

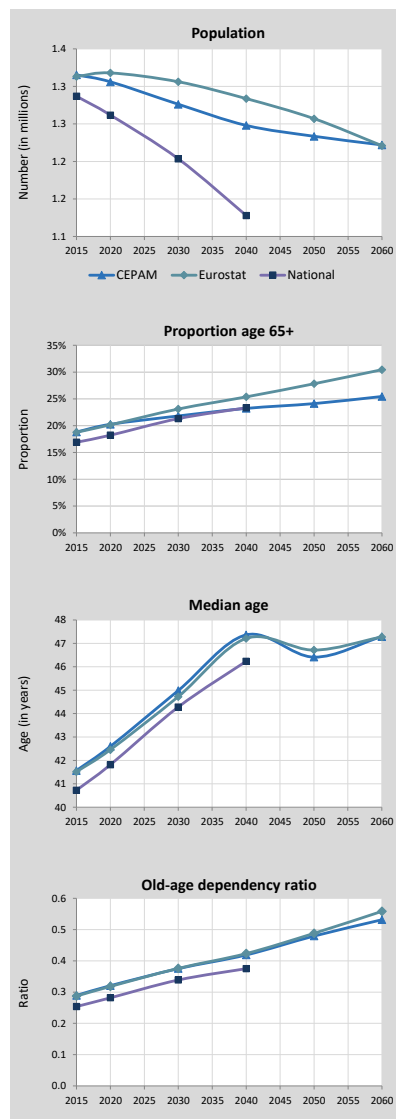
Estonia

Detailed Human Capital projections to 2060

Comparison of CEPAM projections with other sources

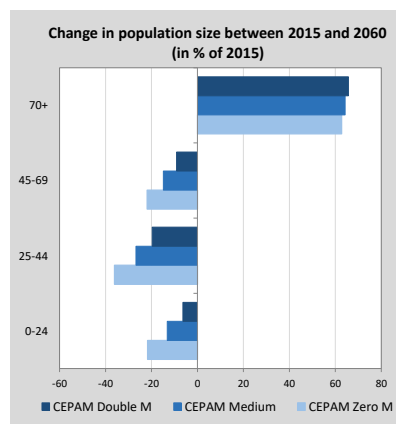
Demographic indicators - CEPAM Medium Scenario (SSP2), Eurostat and national projections							
		2015	2020	2030	2040	2050	2060
Population (in millions)	CEPAM	1.32	1.31	1.28	1.25	1.23	1.22
	Eurostat	1.31	1.32	1.31	1.28	1.26	1.22
	National	1.29	1.26	1.20	1.13	-	-
Proportion age 65+	CEPAM	18.8%	20.3%	21.8%	23.2%	24.1%	25.4%
	Eurostat	18.8%	20.2%	23.1%	25.4%	27.8%	30.4%
	National	16.9%	18.2%	21.3%	23.3%	-	-
Proportion below age 20	CEPAM	20.6%	21.5%	20.5%	18.9%	19.3%	19.7%
	Eurostat	20.5%	21.2%	20.8%	19.9%	20.1%	20.2%
	National	21.1%	22.0%	21.7%	20.0%	-	-
Median age	CEPAM	41.6	42.6	45.0	47.4	46.4	47.3
	Eurostat	41.5	42.5	44.7	47.2	46.7	47.3
	National	40.7	41.8	44.3	46.2	-	-
Old-age dependency ratio (65+/15-64)	CEPAM	0.29	0.32	0.38	0.42	0.48	0.53
	Eurostat	0.29	0.32	0.38	0.42	0.49	0.56
	National	0.25	0.28	0.34	0.37	-	-
Young-age dependency ratio (0-14/15-64)	CEPAM	0.25	0.26	0.24	0.23	0.25	0.26
	Eurostat	0.24	0.26	0.25	0.24	0.27	0.28
	National	0.25	0.26	0.25	0.23	-	-
Parent support ratio (85+/50-64)	CEPAM	0.11	0.14	0.17	0.21	0.31	0.39
	Eurostat	0.11	0.14	0.17	0.21	0.30	0.39
	National	-	-	-	-	-	-

