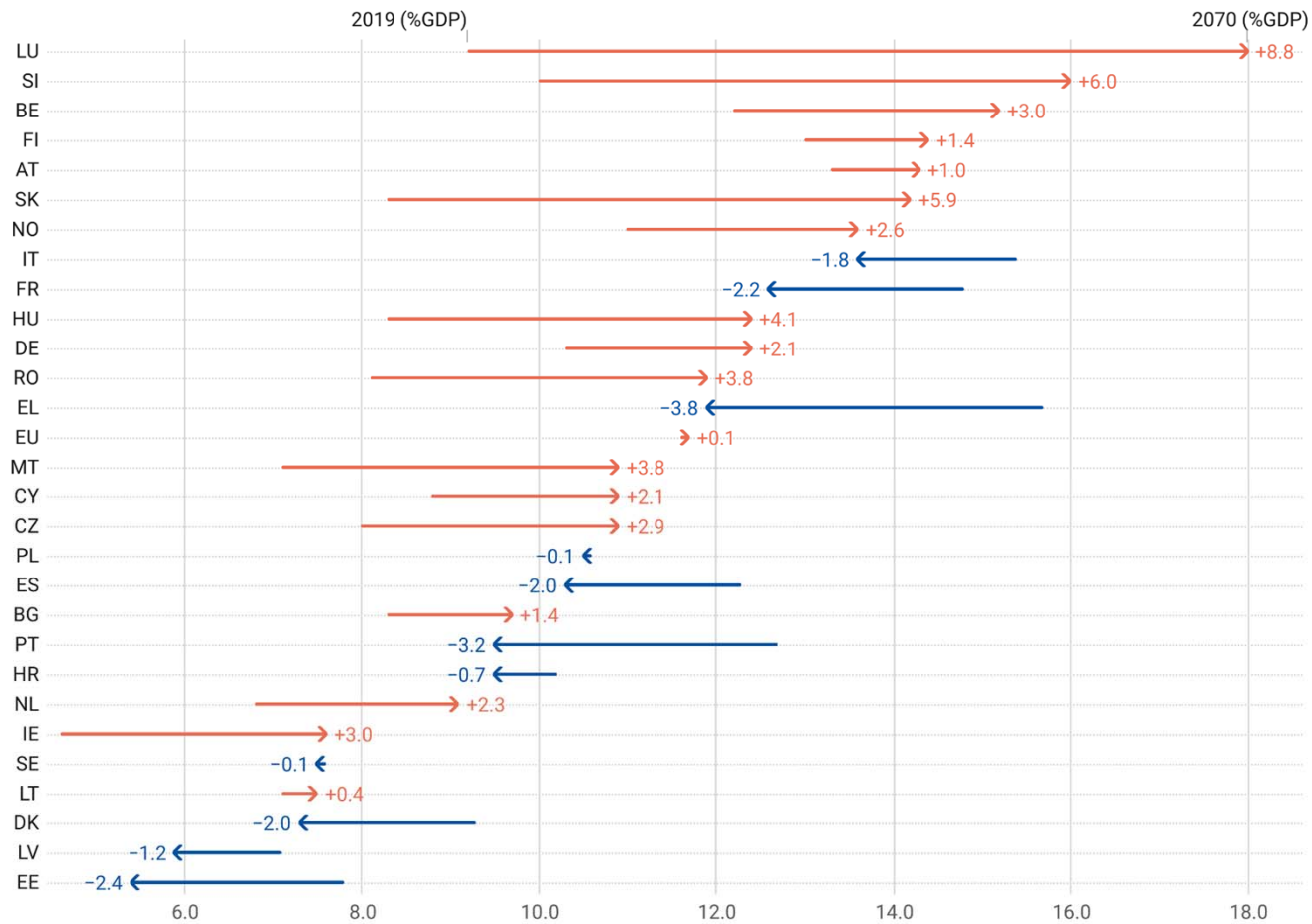
scenario assumes that, on top of a stronger cyclical downturn, the growth potential will be lower over the next decade so that potential output growth would be permanently lower than under the baseline scenario

Source: 2021 Ageing Report • Created with Datawrapper



Pension spending to rise considerably in many MS

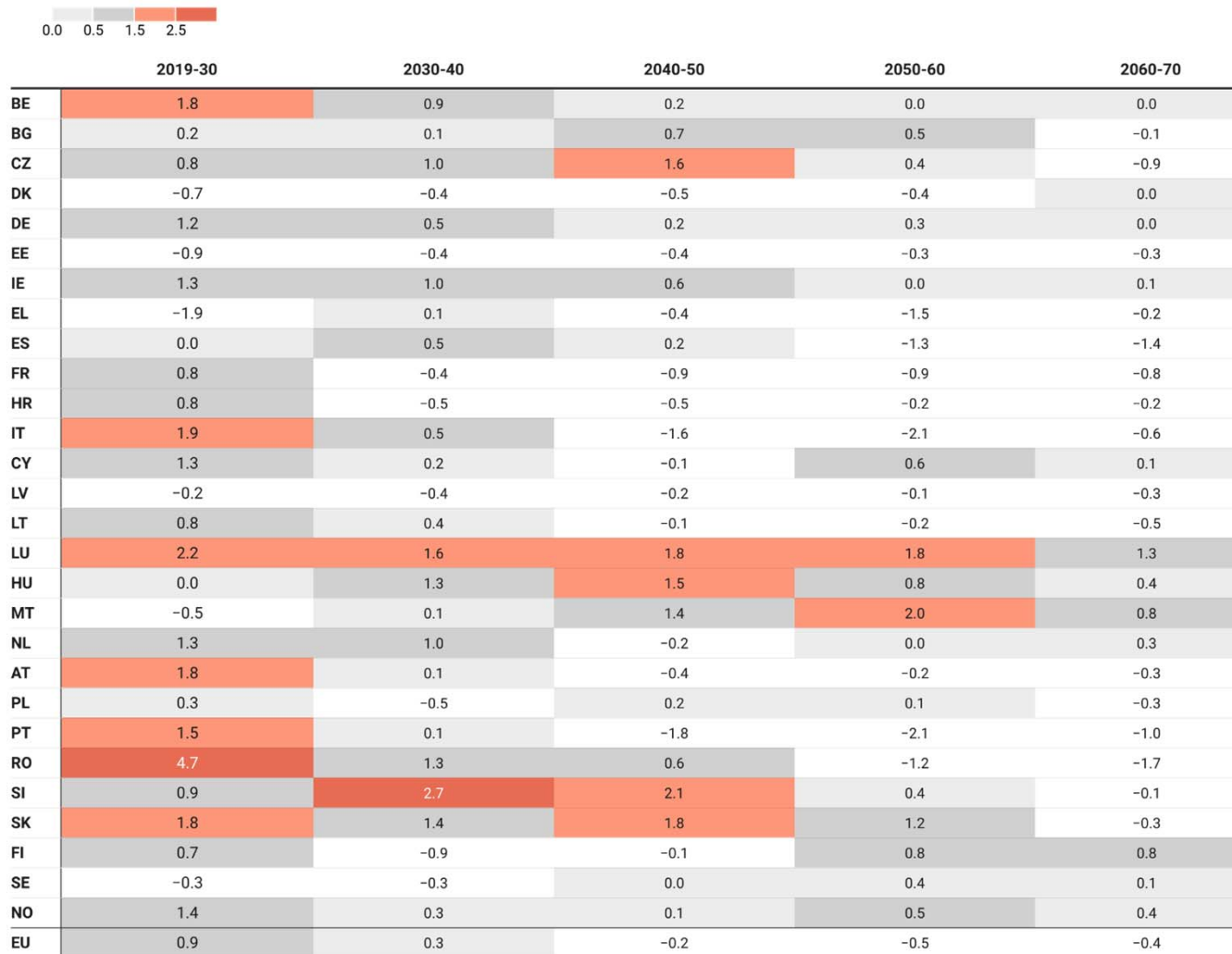
Level and change in public pension expenditure 2019-2070 (pps of GDP)



