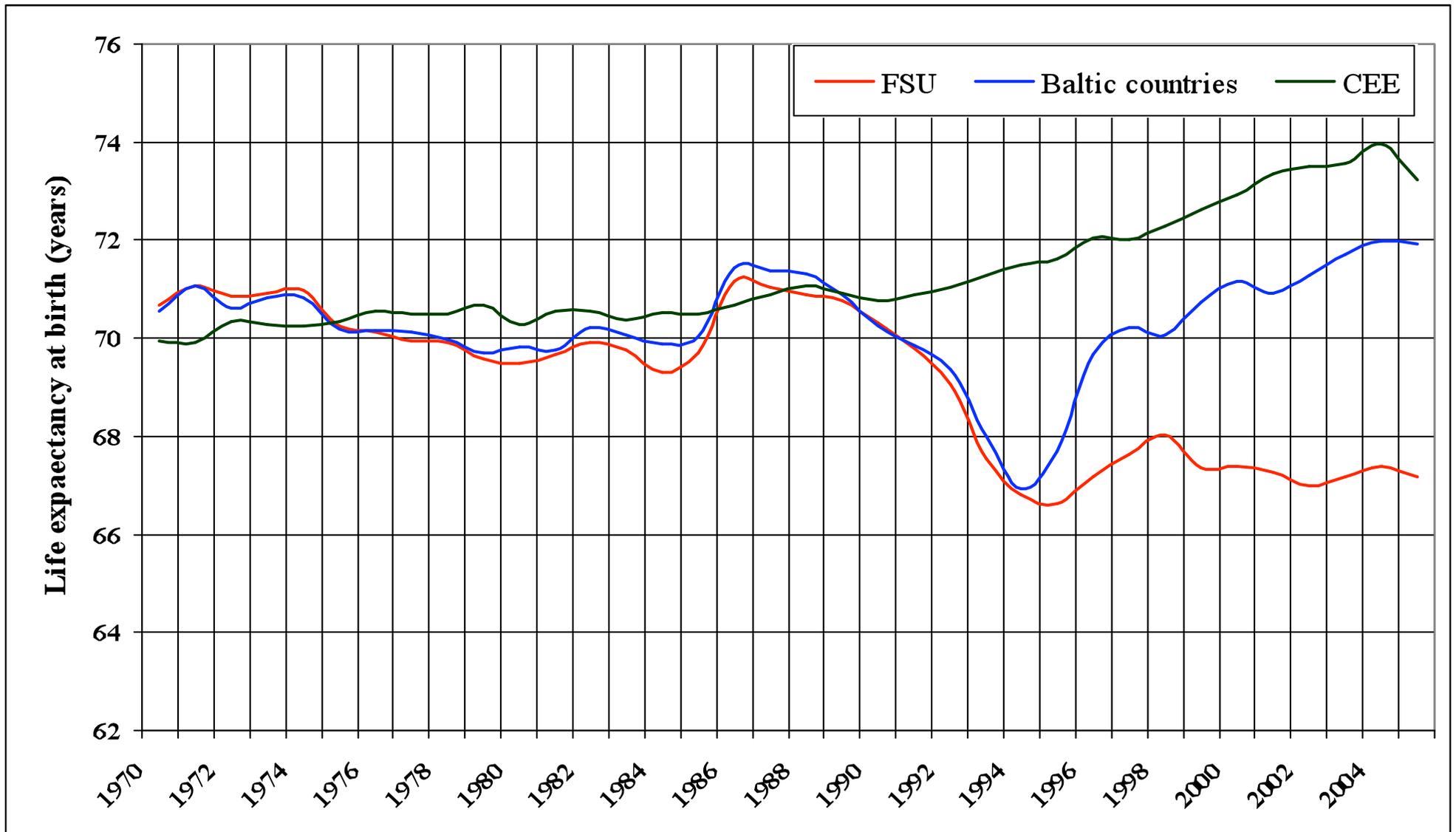


**Health status and health inequalities:
a comparison of 13 nations of
Central and Eastern Europe and the
former Soviet Union**