Demographic assumptions underlying projections							
		2010-2015	2015-2020	2025-2030	2035-2040	2045-2050	2055-2060
Total fertility rate	CEPAM	1.62	1.62	1.62	1.66	1.68	1.70
	Eurostat	1.62	1.70	1.74	1.77	1.78	1.79
	National	1.64	1.70	1.73	1.79	-	-
Life expectancy at birth (in years)							
Male	CEPAM	73.0	74.0	75.1	77.1	79.1	81.2
	Eurostat	73.2	74.4	75.6	77.8	79.8	81.7
	National	74.5	75.9	76.7	77.8	-	-
Female	CEPAM	82.0	82.9	83.8	85.6	87.4	89.3
	Eurostat	82.1	83.0	83.8	85.3	86.7	88.0
	National	82.6	83.0	83.3	83.7	-	-
Five-year net migration flow (in thousands)	CEPAM	1.7	3.7	5.7	9.4	12.3	14.4
	Eurostat	13.3	10.2	8.6	5.4	4.2	1.8
	National	-10.7	-9.5	-7.7	-2.4	-	-



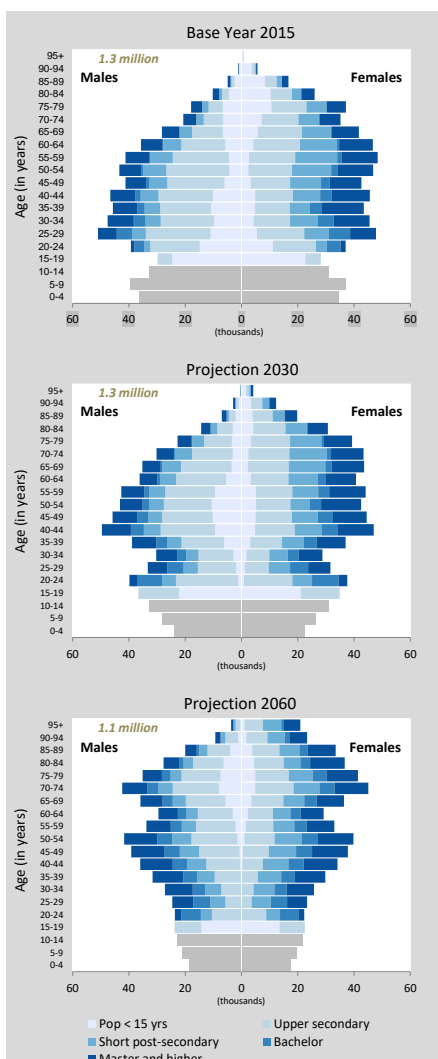
Changes in population size and structure according to CEPAM scenarios (impact of migration)

Population size according to CEPAM projections to 2060							
		2015	2020	2030	2040	2050	2060
Population (in millions)	Zero M	1.32	1.30	1.26	1.22	1.17	1.13
	Medium	1.32	1.31	1.28	1.25	1.23	1.22
	Double M	1.32	1.31	1.29	1.28	1.28	1.30
Population 0-24 (in millions)	Zero M	0.35	0.34	0.34	0.30	0.28	0.27
	Medium	0.35	0.34	0.34	0.31	0.30	0.30
	Double M	0.35	0.34	0.34	0.31	0.31	0.32
Population 25-44 (in millions)	Zero M	0.37	0.36	0.29	0.27	0.28	0.24
	Medium	0.37	0.36	0.30	0.28	0.30	0.27
	Double M	0.37	0.36	0.31	0.29	0.32	0.30
Population 45-69 (in millions)	Zero M	0.42	0.42	0.42	0.42	0.36	0.33
	Medium	0.42	0.42	0.42	0.42	0.38	0.36
	Double M	0.42	0.42	0.42	0.43	0.39	0.38
Population 70+ (in millions)	Zero M	0.18	0.19	0.22	0.24	0.26	0.29
	Medium	0.18	0.19	0.22	0.24	0.26	0.29
	Double M	0.18	0.19	0.22	0.24	0.26	0.29



Estonia (Continued)