countries are ranked by expenditure level in 2070
 Source: 2021 Ageing Report • Created with Datawrapper

Increase is concentrated in next decades

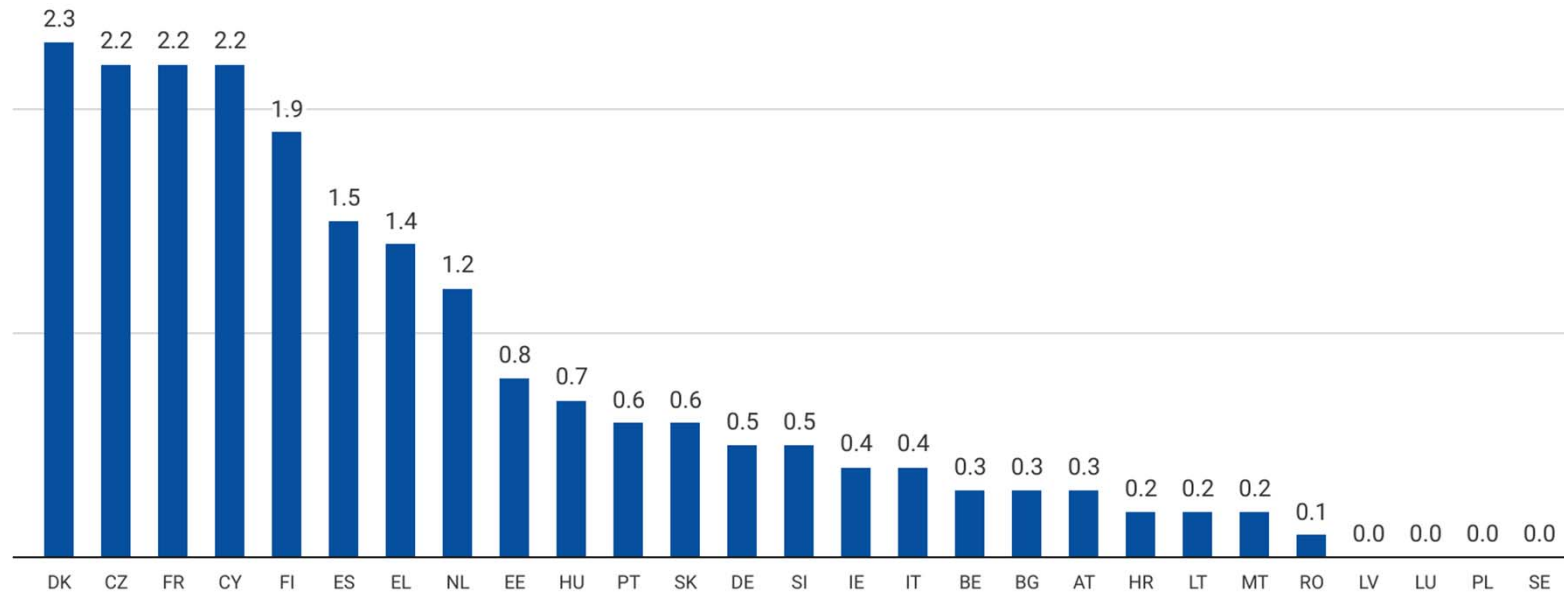
Public pension expenditure: change per decade (pps of GDP)



What if... people were to retire at current ages?

Public pension expenditure - constant retirement age scenario

pps of GDP change in 2019-2070, deviation from baseline



Source: 2021 Ageing Report • Created with Datawrapper

What if... retirement ages were linked to gains in life expectancy?