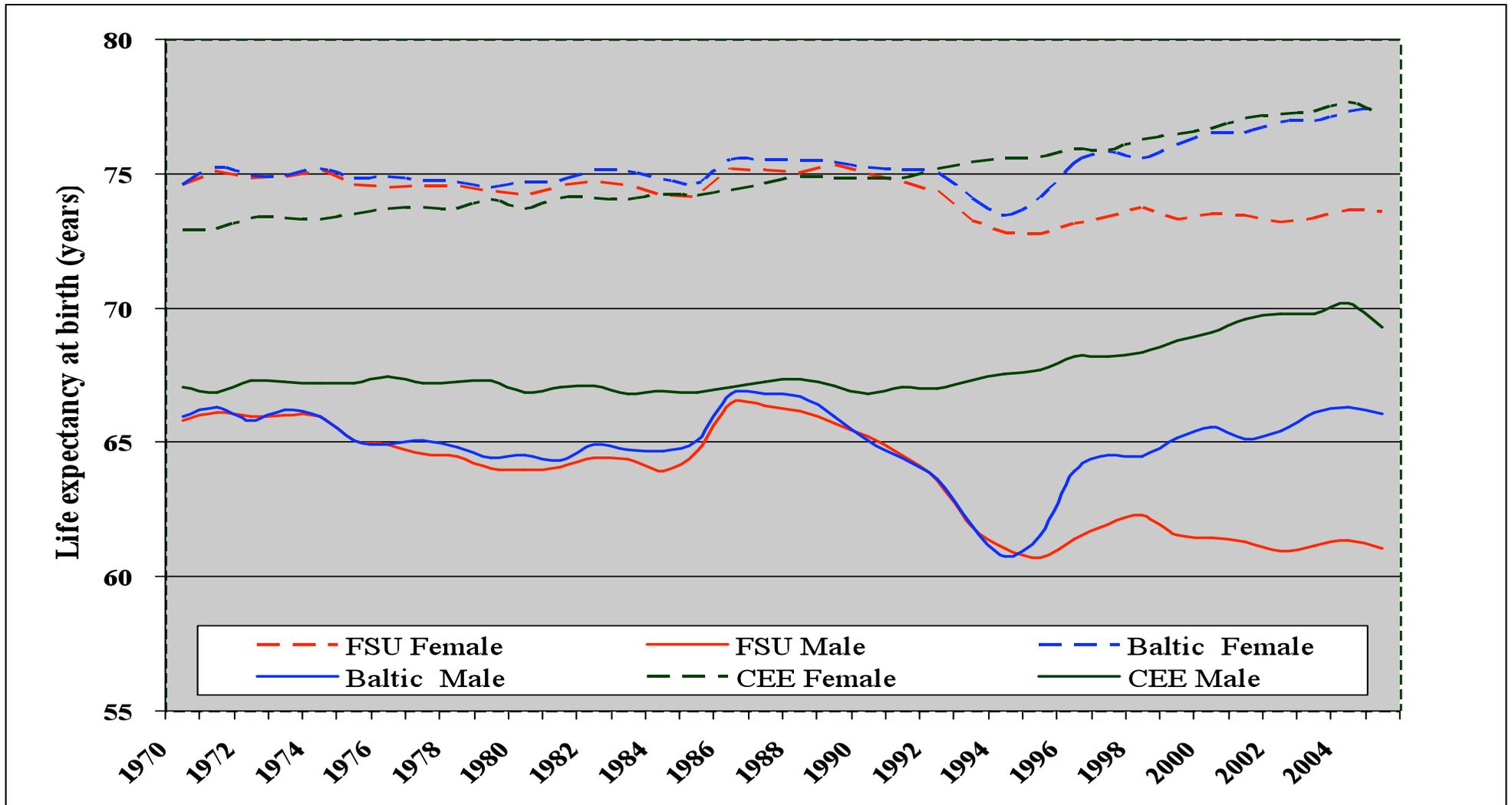
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Life expectancy at birth in CEE, Baltic countries and FSU, selected years 1970-2006



Source: The Human Mortality Database

Male and female life expectancy at birth in CEE, Baltic countries and FSU, selected years 1970-2005



Source: The Human Mortality Database

Data and methods:

The cross-sectional data used in this study derive from the EUREQUAL surveys conducted on nationally representative samples in 13 countries of CEE and FSU in 2007. A total of 15643 respondents aged 18+ were surveyed in face-to-face interviews.

Health indicator

Health status was measured as self-reported general health by a single item ‘How would you describe your health in general?’ on a 5-point scale: ‘excellent’, ‘good’, ‘average’, ‘poor’ and ‘very poor’ and was dichotomised: ‘good health’ (‘excellent’ and ‘good’) and ‘less than good health’ (‘average’, ‘poor’ and ‘very poor’).

Indicator of socioeconomic status (SES)

Education was used as an indicator of SES. The level of education was measured using a scale specific to each country to reflect national educational qualifications. To ensure cross-country comparability, each country's education responses were collapsed into three main categories: 'higher education', 'secondary education' and 'less than secondary education'.

Standardisation

To compare differences in the health status across the 13 nations, the prevalence rates of 'less than good' health were calculated and standardised to control for differences in the countries' age and sex structures.

Standardisation by five-year age groups was performed using the direct method with the pooled survey data as a standard population.