Pyramids by education, CEPAM Medium

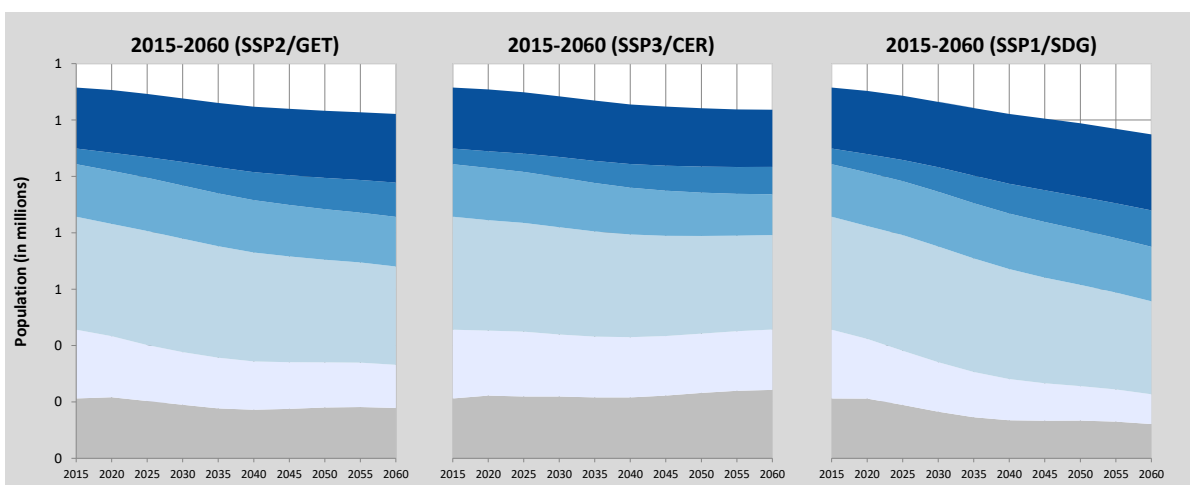


Detailed Human Capital projections to 2060

Human Capital indicators, CEPAM Medium (SSP2)

	2015	2020	2030	2040	2050	2060
Population age 25+: highest educational attainment (columns sum to 100%)						
E1-E4 - lower secondary and below	17.6%	16.3%	14.4%	13.2%	12.6%	11.8%
E5 - upper secondary	36.9%	36.6%	36.1%	35.1%	33.8%	32.5%
E6 - short post-secondary	18.6%	18.8%	18.9%	18.6%	18.2%	18.1%
E7 - bachelor	4.9%	5.6%	7.1%	8.9%	10.3%	11.5%
E8 - master and higher	22.0%	22.7%	23.5%	24.2%	25.1%	26.1%
Mean years of schooling (in years)	13.19	13.27	13.37	13.44	13.51	13.61
Age gap: highest educational attainment (ratio 35-44/50-64)						
E1-E4 - lower secondary and below	1.85	1.93	0.98	0.68	0.58	0.71
E5 - upper secondary	0.86	0.83	0.94	1.02	0.96	0.90
E6 - short post-secondary	0.64	0.63	0.94	1.13	1.16	1.12
E7 - bachelor	3.16	2.65	1.66	1.19	1.16	1.12
E8 - master and higher	1.08	1.08	0.97	1.05	1.16	1.13
Mean years of schooling (35-44 minus 50-64)	-0.21	-0.25	-0.01	0.28	0.65	0.64
Gender gap (population age 25+): highest educational attainment (% males - %females)						
E1-E4 - lower secondary and below	5.76	6.65	7.76	7.62	7.02	6.00
E5 - upper secondary	9.76	9.99	10.70	11.36	11.47	11.33
E6 - short post-secondary	-8.08	-8.58	-9.25	-9.36	-9.07	-8.62
E7 - bachelor	-1.88	-1.89	-2.13	-2.32	-2.40	-2.39
E8 - master and higher	-5.55	-6.18	-7.07	-7.31	-7.02	-6.31
Mean years of schooling (male minus female)	-0.70	-0.80	-0.90	-0.90	-0.80	-0.70
Women age 20-39: highest educational attainment (columns sum to 100%)						
E1-E4 - lower secondary and below	15%	13%	10%	8%	7%	7%
E5 - upper secondary	33%	32%	33%	31%	29%	28%
E6 - short post-secondary	17%	19%	20%	21%	22%	23%
E7 - bachelor	13%	14%	16%	17%	17%	18%
E8 - master and higher	22%	22%	21%	23%	25%	25%
Mean years of schooling (in years)	13.48	13.59	13.77	14.03	14.24	14.38
Age gap among women: highest educational attainment (ratio 35-44/50-64)						
E1-E4 - lower secondary and below	1.64	1.83	1.00	0.71	0.54	0.64
E5 - upper secondary	0.85	0.86	0.97	0.98	0.90	0.86
E6 - short post-secondary	0.64	0.64	1.00	1.15	1.14	1.11
E7 - bachelor	2.85	2.19	1.43	1.14	1.14	1.11
E8 - master and higher	1.21	1.15	0.91	1.00	1.14	1.11
Mean years of schooling (35-44 minus 50-64)	0.11	-0.04	-0.15	0.12	0.65	0.66