Public pension expenditure - link to life expectancy

pps of GDP change in 2019-2070, deviation from baseline



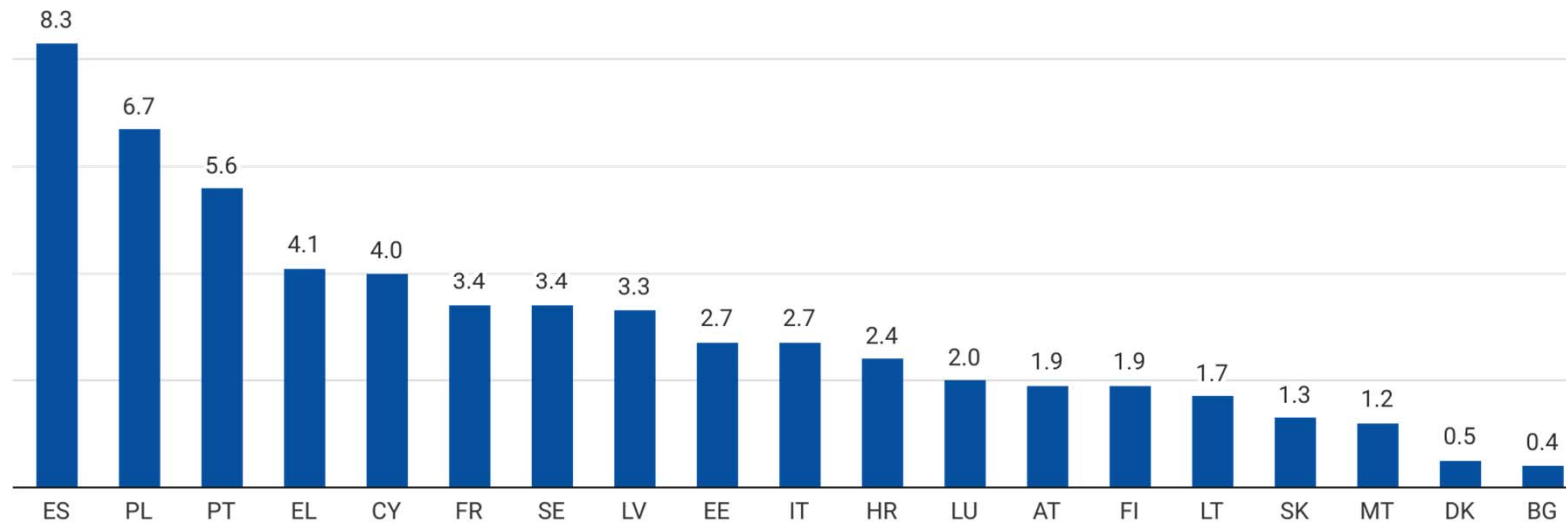
Scenario assumes 3/4th of gains in longevity is passed through in the effective exit age. The scenario is only run for countries that currently do not have a link; NL & PT apply a partial link.

Source: 2021 Ageing Report • Created with Datawrapper

What if... measures were taken to prevent pension adequacy from falling?

Public pension expenditure - offset benefit ratio scenario

pps of GDP change in 2019-2070, deviation from baseline

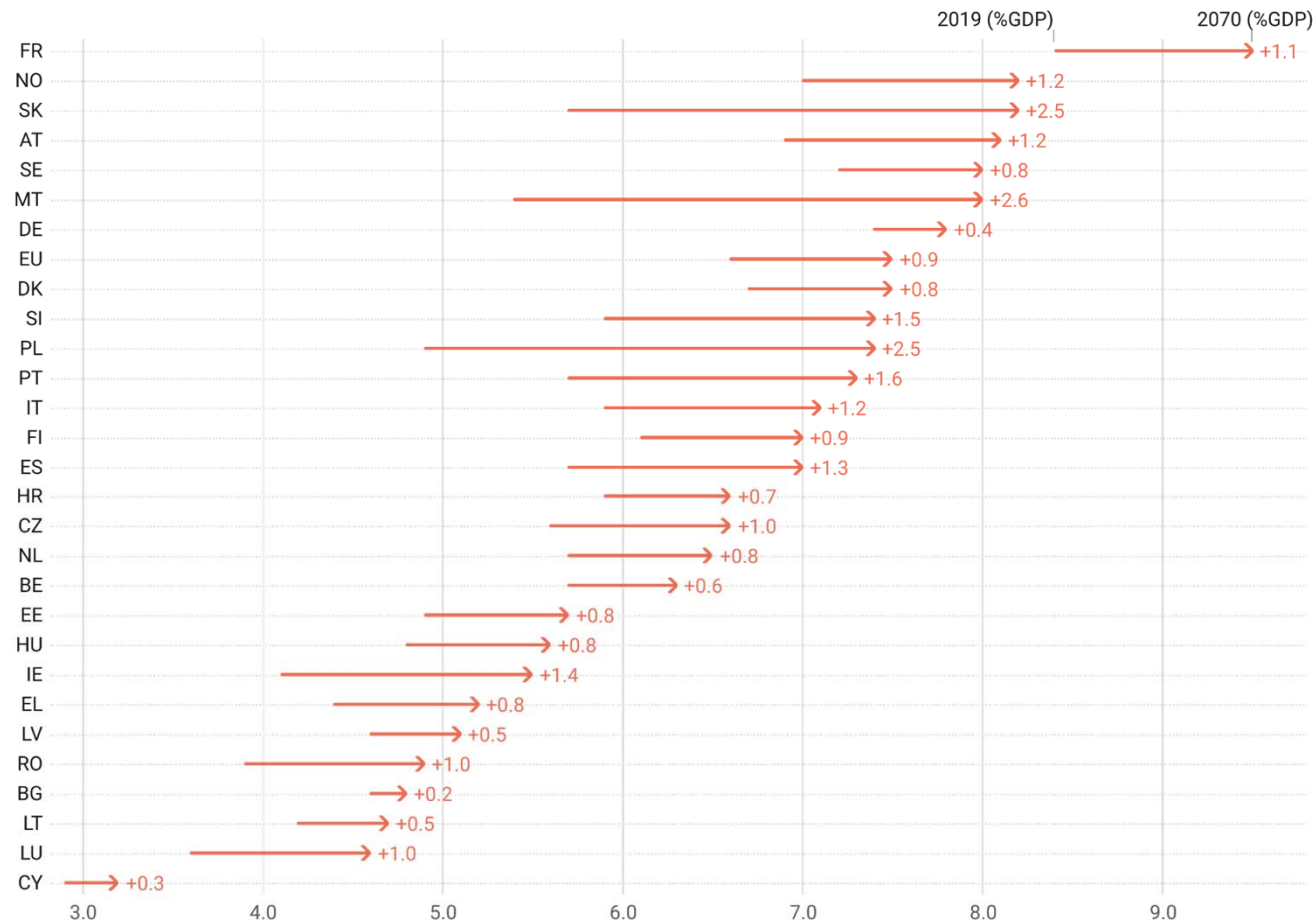


This scenario prevents the earnings-related public benefit ratio from falling below 90% of 2019 value. It was not run for BE, CZ, DE, IE, HU, NL, RO, SI & NO as under the baseline projections the benefit ratio does not fall below 90%.

