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EDK seminar, 18 august 2020

# Fertility change in Estonia 1989-2019: an update

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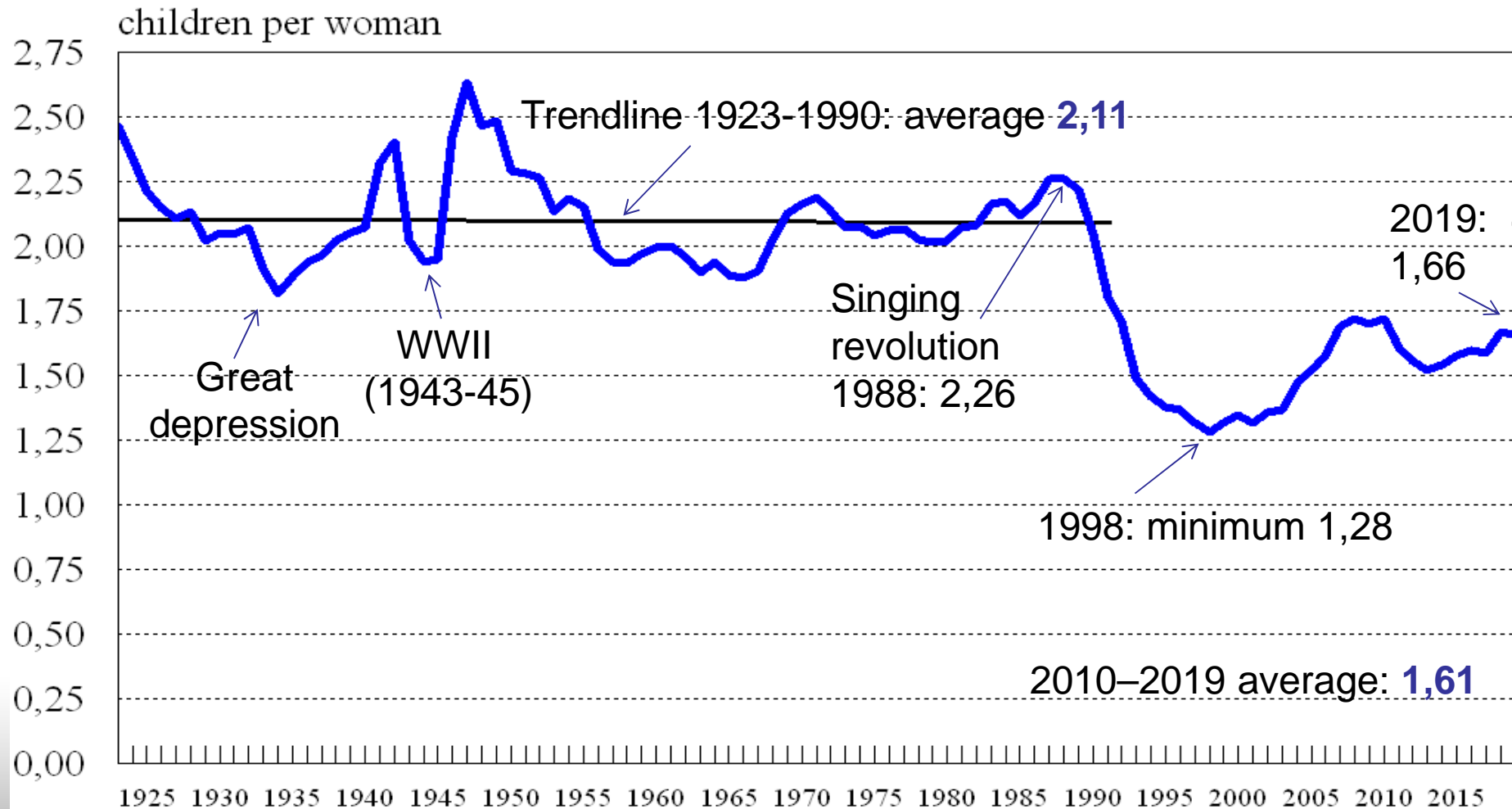
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# Themes

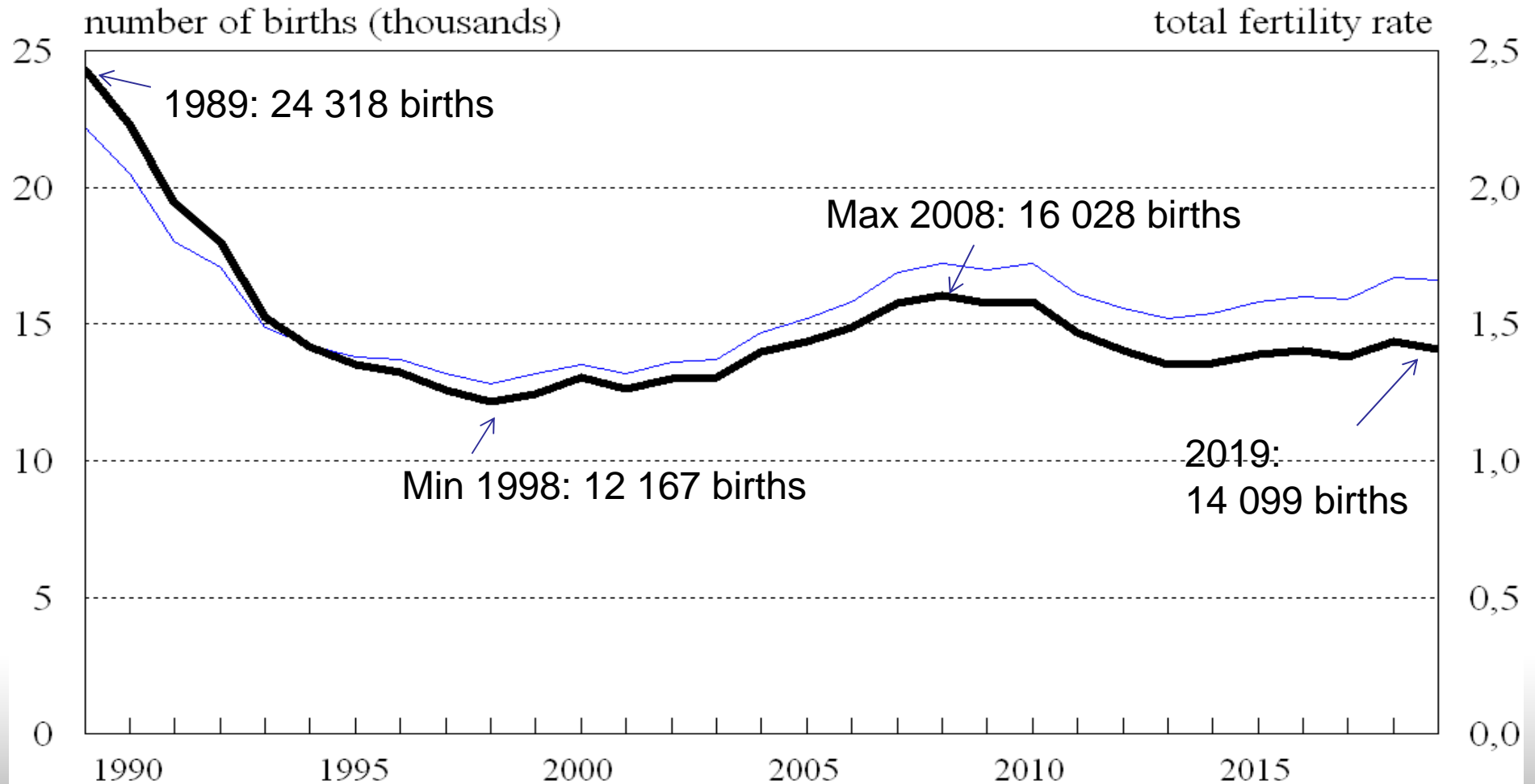
- ▶ Decomposition of the impact of population change and fertility behaviour
- ▶ Contribution of changes in first-, second- and higher-order births
- ▶ Differences between ethnic and educational groups
- ▶ Some international comparisons