Population size by educational attainment according to three scenarios: SSP2/GET, SSP3/CER and SSP1/SDG



Colour legend as in pyramids above

Education scenarios

SSP2/GET : Global Education Trend Scenario (Medium assumption)

SSP3/CER : Constant Enrollment Rates Scenario (assumption of no future improvements)

SSP1/SDG : Sustainable Development Goal Scenario (universal primary and secondary education by 2030)

Estonia (Continued)

Alternative scenarios to 2100

Projection results by scenario (SSP1-SSP3)

	2015	2020	2030	2050	2060	2075	2100
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Population (in millions)

SSP1 - Rapid Development	1.32	1.30	1.27	1.19	1.15	1.09	0.99
SSP2 - CEPAM Zero Migration	1.32	1.30	1.26	1.17	1.13	1.05	0.96
SSP2 - CEPAM Medium	1.32	1.31	1.28	1.23	1.22	1.21	1.24
SSP2 - CEPAM Double Migration	1.32	1.31	1.29	1.28	1.30	1.33	1.42
SSP3 - Stalled Development	1.32	1.31	1.29	1.24	1.24	1.25	1.37

Proportion age 65+

SSP1 - Rapid Development	18.8%	20.5%	24.3%	32.0%	36.3%	40.1%	47.1%
SSP2 - CEPAM Zero Migration	18.8%	20.3%	23.4%	28.9%	31.7%	32.0%	35.3%
SSP2 - CEPAM Medium	18.8%	20.3%	23.2%	27.7%	29.6%	29.3%	32.2%
SSP2 - CEPAM Double Migration	18.8%	20.2%	23.1%	26.7%	28.3%	27.9%	31.2%
SSP3 - Stalled Development	18.8%	20.0%	22.2%	24.3%	24.6%	21.2%	20.7%

Proportion below age 20

SSP1 - Rapid Development	20.6%	21.1%	18.7%	15.0%	14.6%	12.6%	11.6%
SSP2 - CEPAM Zero Migration	20.6%	21.5%	20.4%	18.9%	19.3%	18.0%	17.5%
SSP2 - CEPAM Medium	20.6%	21.5%	20.5%	19.3%	19.7%	18.7%	18.4%
SSP2 - CEPAM Double Migration	20.6%	21.5%	20.5%	19.5%	20.0%	19.2%	18.7%
SSP3 - Stalled Development	20.6%	21.9%	22.6%	24.4%	25.9%	26.5%	27.0%

Proportion of women age 20-39 with post-secondary education

SSP1 - Rapid Development	51.9%	56.3%	61.0%	74.4%	77.7%	81.6%	83.3%
SSP2 - CEPAM Zero Migration	51.9%	57.9%	62.7%	71.9%	74.8%	78.6%	81.6%
SSP2 - CEPAM Medium	51.9%	56.0%	59.3%	68.0%	70.5%	74.6%	78.3%
SSP2 - CEPAM Double Migration	51.9%	54.1%	56.2%	64.8%	67.3%	72.0%	76.4%
SSP3 - Stalled Development	51.9%	52.7%	50.3%	51.4%	51.2%	51.0%	50.9%

Mean years of schooling, age 25+

SSP1 - Rapid Development	13.2	13.3	13.4	13.8	14.0	14.4	15.0
SSP2 - CEPAM Zero Migration	13.2	13.4	13.6	13.9	14.1	14.4	14.8
SSP2 - CEPAM Medium	13.2	13.3	13.4	13.5	13.6	13.9	14.3
SSP2 - CEPAM Double Migration	13.2	13.2	13.2	13.2	13.2	13.5	14.1
SSP3 - Stalled Development	13.2	13.3	13.4	13.5	13.5	13.5	13.5

Demographic assumptions underlying SSPs

	2015-2020	2020-2025	2030-2035	2050-2055	2060-2065	2075-2080	2095-2100
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Total fertility rate

SSP1 - Rapid Development	1.50	1.39	1.28	1.26	1.27	1.28	1.28
SSP2 - CEPAM Zero Migration	1.62	1.61	1.65	1.69	1.70	1.70	1.71
SSP2 - CEPAM Medium	1.62	1.62	1.64	1.69	1.70	1.70	1.71
SSP2 - CEPAM Double Migration	1.62	1.62	1.64	1.69	1.70	1.70	1.71
SSP3 - Stalled Development	1.76	1.92	2.14	2.31	2.33	2.34	2.35