Source: 2021 Ageing Report • Created with Datawrapper

General rise in healthcare spending

Level and change in healthcare expenditure 2019-2070 (pps of GDP)



countries are ranked by expenditure level in 2070
 Source: 2021 Ageing Report • Created with Datawrapper

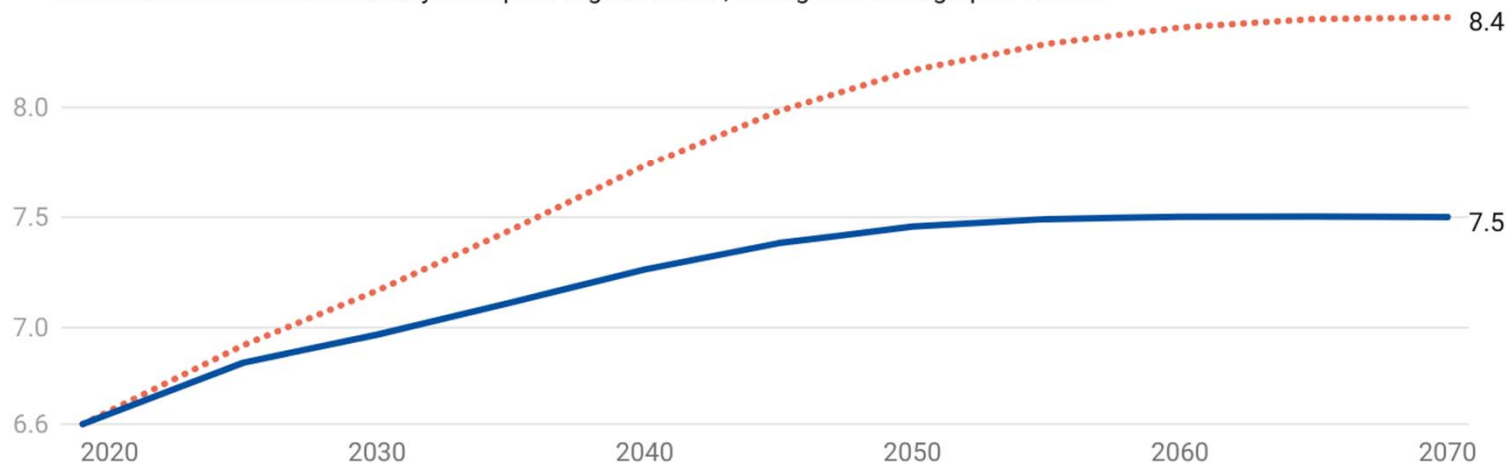
Projections are subject to uncertainty

Healthcare: baseline versus risk scenario - EU

% of GDP

— baseline: 50% of additional years spent in good health, moderate non-demographic factors

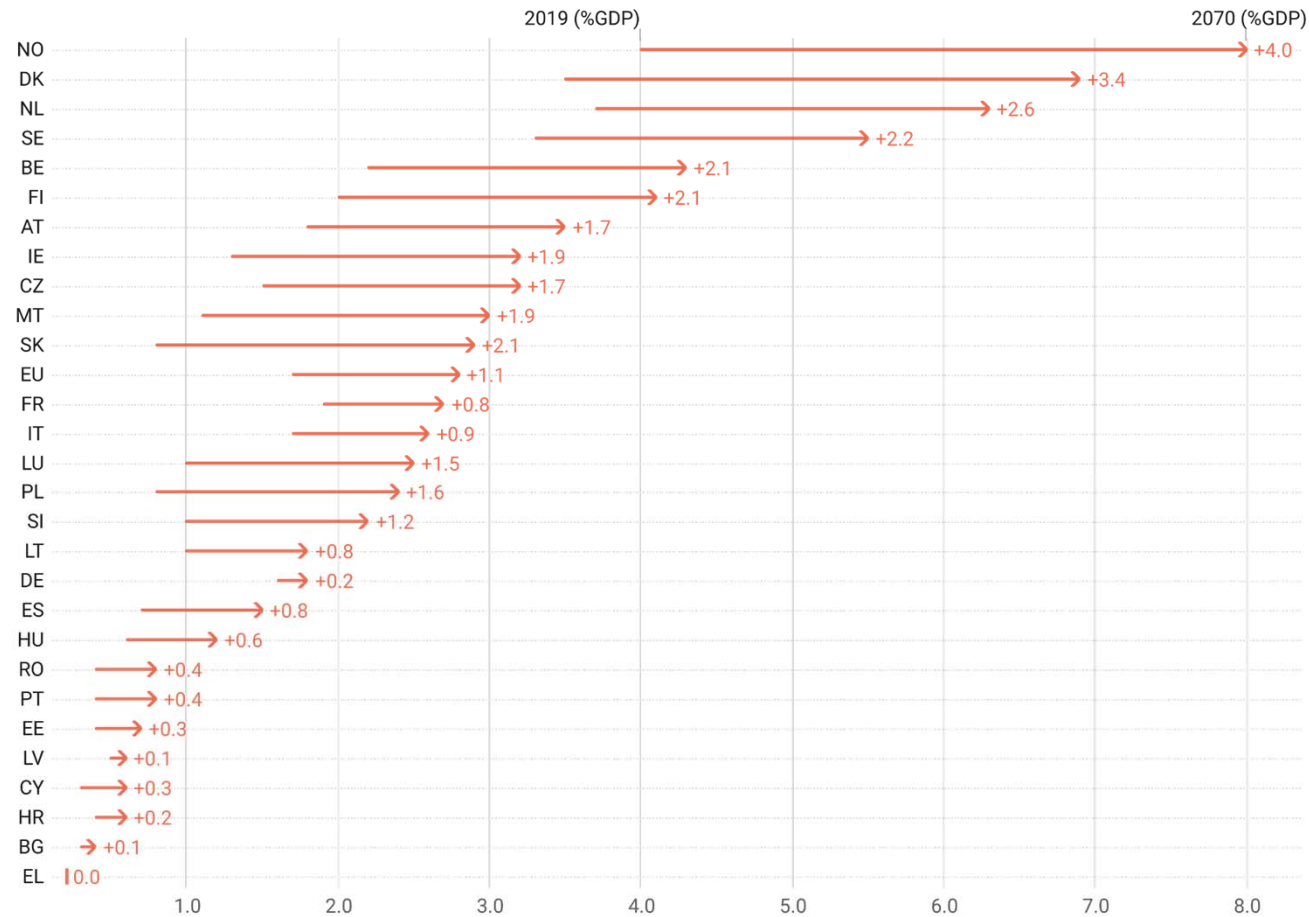
••• risk scenario: 50% of additional years spent in good health, strong non-demographic factors



Source: 2021 Ageing Report • Created with Datawrapper

Also general increase expected for long-term care

Level and change in long-term care expenditure 2019-2070 (pps of GDP)



countries are ranked by expenditure level in 2070
 Source: 2021 Ageing Report • Created with Datawrapper