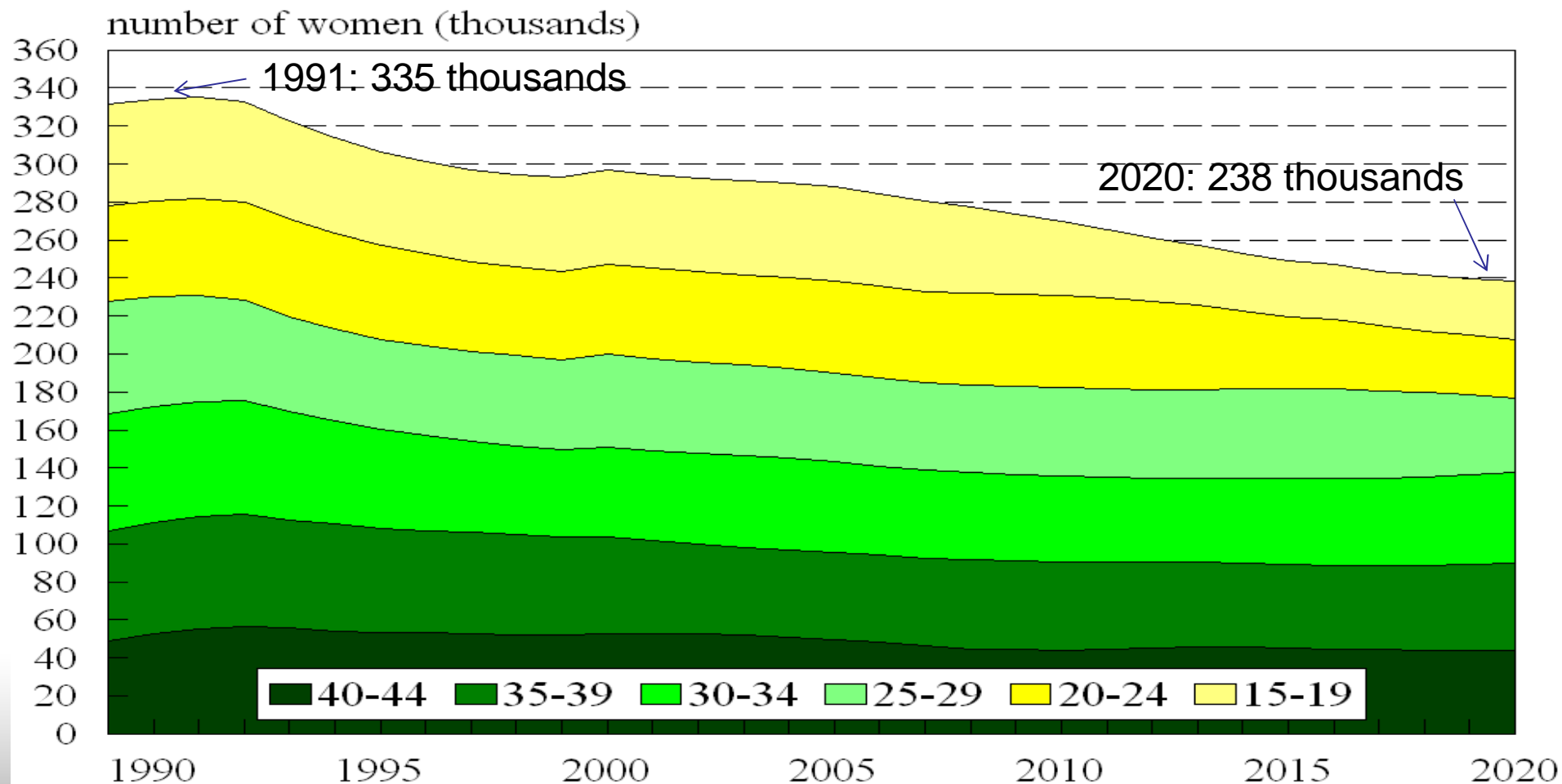
# Total fertility rate, Estonia 1923-2019



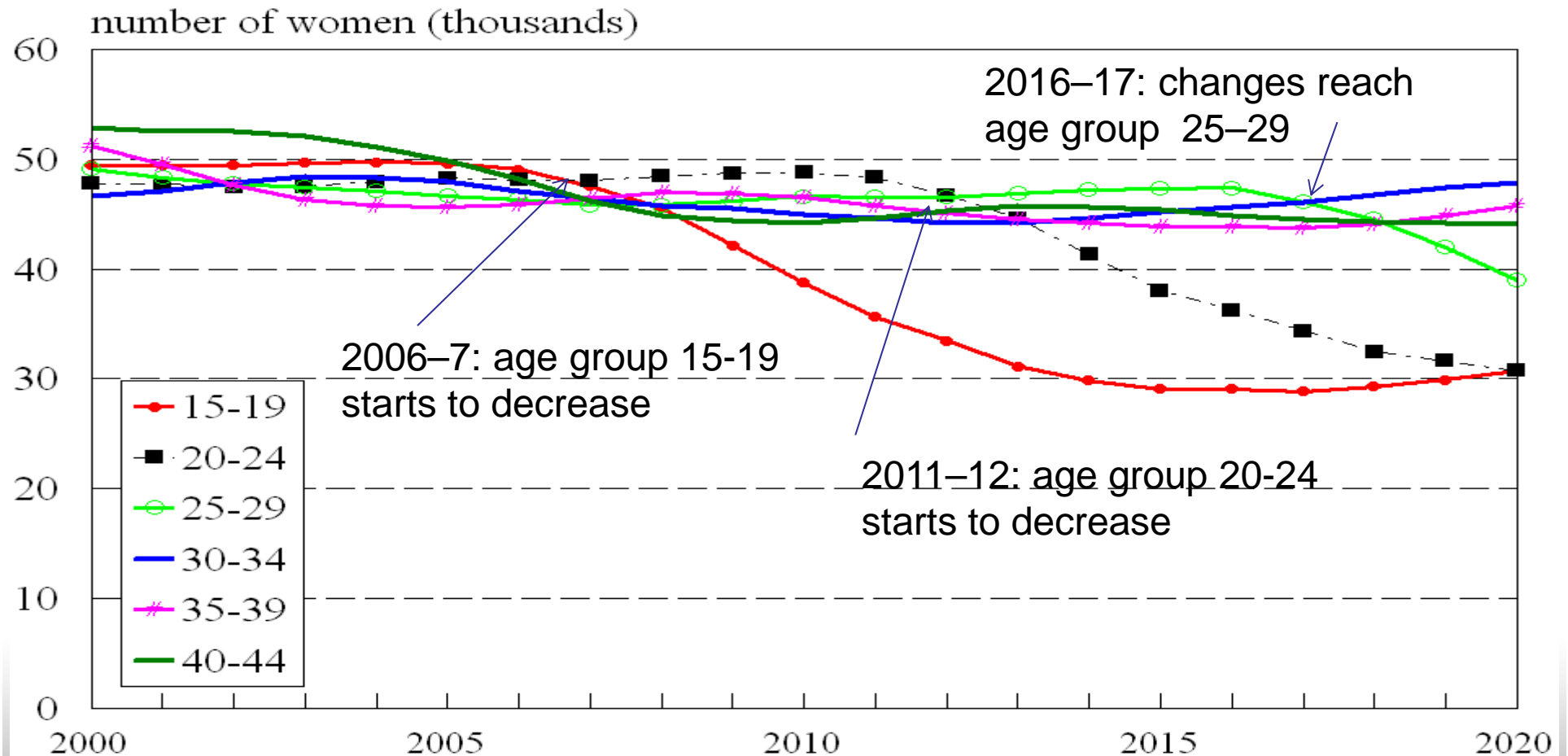
# Annual number of births, 1989-2019



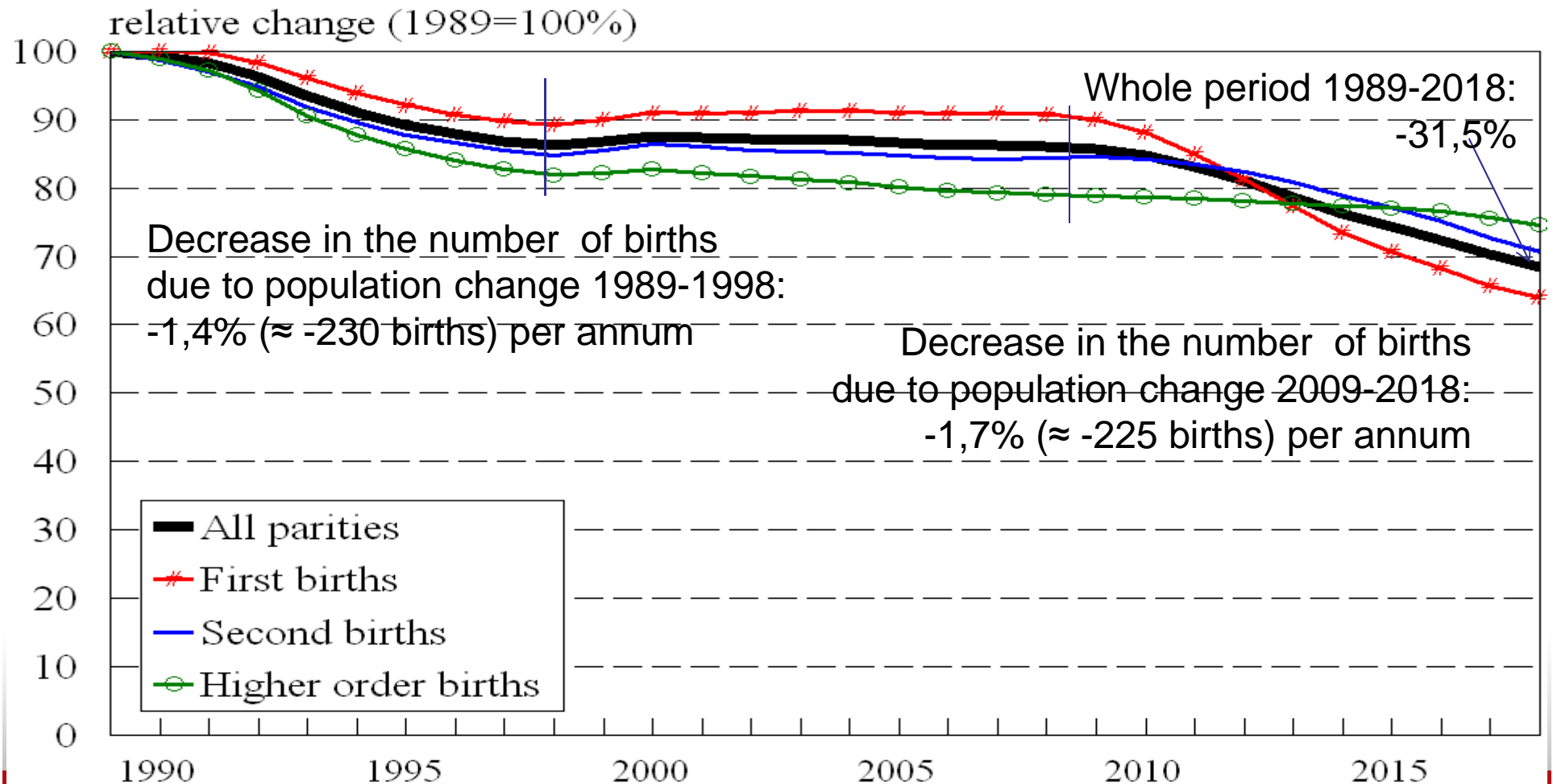
# Change in the number of women aged 15–44, 1989-2020