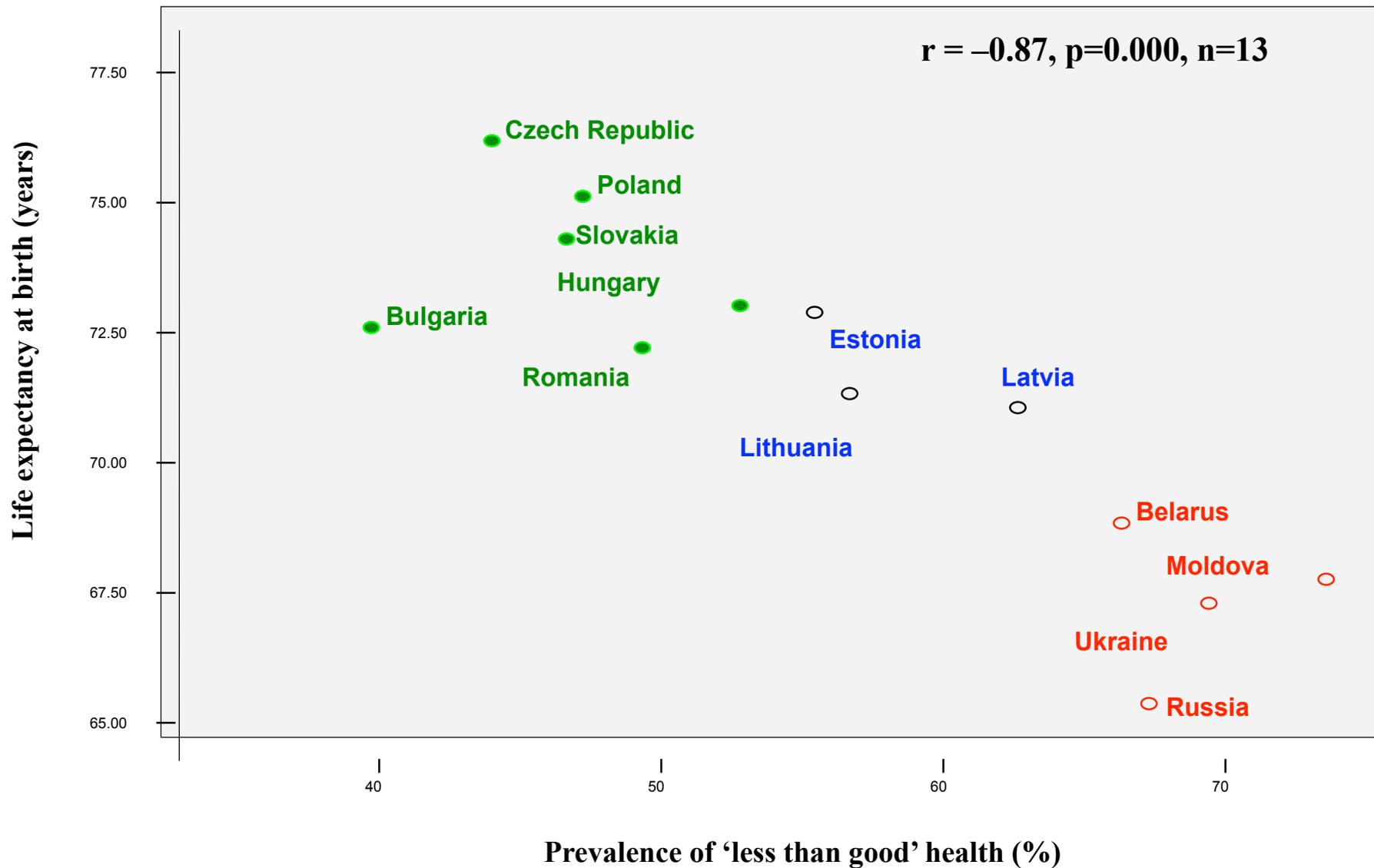
Age- and sex-standardised prevalence (%) of 'less than good' health by country, persons aged 18+

Country*	'Less than good' health
Bulgaria	39.72
Czech Republic	44.00
Slovakia	46.64
Poland	47.22
Romania	49.33
Hungary	52.79
Estonia	55.44
Lithuania	56.68
Latvia	62.64
Belarus	66.32
Russia	67.29
Ukraine	69.41
Moldova	73.57

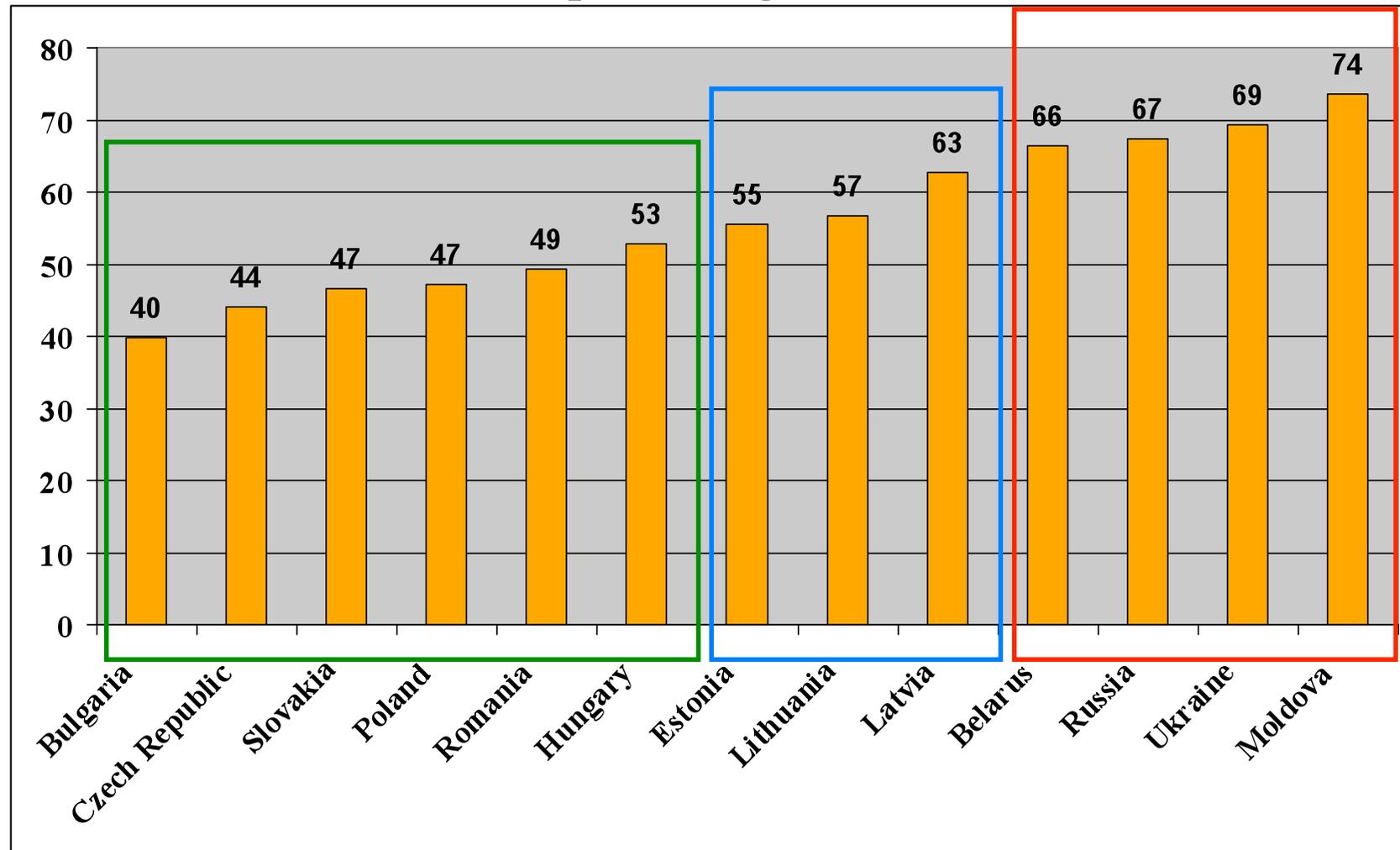
The prevalence rates vary considerably between the countries, with about 40% of respondents reporting 'less than good' health in Bulgaria (the lowest rates) and around 74% in Moldova (the highest rates).