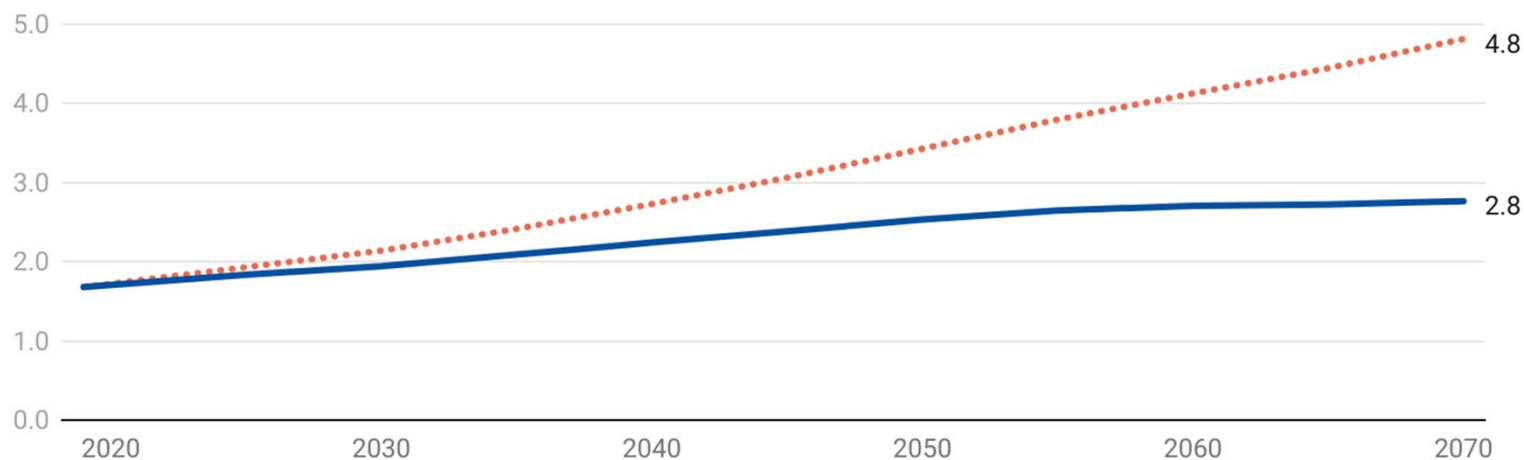
Again, with uncertainty

Long-term care: baseline versus risk scenario - EU

% of GDP

— baseline: 50% of additional years spent without disability, very weak convergence in coverage and quality of care

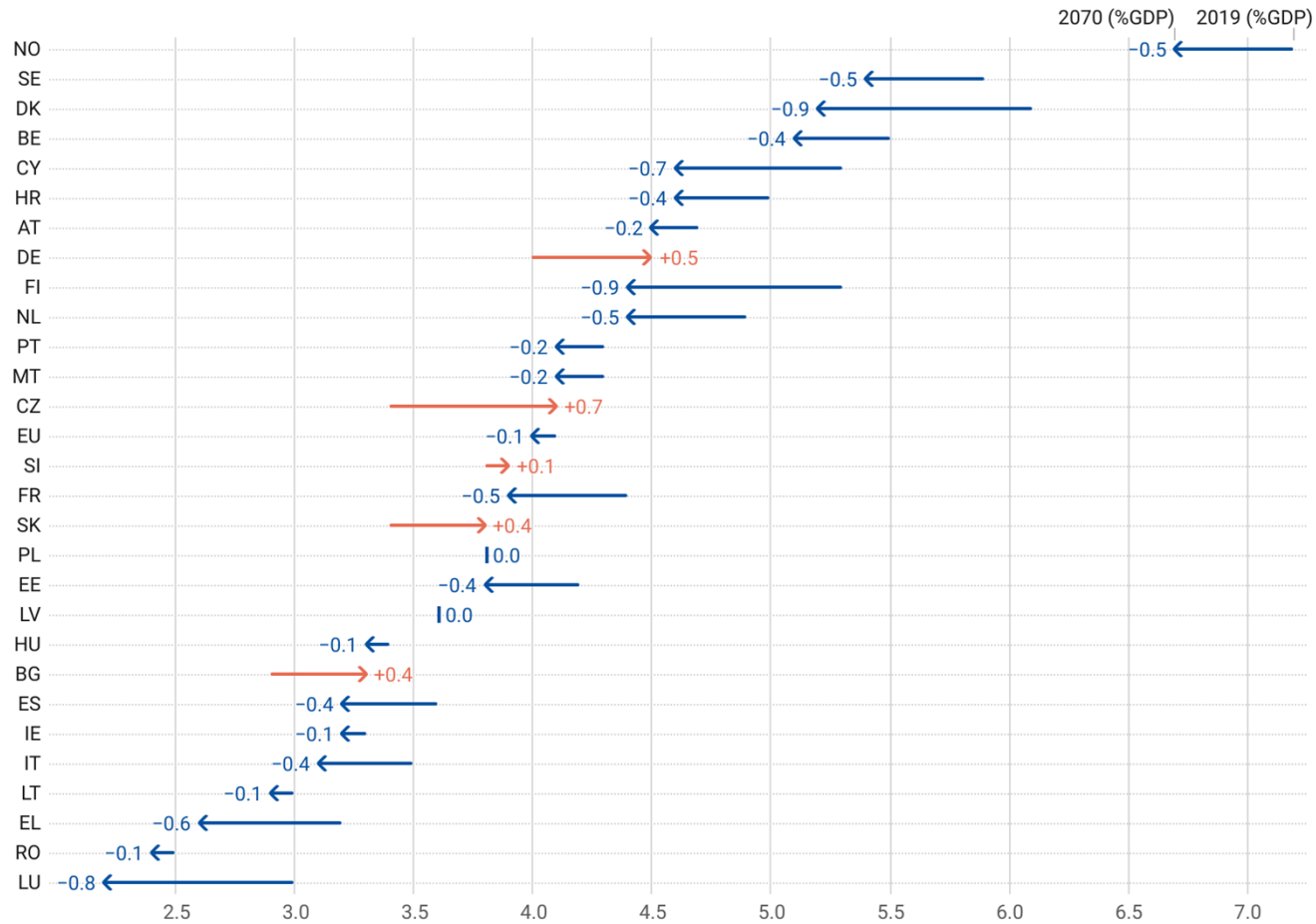
••• risk scenario: 50% of additional years spent without disability, strong convergence in coverage and quality of care



Source: 2021 Ageing Report • Created with Datawrapper

General decrease for education, few exceptions

Level and change in education expenditure 2019-2070 (pps of GDP)



countries are ranked by expenditure level in 2070
 Source: 2021 Ageing Report • Created with Datawrapper

3

Conclusions

Concluding remarks

- The Ageing Report highlights fiscal-structural challenges for social security systems over the medium-long term on a comparable basis across the EU;
- Economic and fiscal challenges posed by population ageing are manageable if the right policies are put in place;
- Policies need to be geared towards modernising welfare systems, including increasing employment and labour productivity, as ageing weighs on the growth potential;
- Need for a differentiation of fiscal-structural policies, to tailor the policy recommendations to each country-specific situation so that their welfare systems are apt for the future.