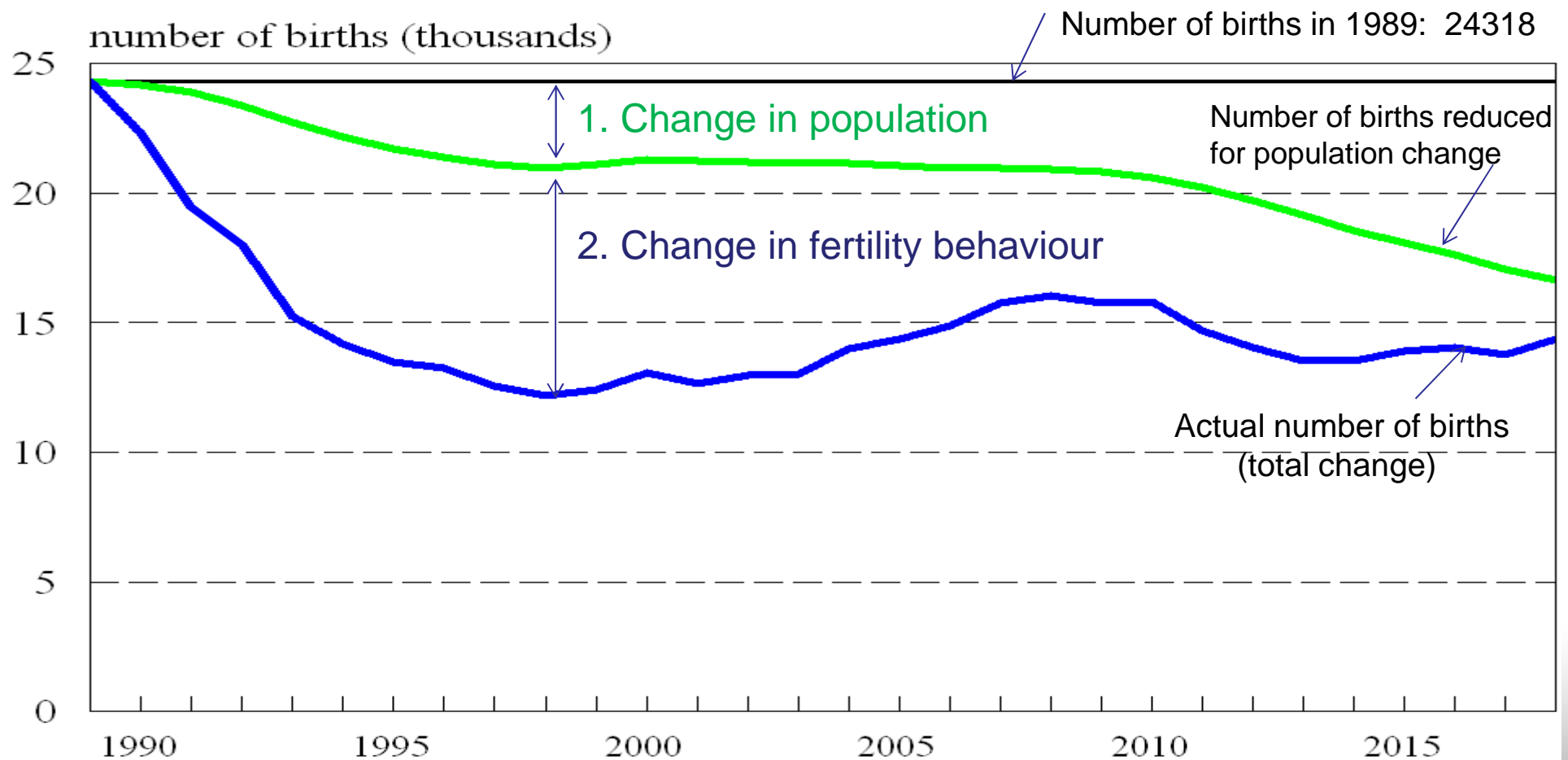
# Change in the number of women by age group, 2000-2020