*Countries are ordered from the lowest to the highest prevalence rates of 'less than good' health

Association between age- and sex-standardised prevalence of 'less than good' health and life expectancy at birth (years)



Age- and sex-standardised prevalence (%) of 'less than good' health, persons aged 18+

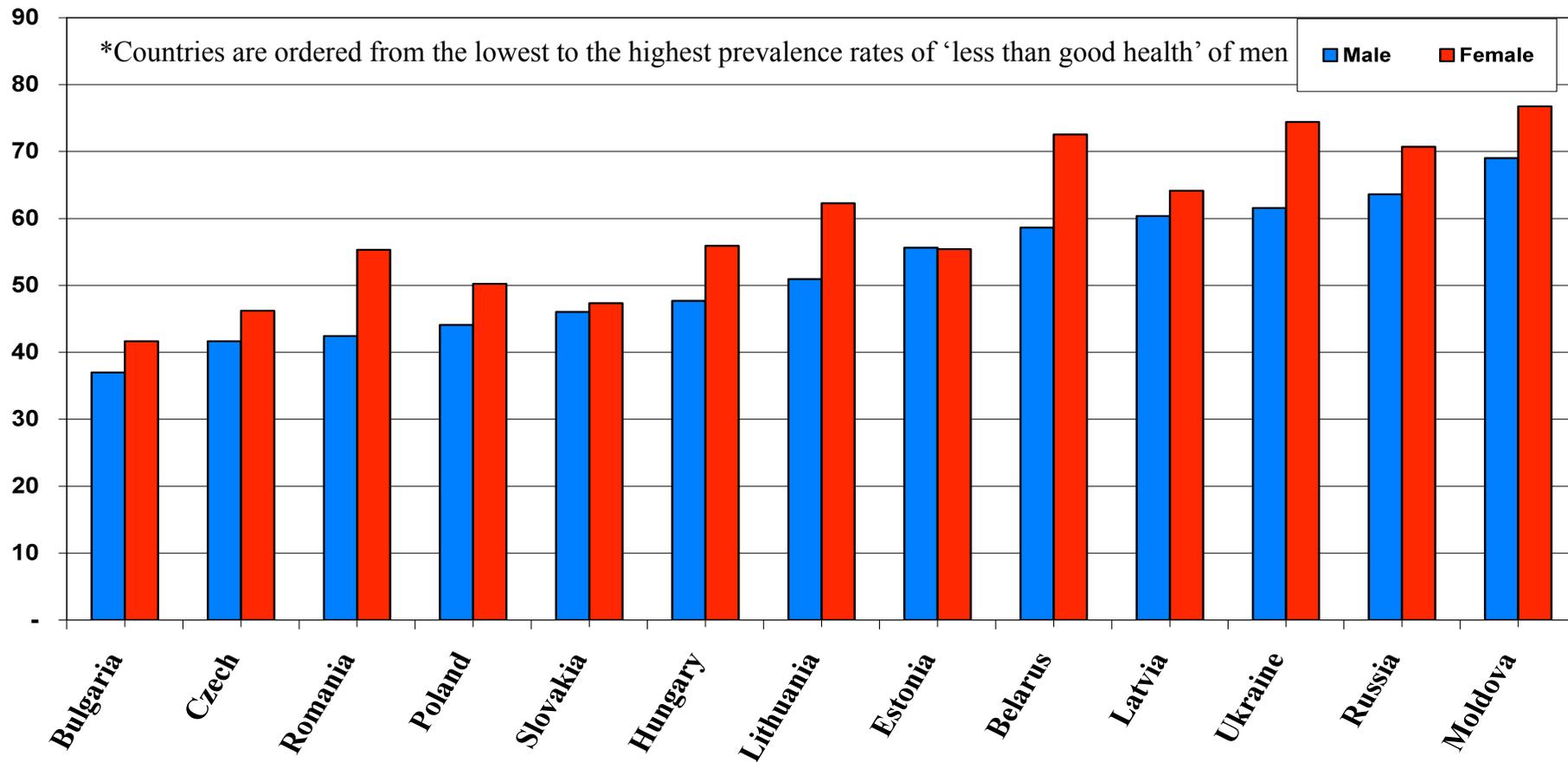


CEE: 40 - 53%

Baltic countries: 56 - 63%

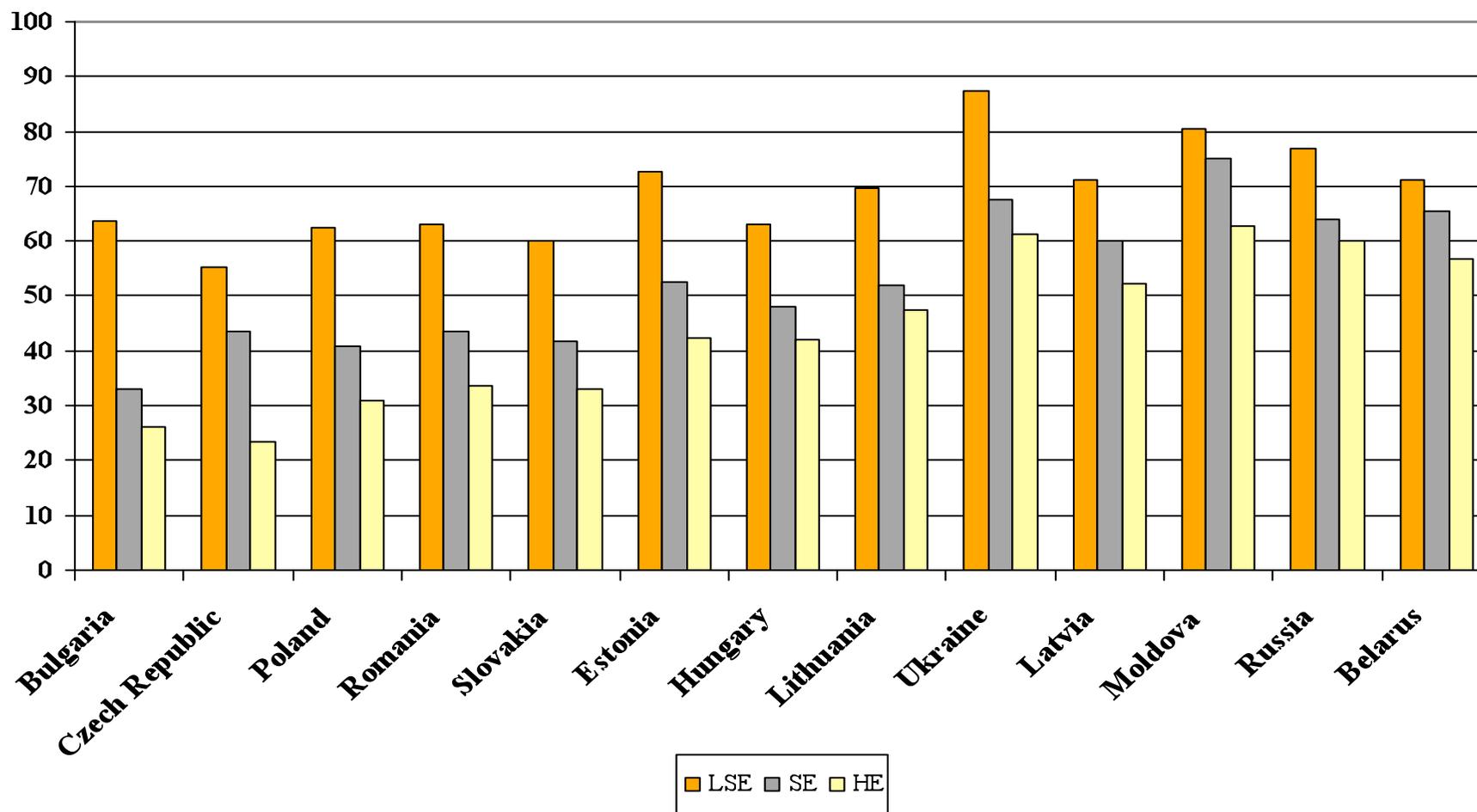
FSU: 66 - 74%

Age standardised prevalence (%) of 'less than good health' by gender and country*



There are significant variations between the rates among women as well as among men between the countries: 42% women and 37% men in Bulgaria (the lowest rates) and 77% and 68% in Moldova respectively (the highest rates) report 'less than good' health.

Age standardised prevalence (%) of 'less than good' health by education and country, persons aged 18+



Health is unequally distributed among educational groups: there is a decrease in the age standardised prevalence of 'less than good' health with each higher level of education.

The range

The range is a measure that summarises the differences in prevalence rates of poor health between the highest and lowest socioeconomic groups and can be expressed as a percentage difference between two extreme socioeconomic groups as well as the ratio of one group to another.