Life expectancy at birth for females (in years)

SSP1 - Rapid Development	82.5	83.9	86.7	92.4	95.2	99.4	105.1
SSP2 - CEPAM Zero Migration	82.0	82.9	84.8	88.5	90.3	93.1	96.7
SSP2 - CEPAM Medium	82.0	82.9	84.7	88.3	90.2	92.9	96.5
SSP2 - CEPAM Double Migration	82.0	82.9	84.7	88.2	90.0	92.7	96.4
SSP3 - Stalled Development	81.5	81.9	82.7	84.4	85.2	86.4	88.0

Migration – net flow over five years (in thousands)

SSP1 - Rapid Development	1.6	3.5	6.5	10.4	11.2	11.3	9.3
SSP2 - CEPAM Zero Migration	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSP2 - CEPAM Medium	1.7	3.7	7.6	13.3	14.9	15.9	14.4
SSP2 - CEPAM Double Migration	3.3	7.1	14.0	22.9	24.6	24.3	18.9
SSP3 - Stalled Development	1.1	1.3	0.0	0.0	0.0	0.0	0.0

Ageing indicators by scenario

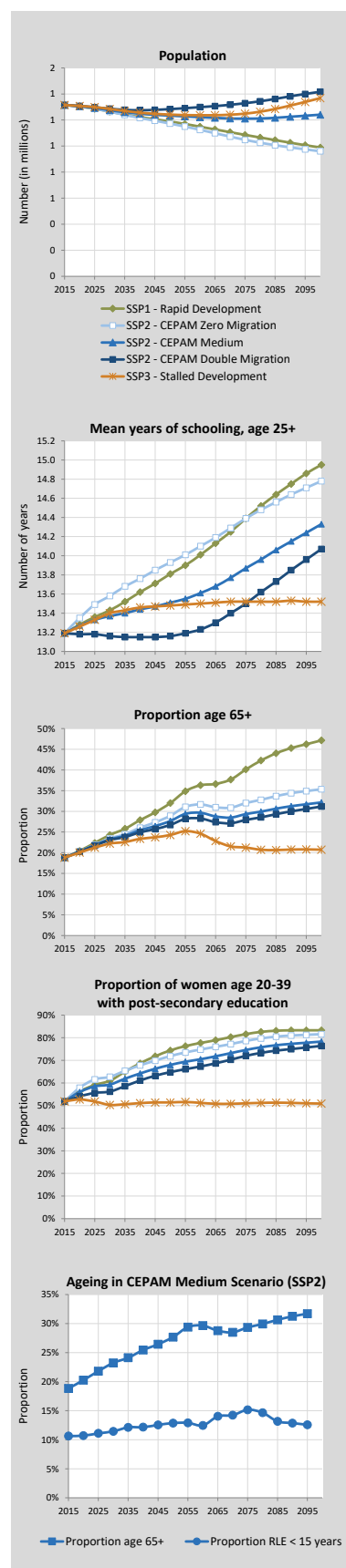
	2015	2020	2030	2050	2060	2075	2095
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Median age

SSP1 - Rapid Development	41.6	42.8	46.0	51.3	53.1	57.8	61.4
SSP2 - CEPAM Zero Migration	41.6	42.6	45.2	47.6	48.7	50.4	51.4
SSP2 - CEPAM Medium	41.6	42.6	45.0	46.4	47.3	48.2	49.0
SSP2 - CEPAM Double Migration	41.6	42.6	44.8	45.6	46.4	47.1	48.3
SSP3 - Stalled Development	41.6	42.4	44.0	42.0	40.7	38.8	38.6

Proportion with less than 15 years of remaining life expectancy (RLE)

SSP1 - Rapid Development	10.6%	10.7%	11.4%	12.9%	12.5%	15.2%	12.6%
SSP2 - CEPAM Zero Migration	11.1%	11.0%	12.6%	13.6%	15.1%	15.3%	13.5%
SSP2 - CEPAM Medium	11.1%	10.9%	12.5%	13.0%	13.9%	13.4%	11.6%
SSP2 - CEPAM Double Migration	11.1%	10.9%	12.4%	12.5%	13.1%	12.4%	10.9%
SSP3 - Stalled Development	11.6%	11.8%	13.3%	14.0%	14.2%	11.4%	10.1%