# The impact of population change on annual number of births, 1989-2018

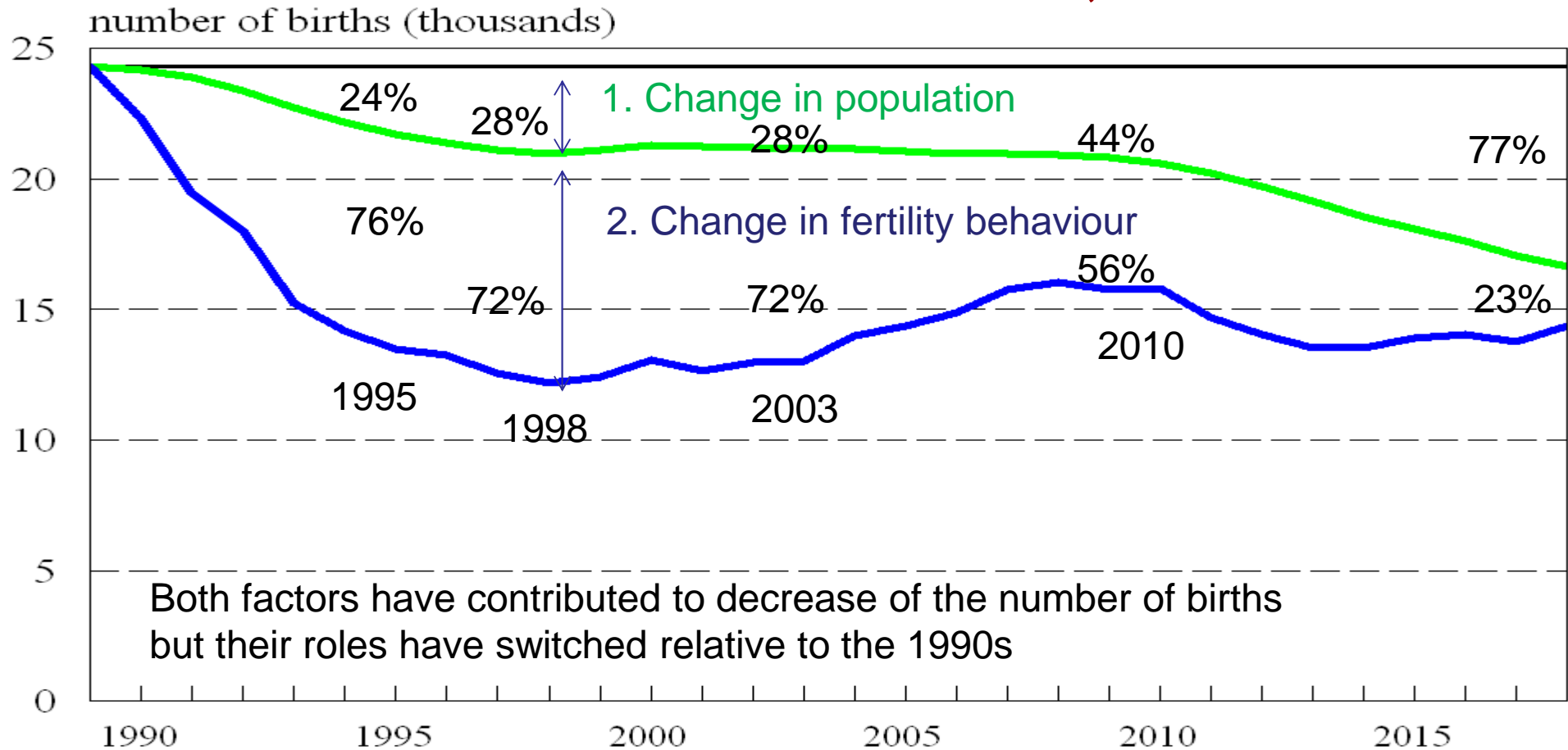


# The impact of population change and fertility behaviour on number of births, 1989-2018





# The impact of population change and fertility behaviour on number of births, 1989-2018

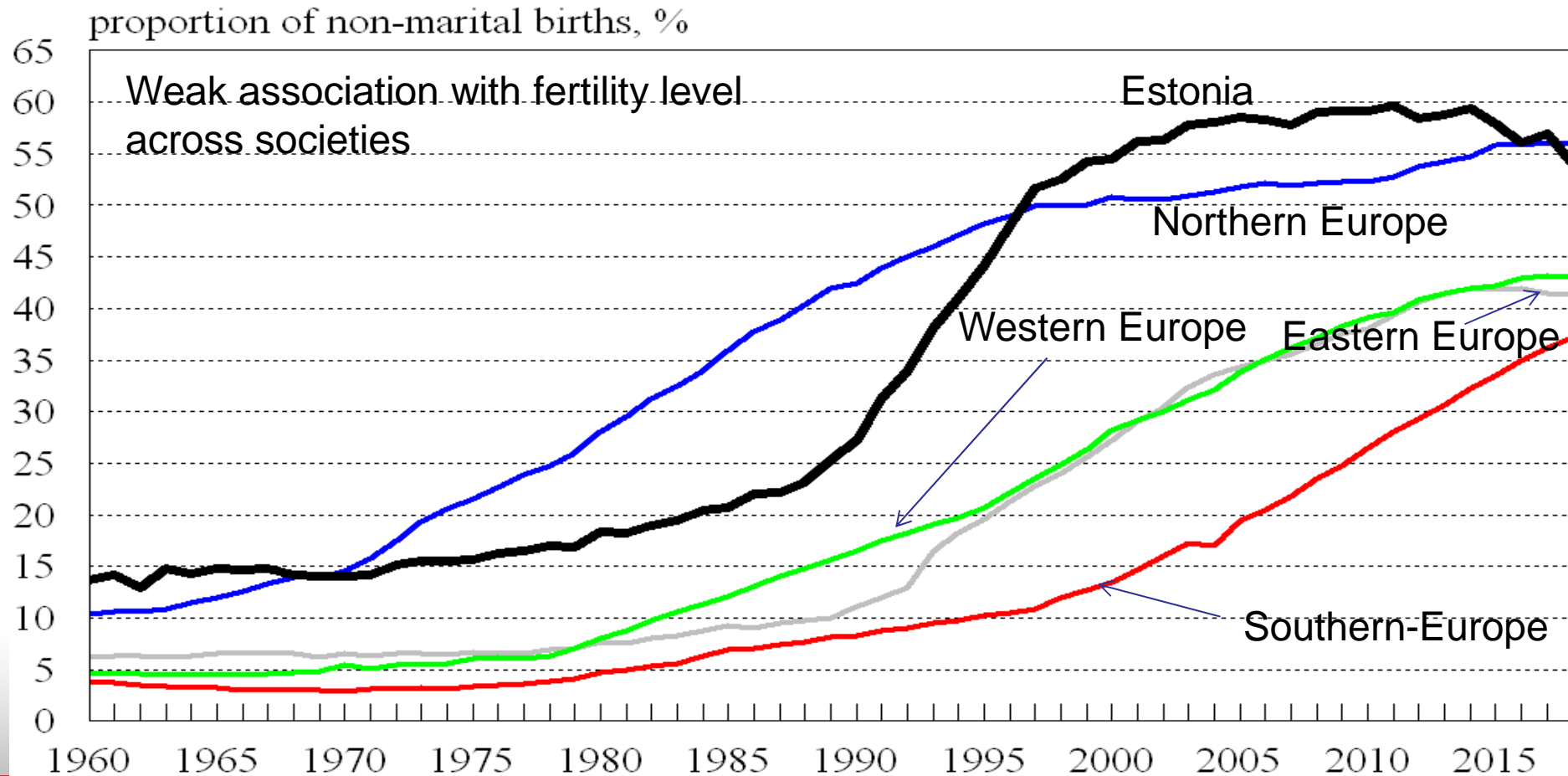


## Summary: The impact of population change and fertility behaviour on number of births, 1989-2018

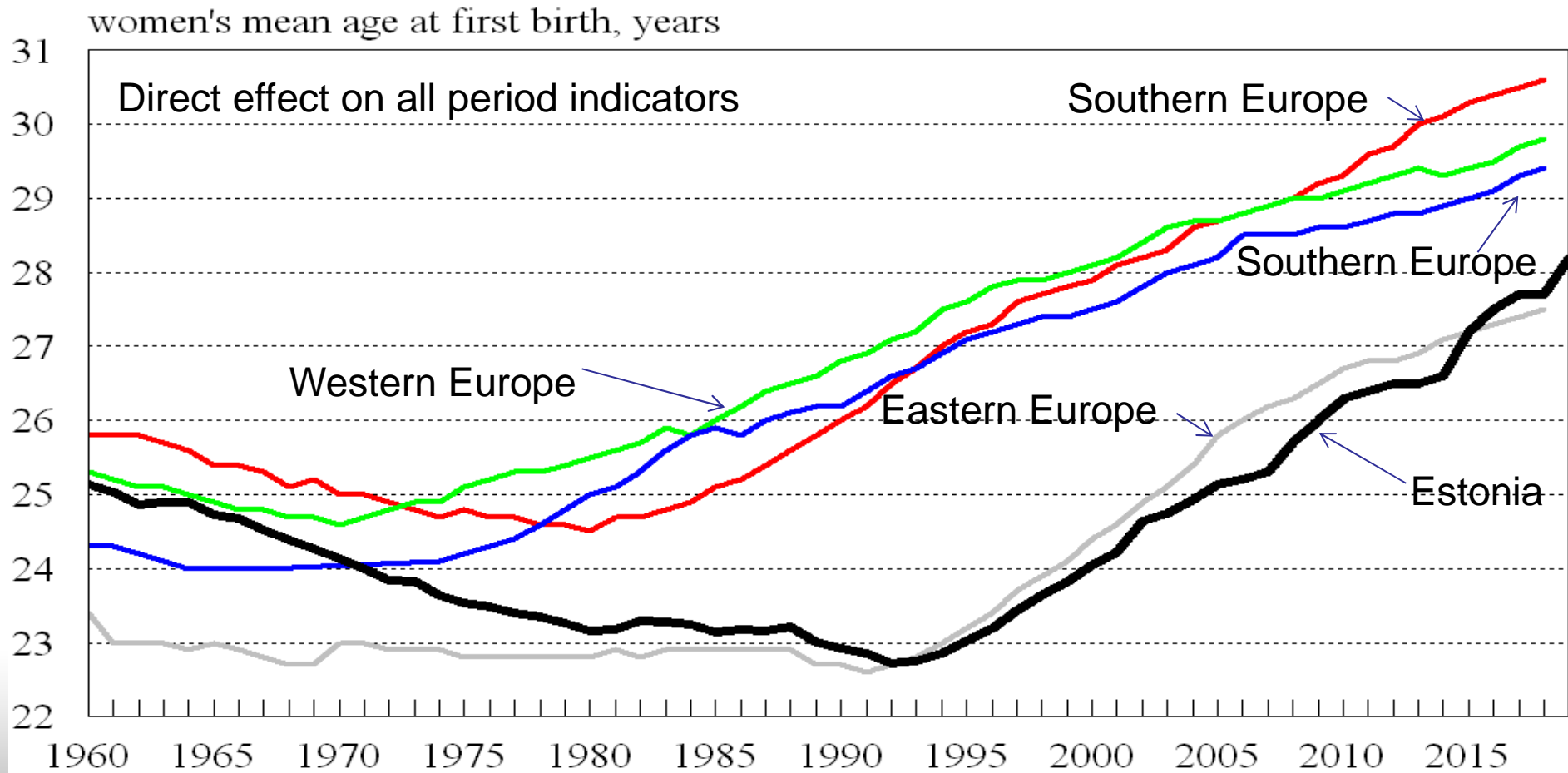
Parity	Impact of population change		Impact of change in fert. behaviour		Total change		Contribution of change in fertility behaviour, %
	Decrease in number of births	Contribution of different parities, %	Decrease in number of births	Contribution of different parities, %	Decrease in number of births	Contribution of different parities, %	
First births	-3865	50,4	-1569	68,6	-5434	54,6	28,9
Second births	-2481	32,4	-584	25,5	-3065	30,8	19,1
Higher order births	-1318	17,2	-134	5,9	-1452	14,6	9,2
All parities	-7664	100,0	-2287	100,0	-9951	100,0	23,0