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Thank you!

- [2021 Ageing Report: Economic and budgetary projections](#)
- [2021 Ageing Report: Underlying assumptions and projection methodologies](#)
- [Pension country fiches and tables](#)
- [PENSREF database](#)

Extra slides

Total ageing costs (%GDP) - baseline

spending on pensions, healthcare, long-term care and education

	2019	change 2019-2070 (pps) ▼	2070	change to peak (pps)
SK	18.3	10.8	29.1	11.0
LU	16.9	10.4	27.3	10.4
SI	20.7	8.9	29.5	9.0
MT	17.9	8.0	25.9	8.0
NO	29.2	7.1	36.4	7.1
IE	13.2	6.2	19.4	6.2
CZ	18.6	6.1	24.7	7.1
HU	17.1	5.5	22.5	5.5
BE	25.6	5.4	30.9	5.4
NL	21.0	5.4	26.4	5.4
RO	14.9	5.1	20.0	7.8
PL	20.1	4.0	24.1	4.1
AT	26.7	3.8	30.5	3.9
FI	26.5	3.4	29.9	3.4
DE	23.3	3.3	26.5	3.3
SE	24.1	2.3	26.4	2.3
BG	16.1	2.1	18.1	2.5
CY	17.3	2.0	19.3	2.3
LT	15.3	1.6	16.9	2.2
DK	25.4	1.5	26.9	1.5
IT	26.5	-0.1	26.4	3.6
HR	21.5	-0.3	21.2	1.8
ES	22.3	-0.4	21.9	2.4
LV	15.8	-0.6	15.2	1.4
FR	29.5	-0.8	28.7	2.6
PT	23.1	-1.3	21.8	2.7
EE	17.2	-1.6	15.6	1.4
EL	23.6	-3.7	19.9	2.8
EU	24.0	1.9	25.9	2.5

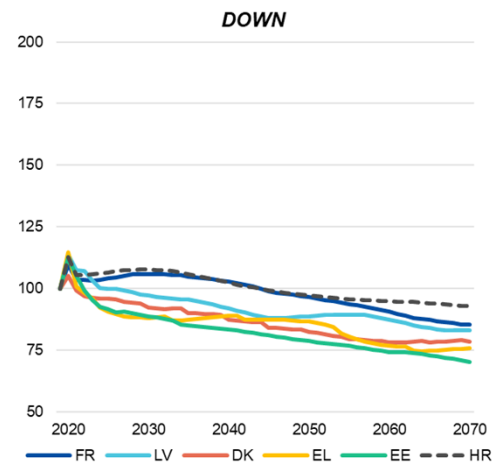
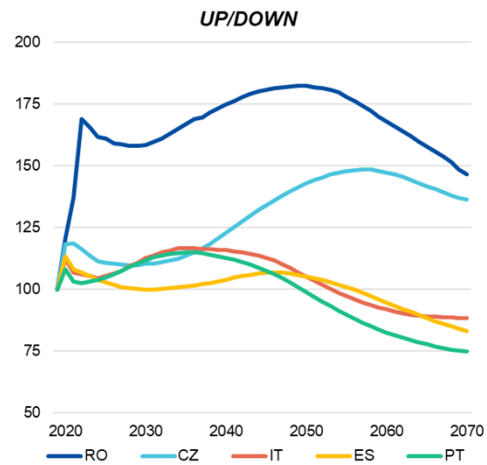
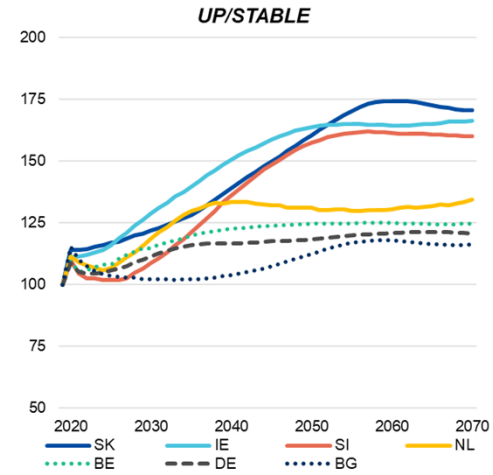
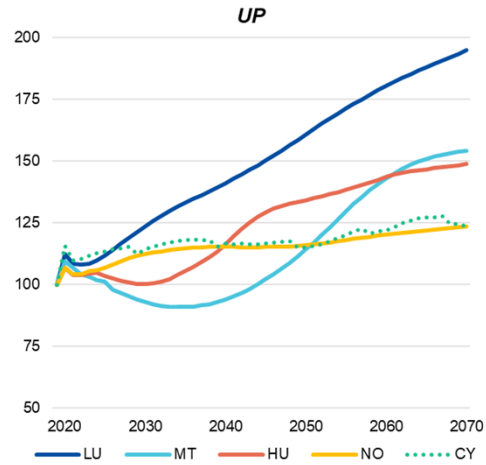
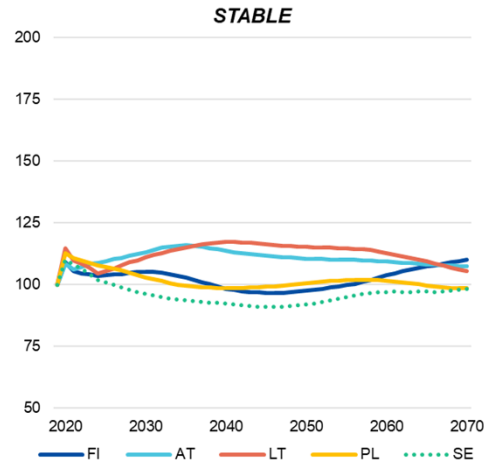
Total cost of ageing (%GDP) - baseline