**Age standardised prevalence (%) of ‘less than good’ health by education,
in 13 CEE and FSU countries, persons aged 18+**

Country	Prevalence of ‘less than good’ health across educational levels			Range (LSE/HE)	
	LSE	SE	HE	% difference	Ratio
Bulgaria	63.67	33.14	26.10	37.57	2.44
Czech Republic	55.29	43.42	23.44	31.85	2.36
Poland	62.46	40.70	30.98	31.48	2.02
Romania	63.03	43.68	33.62	29.41	1.87
Slovakia	60.03	41.68	33.09	26.94	1.81
Estonia	72.77	52.41	42.30	30.46	1.72
Hungary	62.92	47.93	41.91	21.01	1.50
Lithuania	69.77	51.97	47.44	22.33	1.47
Ukraine	87.49	67.56	61.22	26.26	1.43
Latvia	71.15	60.13	52.33	18.82	1.36
Moldova	80.39	75.02	62.84	17.56	1.28
Russia	76.91	63.98	60.12	16.79	1.28
Belarus	71.09	65.50	56.62	14.47	1.26

The range varies considerably between the countries:

▮ from 15 % in Belarus to nearly 38 % in Bulgaria

or

▮ the ratio is 2.5 in Bulgaria and only 1.2 in Belarus

The Relative Index of Inequality (RII), a regression based index which takes into account

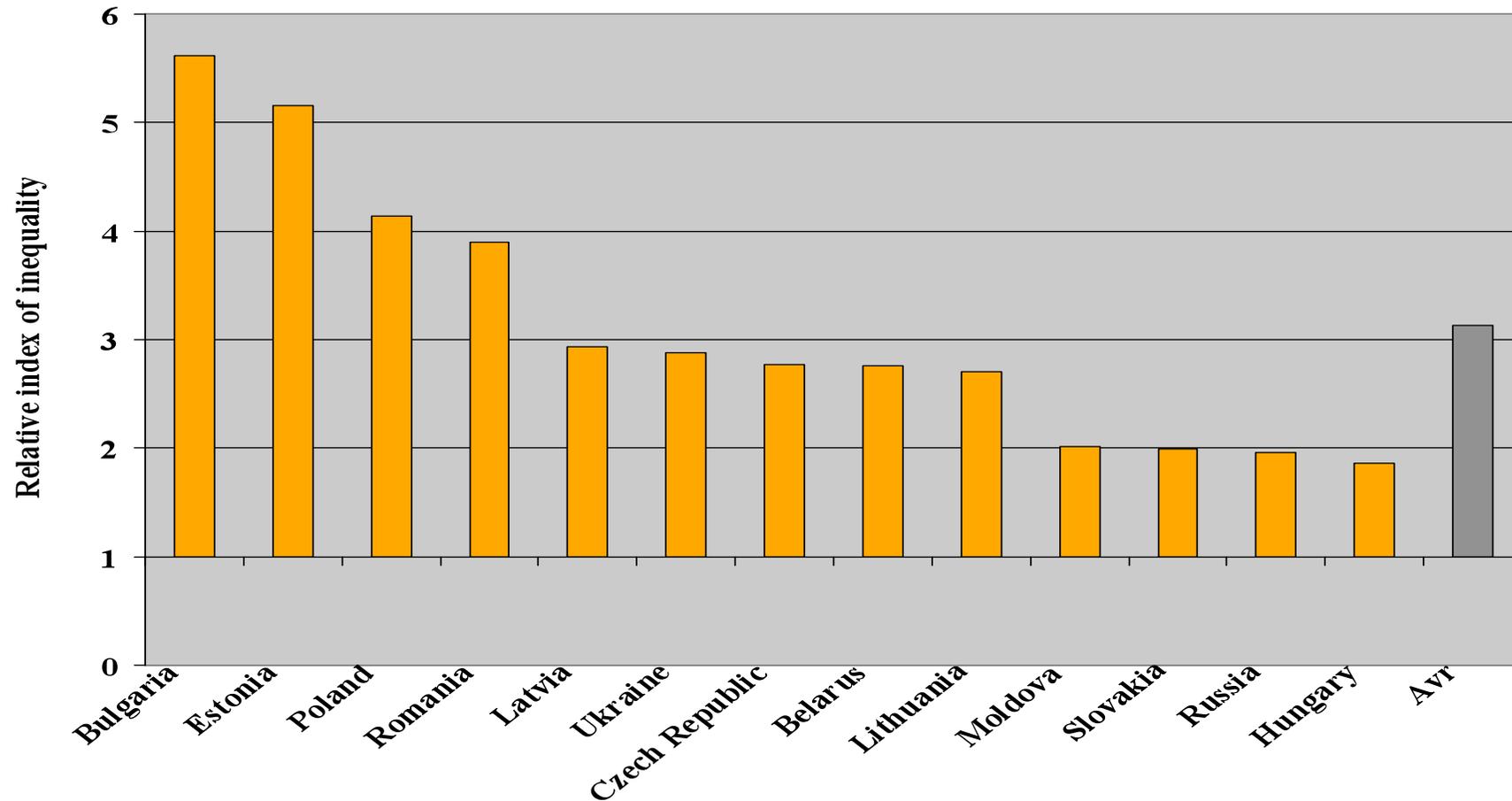
- differences in health status between socioeconomic groups including intermediate groups
- the distribution of the population across socioeconomic groups and the relative socioeconomic position of groups

The Relative Index of Inequality (RII)

- RII can be interpreted as the ratio of the odds for having ‘less than good health’ for those at the lowest group of the educational hierarchy as compared with those at the highest educational group.
- Health differences between high and low educational levels measured by RII can be attributed to
 - the effect of the level of education on health or
 - to differences between the levels of education, that is, inequalities in a socio-economic variable itself.