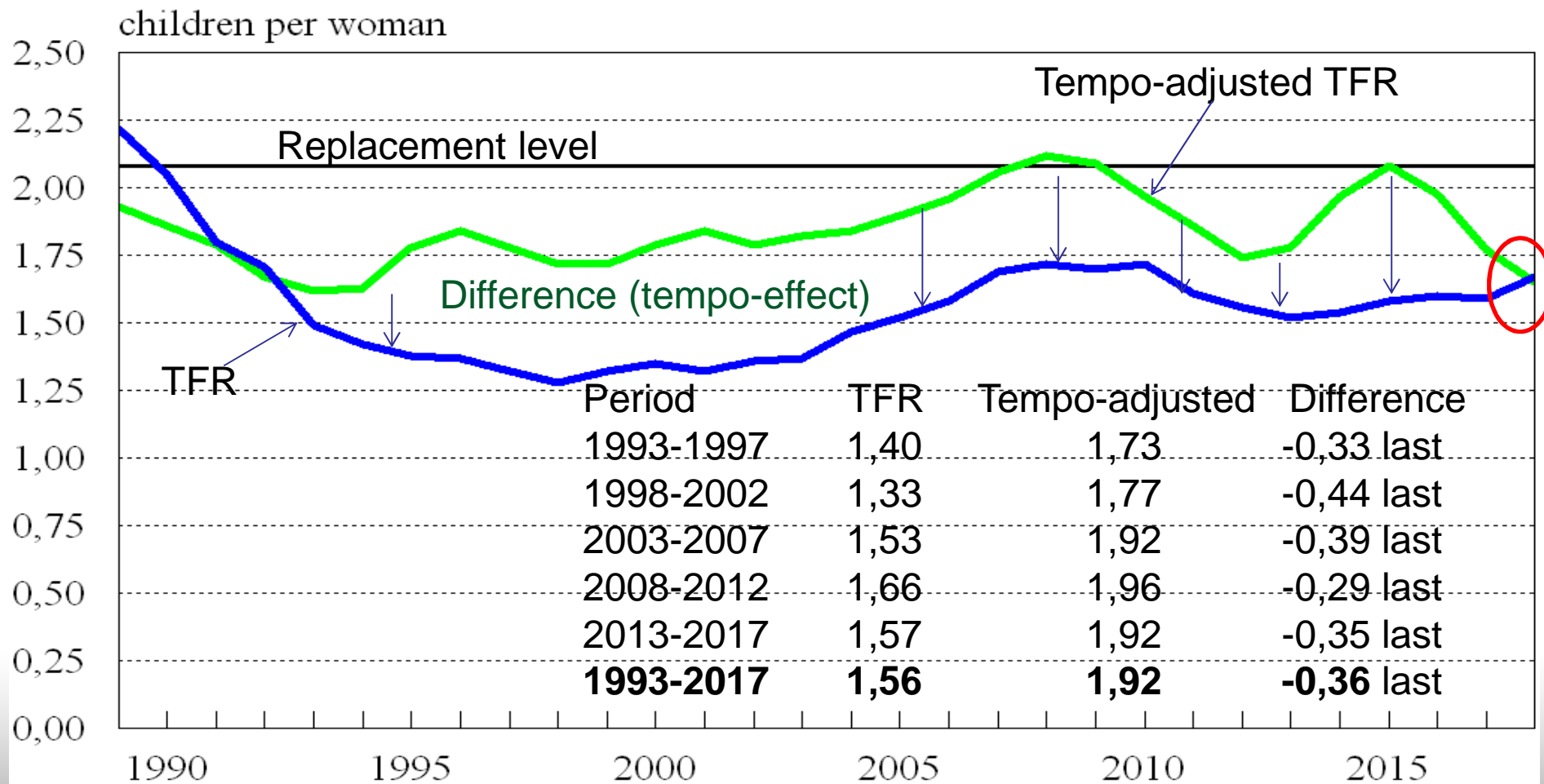
# Change in behaviour: Disconnection of childbearing from registered marriage, 1960-2018



# Change in behaviour: Postponement of childbearing, 1960-2018



# Impact of fertility postponement, 1990-2018



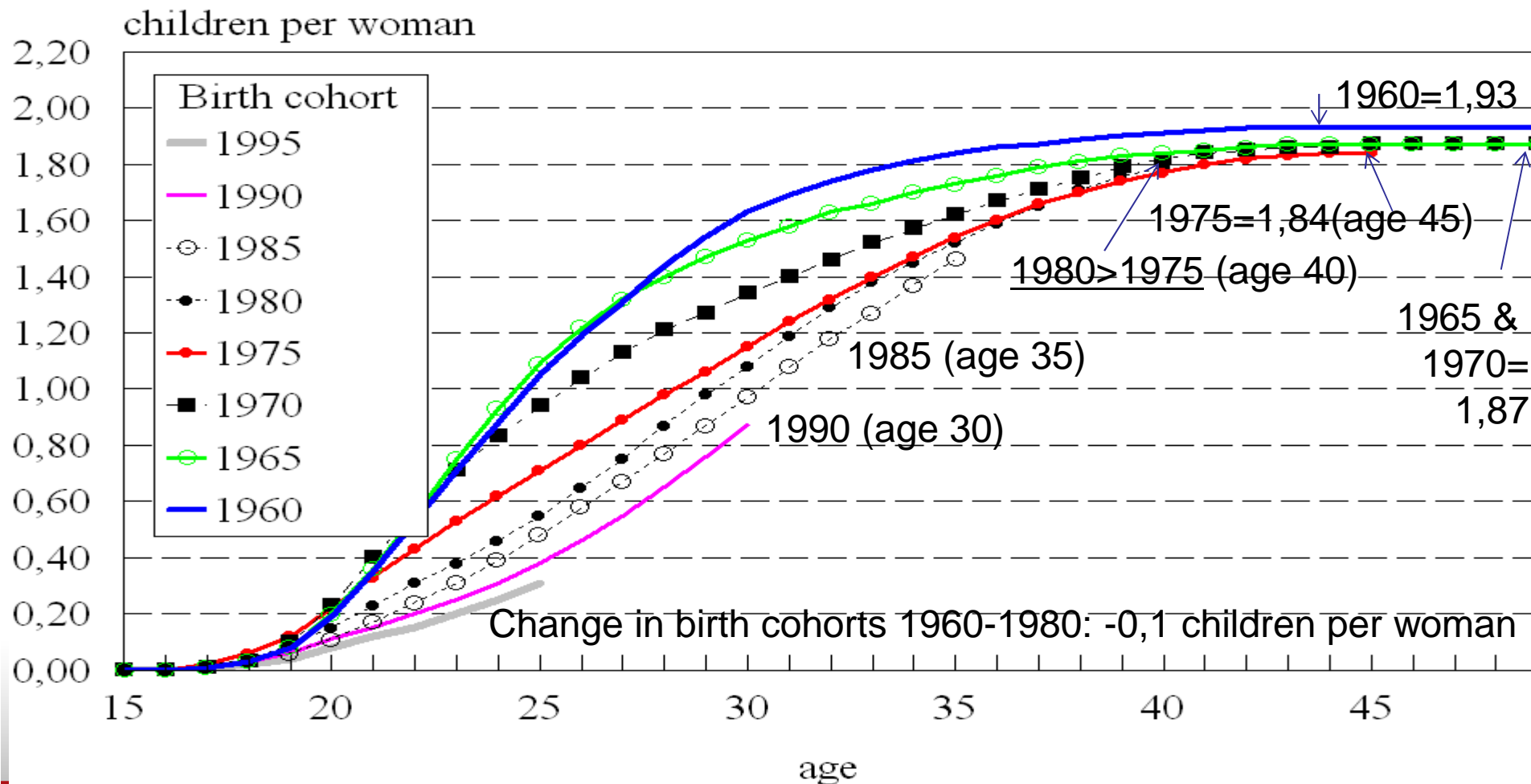
# Response to increase in child benefits for third births: tempo-effect?