	2019	2019-2070 change					2070	peak
	total	pensions	healthcare	long-term care	education	total	total	increase
SK	18.3	5.9	2.5	2.1	0.4	10.8	29.1	11.0
LU	16.9	8.7	1.1	1.4	-0.8	10.4	27.3	10.4
SI	20.7	6.0	1.5	1.3	0.1	8.9	29.5	9.0
MT	17.9	3.8	2.6	1.9	-0.3	8.0	25.9	8.0
NO	29.2	2.6	1.1	3.9	-0.6	7.1	36.4	7.1
IE	13.2	3.0	1.4	1.9	-0.1	6.2	19.4	6.2
CZ	18.6	2.9	0.9	1.7	0.6	6.1	24.7	7.1
HU	17.1	4.1	0.9	0.7	-0.1	5.5	22.5	5.5
BE	25.6	3.0	0.6	2.1	-0.4	5.4	30.9	5.4
NL	21.0	2.3	0.8	2.7	-0.5	5.4	26.4	5.4
RO	14.9	3.8	0.9	0.4	-0.1	5.1	20.0	7.8
PL	20.1	-0.2	2.6	1.6	-0.1	4.0	24.1	4.1
AT	26.7	1.0	1.2	1.8	-0.1	3.8	30.5	3.9
FI	26.5	1.3	0.8	2.1	-0.9	3.4	29.9	3.4
DE	23.3	2.1	0.4	0.2	0.5	3.3	26.5	3.3
SE	24.1	-0.1	0.8	2.2	-0.5	2.3	26.4	2.3
BG	16.1	1.4	0.2	0.1	0.4	2.1	18.1	2.5
CY	17.3	2.1	0.3	0.3	-0.7	2.0	19.3	2.3
LT	15.3	0.4	0.6	0.8	-0.1	1.6	16.9	2.2
DK	25.4	-2.0	0.9	3.4	-0.8	1.5	26.9	1.5
IT	26.5	-1.8	1.2	1.0	-0.4	-0.1	26.4	3.6
HR	21.5	-0.7	0.7	0.2	-0.5	-0.3	21.2	1.8
ES	22.3	-2.1	1.3	0.8	-0.4	-0.4	21.9	2.4
LV	15.8	-1.2	0.4	0.2	0.0	-0.6	15.2	1.4
FR	29.5	-2.2	1.1	0.8	-0.6	-0.8	28.7	2.6
PT	23.1	-3.2	1.6	0.4	-0.1	-1.3	21.8	2.7
EE	17.2	-2.3	0.8	0.3	-0.4	-1.6	15.6	1.4
EL	23.6	-3.8	0.8	0.0	-0.6	-3.7	19.9	2.8
EU	24.0	0.1	0.9	1.1	-0.2	1.9	25.9	2.5

Public pension expenditure (%GDP) - baseline

	2019	change 2019-2070 (pps) ▼	2070	change to peak (pps)
LU	9.2	8.7	18.0	8.7
SI	10.0	6.0	16.0	6.2
SK	8.3	5.9	14.2	6.2
HU	8.3	4.1	12.4	4.1
MT	7.1	3.8	10.9	3.8
RO	8.1	3.8	11.9	6.7
BE	12.2	3.0	15.2	3.1
IE	4.6	3.0	7.6	3.0
CZ	8.0	2.9	10.9	3.9
NO	11.0	2.6	13.6	2.6
NL	6.8	2.3	9.1	2.3
DE	10.3	2.1	12.4	2.2
CY	8.8	2.1	10.9	2.4
BG	8.3	1.4	9.7	1.5
FI	13.0	1.3	14.4	1.3
AT	13.3	1.0	14.3	2.1
LT	7.1	0.4	7.5	1.2
SE	7.6	-0.1	7.5	0.8
PL	10.6	-0.2	10.5	1.4
HR	10.2	-0.7	9.5	1.3
LV	7.1	-1.2	5.9	1.0
IT	15.4	-1.8	13.6	2.6
DK	9.3	-2.0	7.3	0.5
ES	12.3	-2.1	10.3	1.7
FR	14.8	-2.2	12.6	1.5
EE	7.8	-2.3	5.4	1.0
PT	12.7	-3.2	9.5	1.9
EL	15.7	-3.8	11.9	2.3
EU	11.6	0.1	11.7	1.2

Public pension expenditure (2019=100)



Sensitivity to alternative assumptions

	baseline 2019-2070 (%GDP)	impact of unfavourable scenarios (pps of GDP)						impact of favourable scenarios (pps of GDP)			
		Higher life expectancy	Lower migration	Lower fertility	TFP risk scenario	Unchanged ret. age	Offset BR	Higher migration	Higher empl. 55-74	Higher TFP growth	Link to life expectancy
LU	8.7	0.5	1.5	2.2	0.7	0.0	2.0	-1.1	-0.1	-0.9	-1.6
SI	6.0	1.0	0.5	2.1	0.2	0.5	0.0	-0.4	-1.4	-0.4	-1.9
SK	5.9	0.6	0.2	2.1	0.3	0.6	1.3	-0.2	-0.4	-0.5	-2.3
HU	4.1	0.5	0.2	1.5	0.5	0.7	0.0	-0.4	-0.7	-0.5	-2.3
MT	3.8	0.5	1.2	1.0	0.6	0.2	1.2	-0.8	-0.3	-0.7	-0.4
RO	3.8	0.7	-0.3	1.9	0.8	0.1	0.0	0.4	-0.4	-0.5	-1.1
IE	3.0	0.4	0.1	1.0	0.1	0.0	0.0	-0.1	-0.3	-0.1	-1.0
BE	3.0	0.8	0.7	1.8	1.0	0.3	0.0	-0.5	-0.9	-1.1	-1.3
CZ	2.9	0.7	0.3	1.5	0.3	2.2	0.0	-0.3	0.2	-0.3	-1.4
NO	2.6	0.2	0.2	1.4	0.0	0.0	0.0	-0.7	-0.6	0.0	-0.4
NL	2.3	0.0	0.4	1.3	-0.1	1.2	0.0	-0.3	-0.2	0.0	-0.4
DE	2.1	0.4	0.4	1.0	0.0	0.5	0.0	-0.3	-0.2	0.0	-0.9
CY	2.1	0.3	1.0	1.2	0.3	2.2	4.0	-0.8	-0.2	-0.1	0.0
BG	1.4	0.5	0.1	1.5	1.0	0.3	0.4	-0.1	-0.3	-0.2	-0.8
FI	1.3	0.1	0.7	1.6	0.6	1.9	1.9	-0.6	-0.2	-0.5	0.0
AT	1.0	0.7	0.7	0.6	0.4	0.3	1.9	-0.6	-0.3	-0.4	-1.5
LT	0.4	0.5	0.2	0.1	0.1	0.2	1.7	-0.2	0.0	0.0	-0.6
EU	0.1	0.4	0.4	1.2	0.5	0.9	3.2	-0.3	-0.3	-0.5	-1.1
EA	0.1	0.4	0.4	1.2	0.5	0.9	3.2	-0.4	-0.3	-0.5	-1.1
SE	-0.1	0.2	0.4	1.0	0.0	0.0	3.4	-0.3	-0.2	0.0	-0.7
PL	-0.2	0.3	0.2	1.1	0.4	0.0	6.7	-0.2	-0.3	-0.4	-0.7
HR	-0.7	0.8	0.2	1.5	0.3	0.2	2.4	-0.2	-0.7	-0.4	-1.1
LV	-1.2	0.2	0.0	0.3	0.1	0.0	3.3	0.0	0.1	-0.1	0.0
IT	-1.8	0.2	0.7	1.0	0.6	0.4	2.7	-0.5	0.2	-0.6	0.0
DK	-2.0	0.2	0.2	0.9	-0.1	2.3	0.5	-0.2	-0.3	0.1	0.0
ES	-2.1	0.1	0.7	1.0	0.9	1.5	8.3	-0.5	-1.4	-0.9	-1.1
FR	-2.2	0.6	0.2	1.8	0.9	2.2	3.4	-0.2	-0.3	-1.0	-2.6
EE	-2.3	0.4	0.0	0.1	0.2	0.8	2.7	0.1	0.1	-0.1	0.0
PT	-3.2	0.0	0.2	1.3	0.7	0.6	5.6	-0.3	-0.3	-0.8	-0.3
EL	-3.8	-0.1	0.5	1.1	0.7	1.4	4.1	-0.5	-0.1	-0.7	0.0