Thus, RII combines inequalities in levels of education as well as the effect of education on health. Therefore, RII measures the total size of health differences in a population that are related to educational inequality.

Relative inequalities (adjusted for age and sex) in 'less than good' health by level of education among persons aged 18+, CEE and FSU



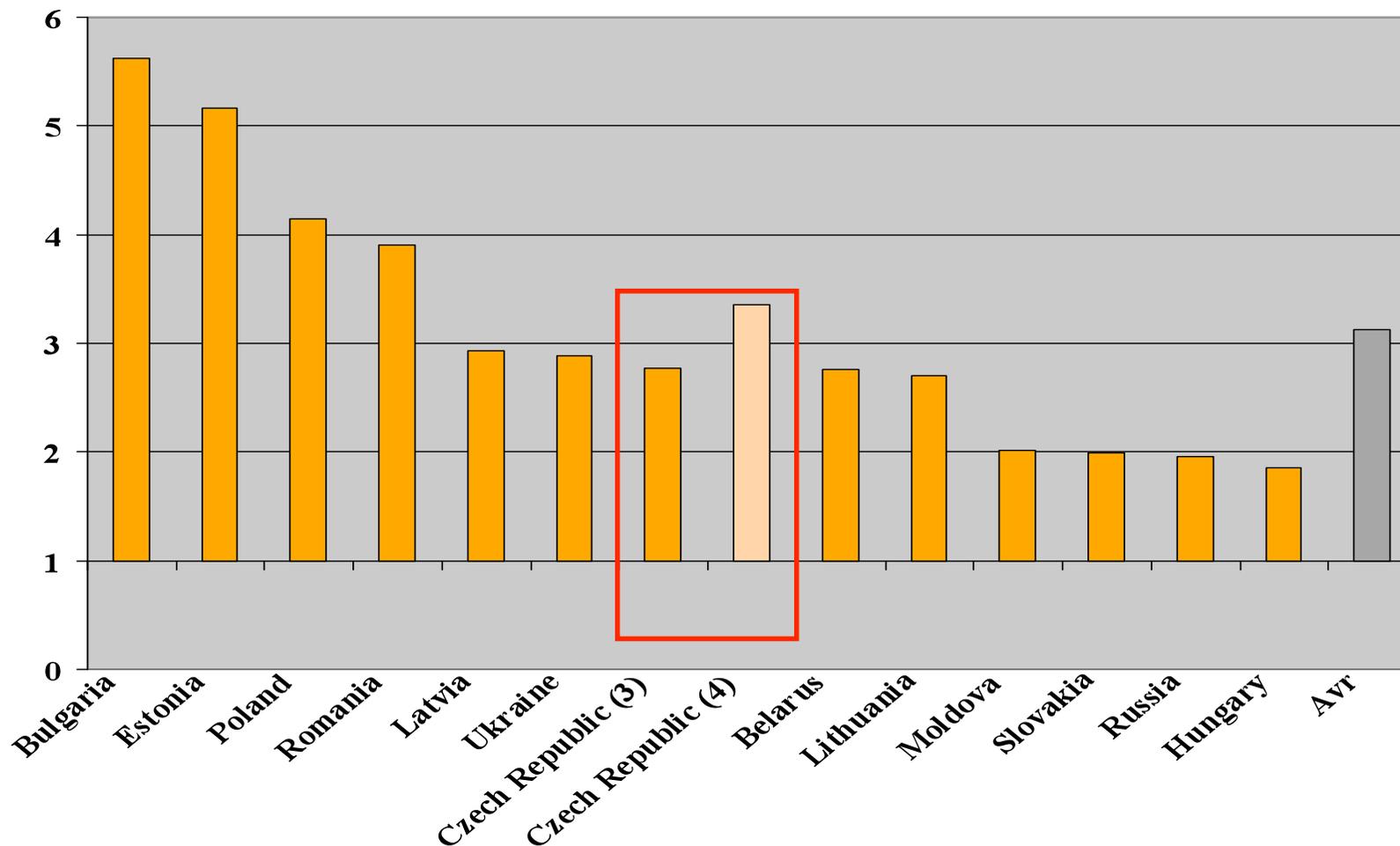
RII is higher than 1 in all countries: self-reported health is poorer in the lowest educational group as compared to the highest educational group.

The larger the RII, the larger the health inequality between the lowest and highest educational group.