Year	First births			Second births			Third births		
	Number	Rate	Mean age	Number	Rate	Mean age	Number	Rate	Mean age
2015	5885	0,69	27,17	5145	0,58	30,75	2019	0,23	33,66
2016	5736	0,68	27,51	5235	0,58	30,93	2231	0,25	33,88
2017	5539	0,67	27,70	5072	0,57	31,03	2289	0,25	33,89
2018	5274	0,65 (0,67)*	27,73	5362	0,61 (0,67)*	31,12	2818	0,31 (0,22)*	33,43
Muutus 2017/18	-265	-0,02	+0,03	+290	+0,04	+0,09	+529	+0,06	<b>-0.46</b>

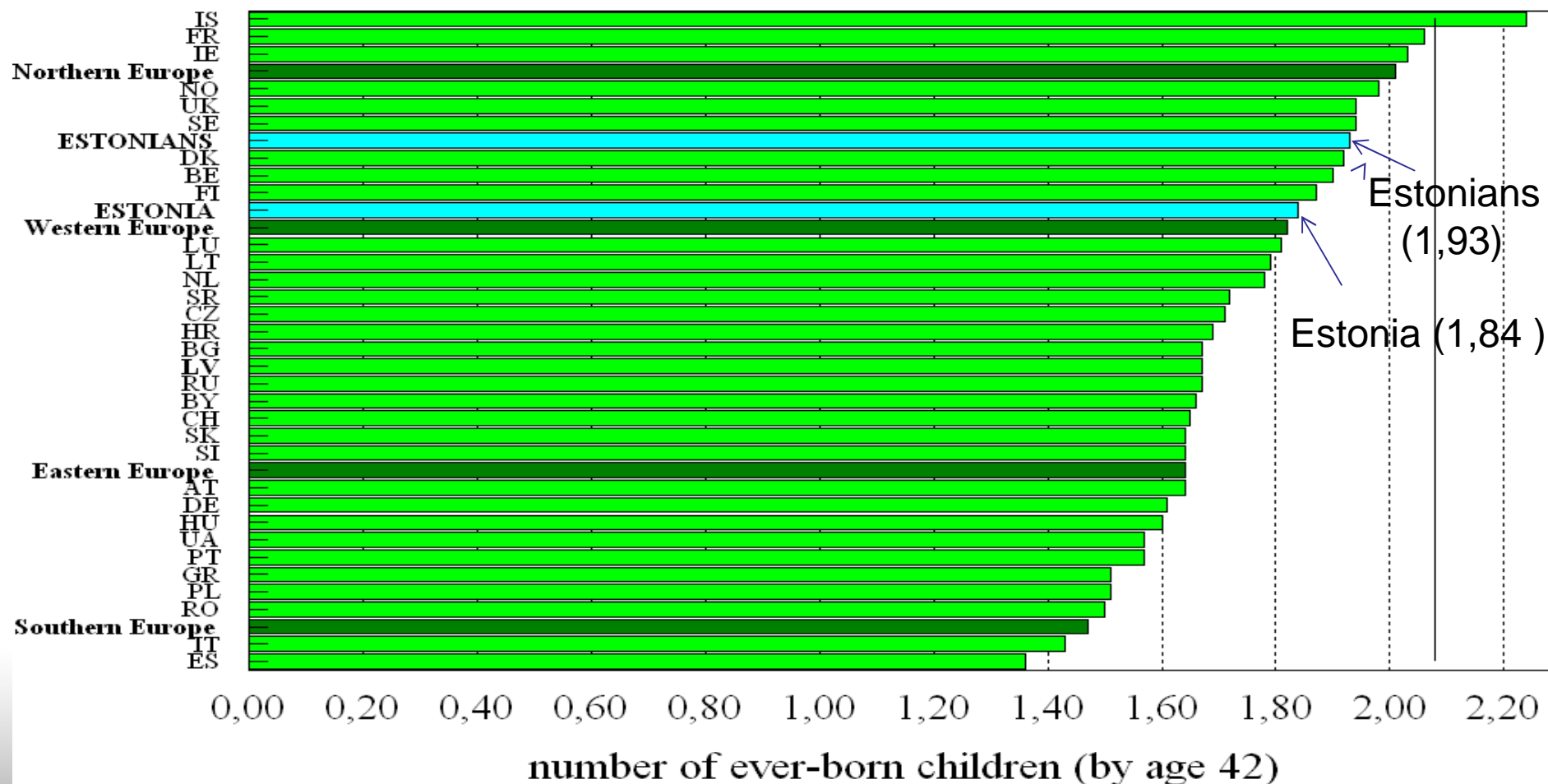
\* Tempo-adjusted parity-specific fertility rate in brackets