Healthcare expenditure (%GDP) - baseline

	2019	change 2019-2070 (pps) ▾	2070	change to peak (pps)
MT	5.4	2.6	8.0	2.6
PL	4.9	2.6	7.4	2.6
SK	5.7	2.5	8.2	2.6
PT	5.7	1.6	7.3	1.7
SI	5.9	1.5	7.4	1.5
IE	4.1	1.4	5.5	1.4
ES	5.7	1.3	7.0	1.4
IT	5.9	1.2	7.1	1.3
AT	6.9	1.2	8.1	1.2
FR	8.4	1.1	9.5	1.1
LU	3.6	1.1	4.6	1.1
NO	7.0	1.1	8.2	1.1
CZ	5.6	0.9	6.6	1.1
DK	6.7	0.9	7.5	0.9
HU	4.8	0.9	5.6	1.4
RO	3.9	0.9	4.9	1.0
EE	4.9	0.8	5.7	0.8
EL	4.4	0.8	5.2	0.9
NL	5.7	0.8	6.5	0.8
FI	6.1	0.8	7.0	0.8
SE	7.2	0.8	8.0	0.8
HR	5.9	0.7	6.6	0.7
BE	5.7	0.6	6.3	0.6
LT	4.2	0.6	4.7	0.6
DE	7.4	0.4	7.8	0.5
LV	4.6	0.4	5.1	0.7
CY	2.9	0.3	3.2	0.3
BG	4.6	0.2	4.8	0.4
EU	6.6	0.9	7.5	0.9

Long-term care expenditure (%GDP) - baseline

	2019	change 2019-2070 (pps) ▼	2070	change to peak (pps)
NO	4.0	3.9	8.0	3.9
DK	3.5	3.4	6.9	3.4
NL	3.7	2.7	6.3	2.7
SE	3.3	2.2	5.5	2.2
BE	2.2	2.1	4.3	2.1
SK	0.8	2.1	2.9	2.1
FI	2.0	2.1	4.1	2.1
IE	1.3	1.9	3.2	1.9
MT	1.1	1.9	3.0	1.9
AT	1.8	1.8	3.5	1.8
CZ	1.5	1.7	3.2	1.7
PL	0.8	1.6	2.4	1.6
LU	1.0	1.4	2.5	1.4
SI	1.0	1.3	2.2	1.3
IT	1.7	1.0	2.6	1.1
ES	0.7	0.8	1.5	0.8
FR	1.9	0.8	2.7	0.8
LT	1.0	0.8	1.8	0.8
HU	0.6	0.7	1.2	0.7
PT	0.4	0.4	0.8	0.4
RO	0.4	0.4	0.8	0.4
EE	0.4	0.3	0.7	0.3
CY	0.3	0.3	0.6	0.3
DE	1.6	0.2	1.8	0.4
HR	0.4	0.2	0.6	0.2
LV	0.5	0.2	0.6	0.2
BG	0.3	0.1	0.4	0.1
EL	0.2	0.0	0.2	0.0
EU	1.7	1.1	2.8	1.1

Education expenditure (%GDP) - baseline

	2019	change 2019-2070 (pps) ▼	2070	change to peak (pps)
CZ	3.4		4.1	0.8
DE	4.0		4.5	0.5
BG	2.9		3.3	0.5
SK	3.4		3.8	0.5
SI	3.8		3.9	0.2
LV	3.6		3.6	0.2
IE	3.3	-0.1	3.2	0.0
LT	3.0	-0.1	2.9	0.0
HU	3.4	-0.1	3.3	-0.1
AT	4.7	-0.1	4.5	-0.1
PL	3.8	-0.1	3.8	0.0
PT	4.3	-0.1	4.1	-0.1
RO	2.5	-0.1	2.4	0.0
MT	4.3	-0.3	4.1	-0.1
BE	5.5	-0.4	5.1	0.0
EE	4.2	-0.4	3.8	-0.1
ES	3.6	-0.4	3.2	0.1
IT	3.5	-0.4	3.1	0.0
HR	5.0	-0.5	4.6	-0.1
NL	4.9	-0.5	4.4	-0.1
SE	5.9	-0.5	5.4	-0.1
EL	3.2	-0.6	2.6	0.0
FR	4.4	-0.6	3.9	0.0
NO	7.2	-0.6	6.7	0.0
CY	5.3	-0.7	4.6	-0.1
DK	6.1	-0.8	5.2	-0.2
LU	3.0	-0.8	2.2	-0.1
FI	5.3	-0.9	4.4	0.0
EU	4.1	-0.2	4.0	0.0