The size of health inequality varies between the countries:

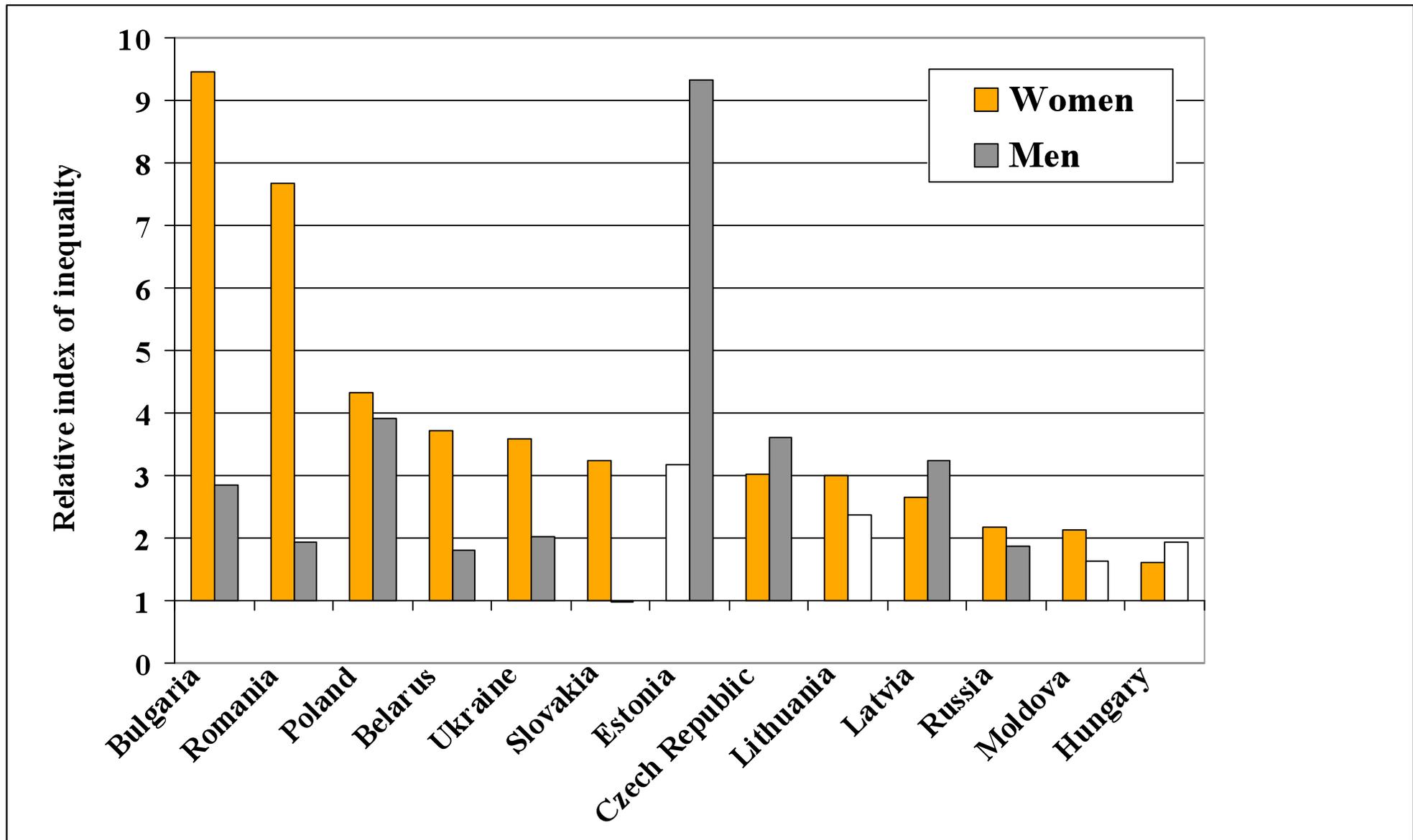
- the largest: Bulgaria, Estonia, Poland and Romania
- the smallest: in Hungary, Russia, Slovakia and Moldova
- moderate (slightly lower than the region's average of RII): the Czech Republic, Latvia, Ukraine, Lithuania and Belarus

Relative inequalities (adjusted for age and sex) in 'less than good' health by level of education among persons aged 18+, CEE and FSU



When four educational categories are distinguished, the inequality estimate of the Czech Republic increases by 18% and exceeds the region's average of RII.

Relative inequalities (adjusted for age) in ‘less than good’ health by level of education among men and women aged 18+, CEE and FSU



The pattern of inequality is more coherent among women than among men:

- No educational gradient found in self-rated health among men in Hungary, Lithuania, Moldova and Slovakia and among women in Estonia;
- Health inequalities are greater among women than men in all countries but the Czech Republic, Estonia and Latvia;
- Health inequalities among women are the largest in Bulgaria, Romania, and Poland;
- Estonia is the only country which has the largest health inequalities among men in comparison to other countries;
- In Poland, the Czech Republic, Latvia and Russia the differences in the magnitude of health inequalities between genders are relatively small in comparison to Bulgaria, Romania, Belarus and Ukraine.

Conclusions

- Considerable variations and no coherent pattern: the prevalence rates of ‘less than good’ health as well as the size of health inequalities vary considerably between the research countries. But there is no coherent pattern in these variations. The ranks of the countries based on prevalence rates of ill health do not coincide with the ranks based on socioeconomic inequalities in health.

Conclusions

- Gender effect: gender has an effect on inequalities in health: the pattern of inequality is more coherent among women than among men and health inequalities are greater among women than men in all but three countries.
- No regional effect: based on the differences in health inequalities, the countries could not be grouped by regions.

Conclusions

- Potential contribution to public health policies:

this research has a potential to contribute to the development of public health policies at the level of national governments and the EU as it provides information that facilitates a better understanding of the factors that influence the health of nations in the Eastern-European region and the neighbouring countries. One of the main aims of such policies is the reduction of health differences between social groups within countries and health inequalities between countries that are identified by this research.