# Age-cumulated fertility rates: all parities women born 1960-1995



# Completed cohort fertility: Women born 1978

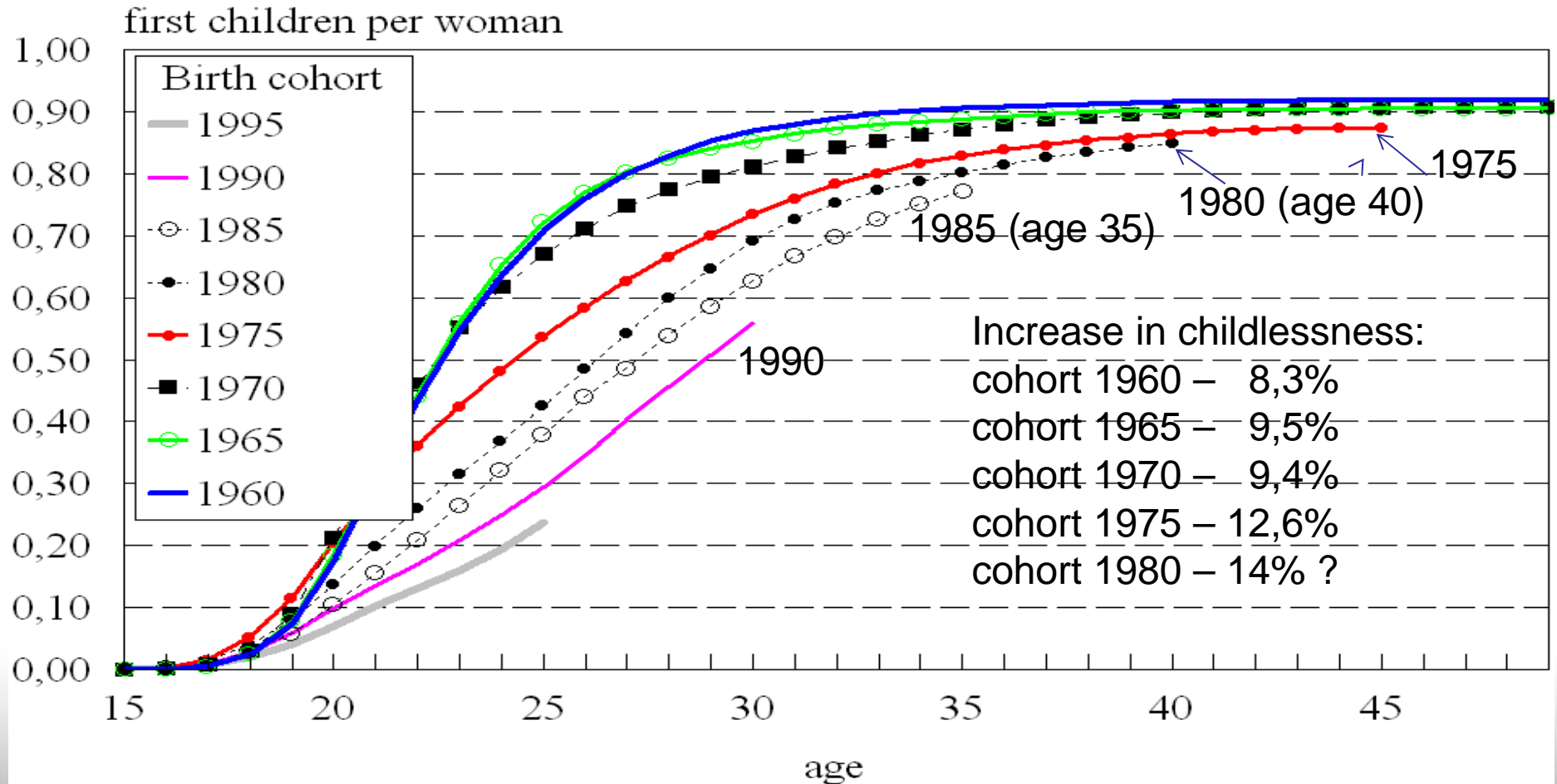


Source: EDDS 2020, own calculation



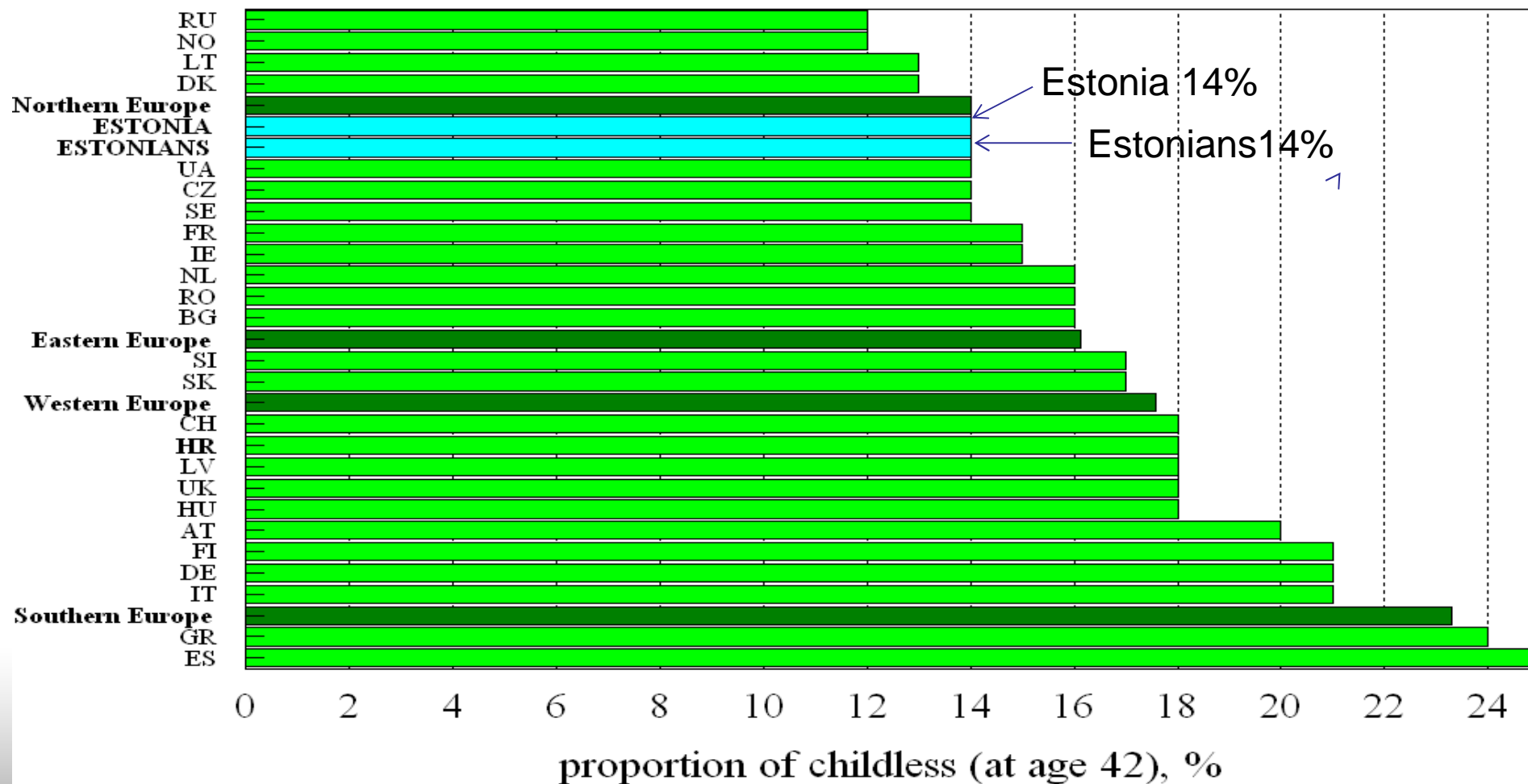


# Age-cumulated fertility rates: first births women born 1960-1995



# Childlessness

## Women born 1978



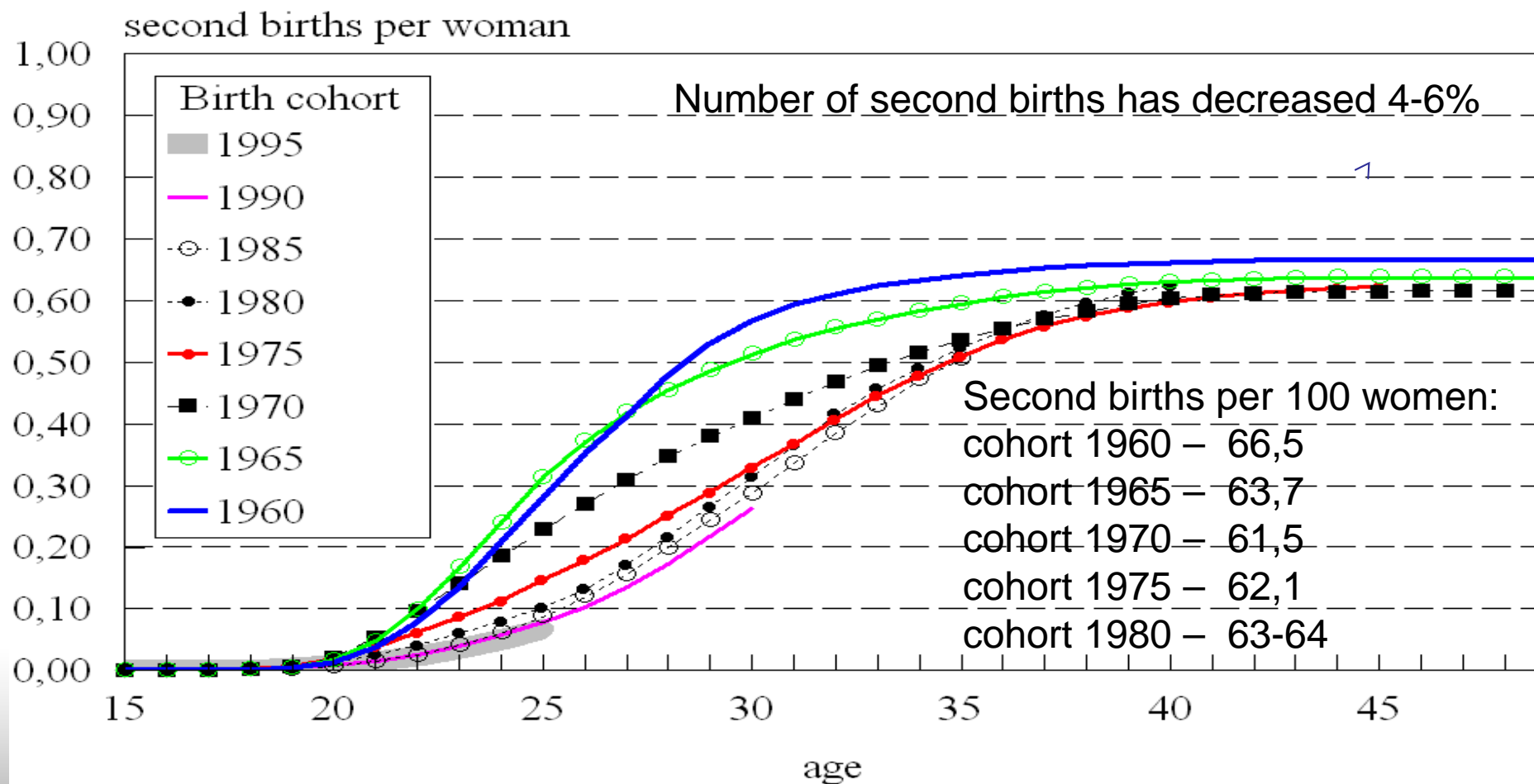
Source: EDDS 2020, own calculation



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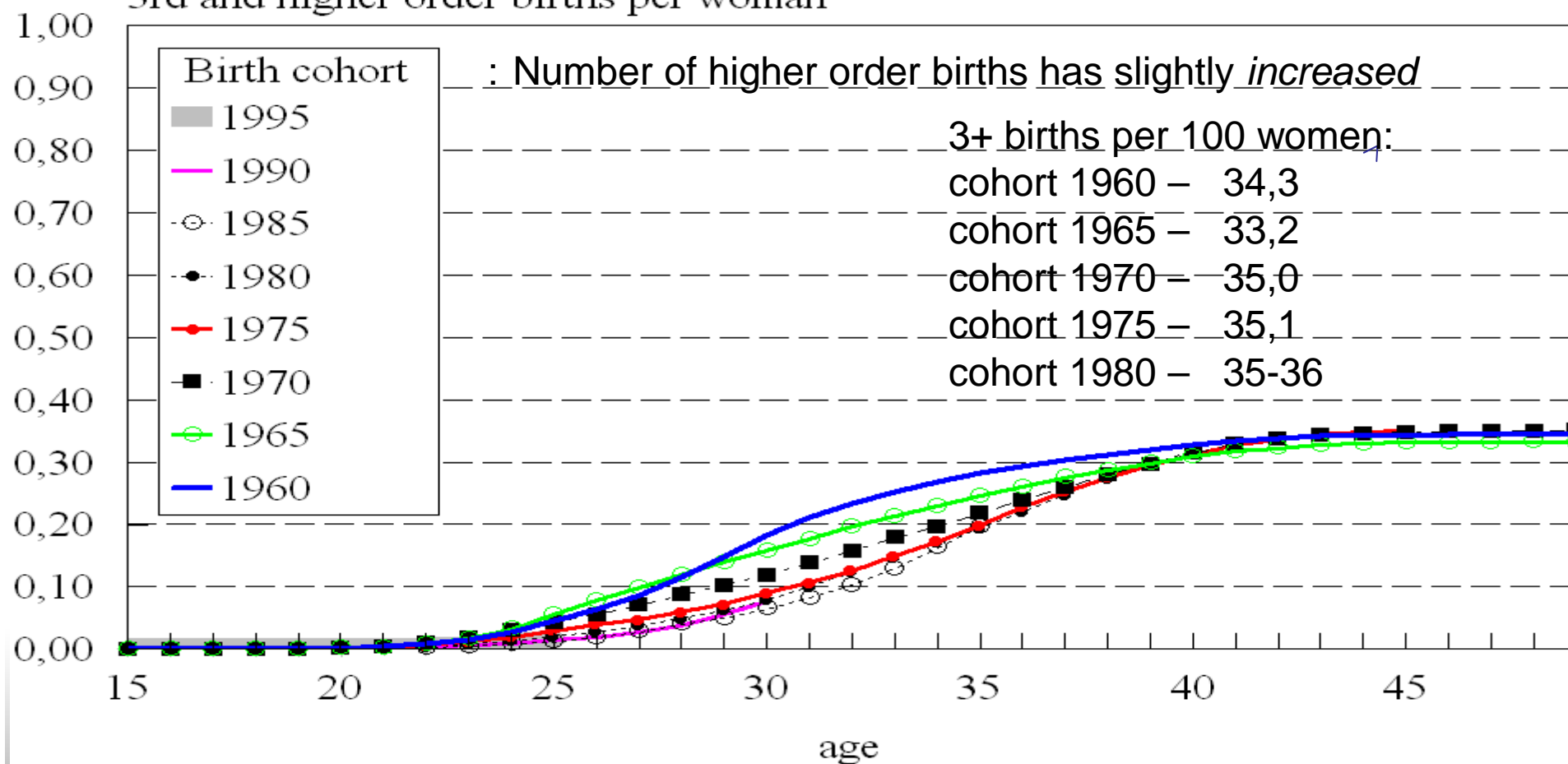
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# Age-cumulated fertility rates: second births women born 1960-1995