Estonia (Continued)

Labour force projections to 2060

Labour force indicators

	2015	2020	2030	2040	2050	2060
Labour force size, by participation and migration scenario (in millions)						
Constant (CEPAM Zero Migration)	0.69	0.67	0.63	0.60	0.55	0.52
Constant (CEPAM Medium)	0.69	0.67	0.64	0.62	0.58	0.57
Constant (CEPAM Double Migration)	0.69	0.67	0.64	0.63	0.61	0.61
Swedish (CEPAM Zero Migration)	0.69	0.68	0.66	0.64	0.60	0.57
Swedish (CEPAM Medium)	0.69	0.68	0.66	0.65	0.63	0.62
Swedish (CEPAM Double Migration)	0.69	0.68	0.67	0.67	0.66	0.67
Equalization (CEPAM Zero Migration)	0.69	0.67	0.65	0.62	0.58	0.54
Equalization (CEPAM Medium)	0.69	0.67	0.65	0.64	0.61	0.60
Equalization (CEPAM Double Migration)	0.69	0.67	0.65	0.65	0.64	0.64
Constant (CEPAM Medium-low fertility)	0.69	0.67	0.64	0.61	0.56	0.52
Swedish (CEPAM Medium-low fertility)	0.69	0.68	0.66	0.64	0.60	0.57
Equalization (CEPAM Medium-low fertility)	0.69	0.67	0.65	0.63	0.59	0.54

Labour force participation rates, age 15+, by participation scenario (CEPAM Medium)

TOTAL (Constant)	62.4%	61.4%	58.9%	57.2%	55.6%	54.3%
TOTAL (Swedish)	62.4%	62.1%	61.0%	60.7%	60.2%	59.8%
TOTAL (Equalization)	62.4%	61.8%	60.0%	59.0%	58.2%	57.4%
MALE (Constant)	70.2%	68.7%	65.3%	63.4%	61.6%	59.9%
MALE (Swedish)	70.2%	69.3%	67.2%	66.5%	65.6%	64.6%
MALE (Equalization)	70.2%	68.7%	65.3%	63.4%	61.6%	59.9%
FEMALE (Constant)	55.8%	55.1%	53.3%	51.7%	50.2%	49.2%
FEMALE (Swedish)	55.8%	55.8%	55.5%	55.4%	55.3%	55.3%
FEMALE (Equalization)	55.8%	55.9%	55.3%	55.2%	55.1%	55.0%

Labour force (15+) by highest level of educational attainment. Columns sum to 100%. (CEPAM Medium; Constant participation)

TOTAL E1-E4 - lower secondary and below	13.4%	12.9%	12.5%	11.5%	9.7%	8.0%
TOTAL E5 - upper secondary	37.8%	36.7%	35.6%	34.3%	33.2%	32.5%
TOTAL E6 - short post-secondary	18.5%	18.1%	16.8%	16.5%	17.2%	18.1%
TOTAL E7 - bachelor	6.9%	8.2%	10.8%	12.7%	13.7%	14.5%
TOTAL E8 - master and higher	23.4%	24.1%	24.2%	25.0%	26.1%	27.0%
MALE E1-E4 - lower secondary and below	18.1%	17.2%	16.1%	14.3%	11.8%	9.5%
MALE E5 - upper secondary	44.0%	43.2%	42.2%	41.1%	40.4%	40.1%
MALE E6 - short post-secondary	14.0%	13.8%	12.9%	12.7%	13.3%	14.0%
MALE E7 - bachelor	5.2%	6.4%	8.9%	10.8%	12.0%	12.7%
MALE E8 - master and higher	18.8%	19.4%	19.9%	21.0%	22.6%	23.7%
FEMALE E1-E4 - lower secondary and below	8.4%	8.4%	8.7%	8.5%	7.4%	6.3%
FEMALE E5 - upper secondary	31.2%	29.8%	28.5%	26.9%	25.3%	24.1%
FEMALE E6 - short post-secondary	23.4%	22.7%	21.0%	20.7%	21.6%	22.6%
FEMALE E7 - bachelor	8.7%	10.1%	12.9%	14.8%	15.7%	16.4%
FEMALE E8 - master and higher	28.2%	29.0%	28.9%	29.3%	30.0%	30.6%

Labour force size by educational attainment according to three migration scenarios, 2015-2060 (Labour force participation = Constant scenario)