# Age-cumulated fertility rates: 3+ births women born 1960-1995

3rd and higher order births per woman

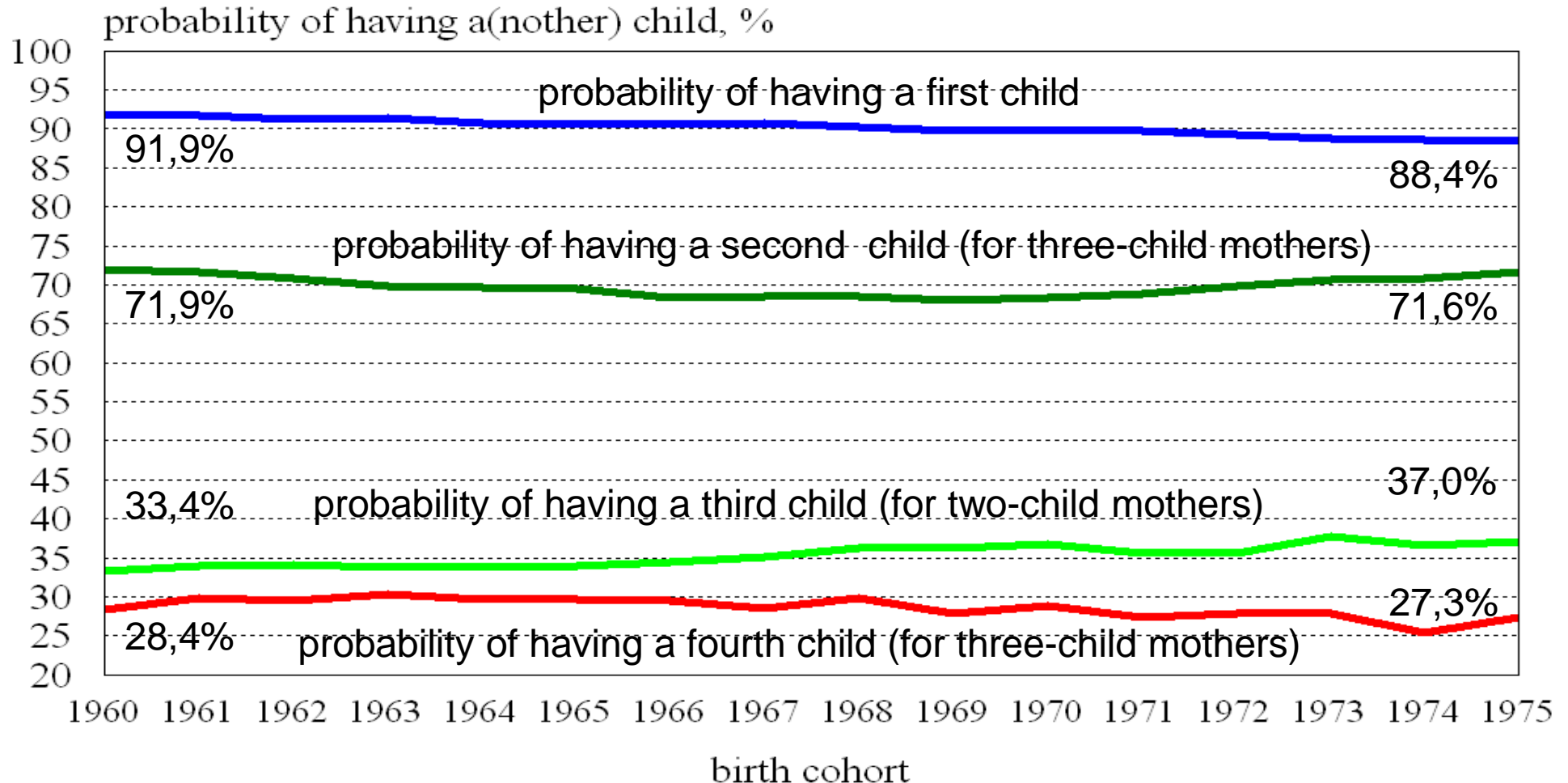


## Summary: change in parity-specific fertility behaviour, women born 1960–1975

Birth cohort	1st births	2nd births	3+ births	All parities
	<b>A. Children born per (one) woman</b>			
1960	0,917	0,665	0,343	1,925
1965	0,905	0,637	0,332	1,874
1970	0,906	0,615	0,350	1,871
1975	0,874	0,621	0,351	1,846
	<b>B. Change compared to 1960 cohort</b>			
1960	–	–	–	–
1965	<b>-0,01</b>	<b>-0,03</b>	<b>-0,01</b>	<b>-0,05</b>
1970	<b>-0,01</b>	<b>-0,05</b>	0,01	<b>-0,05</b>
1975	<b>-0,04</b>	<b>-0,04</b>	0,01	<b>-0,08</b>



# Parity progression ratios, women born 1960–1975



# Fertility differentials: ethnic groups women born 1960–1975

Ethnic groups	Cohort	Probability of having a(nother) child, %				Number of children
		0=>1	1=>2	2=>3	3=>4	
Estonians	1960	91,1	77,8	41,8	29,1	2,09
	1975	88,5	75,7	41,2	27,7	1,95
	Change (pp)	<b>-2,6</b>	<b>-2,1</b>	<b>-0,6</b>	<b>-1,4</b>	<b>-0,14</b>
Other groups	1960	92,0	62,9	17,0	25,0	1,64
	1975	89,4	62,7	25,9	25,6	1,66
	Change (pp)	<b>-2,6</b>	<b>-0,2</b>	<b>+8,9</b>	<b>+0,6</b>	<b>+0,02</b>

Source: population register, own calculation



# Fertility differentials: educational groups women born 1960–1975

Ethnic groups	Cohort	Probability of having a(nother) child, %				Number of children
		0=>1	1=>2	2=>3	3=>4	
Low	1960	88,6	85,9	59,7	55,7	2,58
	1975	88,8	75,9	53,6	43,0	2,18
	Change (pp)	<b>+0,2</b>	<b>-10,0</b>	<b>-6,1</b>	<b>-12,7</b>	<b>-0,40</b>
Medium	1960	93,9	74,0	35,0	28,6	2,01
	1975	90,0	69,5	35,8	29,4	1,86
	Change (pp)	<b>-3,9</b>	<b>-4,5</b>	<b>+0,8</b>	<b>+0,8</b>	<b>-0,15</b>
High	1960	90,8	68,7	28,4	21,4	1,76
	1975	88,0	72,3	34,2	20,4	1,79
	Change (pp)	<b>-2,8</b>	<b>+3,6</b>	<b>+5,8</b>	<b>-1,0</b>	<b>+0,03</b>

Source: population register, own calculation





# A simulation exercise: PPR2>3 and CEB

Parity progression ratios	Coh1975: actual PPRs, Estonians	Coh1975: 2>3*1.10	Coh1975: 2>3*1.20	Coh1975: 2>3*1.33	Coh1975: 2>3*1.50, 14% childless
0=>1	0.885	0.885	0.885	0.885	<b>0.86</b>
1=>2	0.757	0.757	0.757	0.757	0.757
2=>3	<b>0.412</b>	<b>0.453</b>	<b>0.494</b>	<b>0.548</b>	<b>0.618</b>
3=>4	0.277	0.277	0.277	0.277	0.277
4=>5	0.308	0.308	0.308	0.308	0.308
5=>6	0.390	0.390	0.390	0.390	0.390
6=>7	0.436	0.436	0.436	0.436	0.436
7=>8	0.500	0.500	0.500	0.500	0.500
8=>9	0.417	0.417	0.417	0.417	0.417
9=>10	0.600	0.600	0.600	0.600	0.600
Number of children	<b>1.95</b>	<b>1.99</b>	<b>2.03</b>	<b>2.08</b>	<b>2.08</b>



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*Thank you!*



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