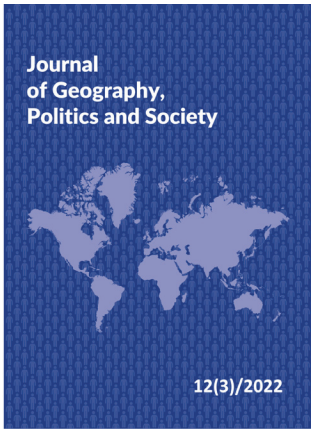


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# THE TYPOLOGY OF FIRST MARRIAGE PATTERNS IN EUROPE

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**Abstract**
This paper aims to present an overview of the main demographic characteristics of Europe's inhabitants entering into first marriages in the 21st c. and the typology of male and female first marriage patterns in European countries in 2010 and 2018. Additionally, a special index is constructed to compare them for nuptiality as an element of the Second Demographic Transition (STD) in 2018. Also calculated are correlations between the types of first marriage patterns and selected demographic and economic indicators. In order to analyse European countries' populations in terms of first marriages there were used such research methods as descriptive statistics, a cluster analysis, special STD index, and correlation coefficients. The basis of the analysis is data sourced from the Eurostat database. It appeared that the analysis of the males' and female's age-specific first marriage rates in the 31 European countries in 2010 and 2018 produced 22 types of first marriage patterns (which can be grouped into seven main categories). In the majority of European countries, the mean age at first marriage was older in 2018 than in 2010. Countries in Central and Eastern Europe are very different from the rest of the continent regarding the types of first marriage patterns. In 2018, the youngest types occurred in post-communist countries (especially in Belarus and Macedonia) and the oldest ones in Spain, Ireland, Denmark, Italy, and Sweden. Older types of first marriage patterns are characteristic of countries that are stronger economically and/or where the second demographic transition takes place at a faster pace.

**Key words**
first marriage rates, nuptiality, special STD index, Second Demographic Transition theory, European countries.

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## 1. Introduction

European countries have long been known to differ significantly in marriage formation patterns. Hajnal observed in the mid-20th c. that populations living east of the Trieste-St. Petersburg line got married at much younger ages than those occupying the areas west of it "for at least two centuries up to 1940" (Hajnal, 1965, p. 101–103). Even though the political partition of Europe after World War II contributed to the perpetuation of early marriage formation patterns in some of its eastern regions, this division is now of purely historical interest.

Today, there is a growing tendency among populations in the majority of European countries to replace "the nuclear families of (married) couples with children" with "cohabiting unions, 'living apart together' partnerships, same-sex partnerships, one-parent families, and single living" (Sobotka,

Toulemon, 2008, p. 85–86; see also: Ehmer, 2021; Sobotka, Berghammer, 2021).

These changes bring total fertility rates in the countries far below the generation replacement level, with adverse consequences for demographic, social, and economic structures. The most worrying of them is population ageing processes directly related to low fertility rates, which in recent years have accelerated in many parts of Europe (see, e.g. Uhlenberg (ed.), 2009).

This paper presents the types of male and female first marriage patterns[1] for 31 European countries in 2010 and 2018. It also shows associations between particular types and selected demographic and economic indicators. Using Ward's method, the countries are clustered into groups based on the similarity of marriage rates in 2018. Marriage formation in 2018 is assessed with respect to the Second Demographic Transition by means of a special SDTM index.

The second and higher-order marriages and informal unions (such as cohabitation or Living *LAT* (Living Apart Together) relationships[2]) have been omitted from the analysis.

## 2. The theoretical framework

Marriage formation patterns in Europe have been changing for several decades now, with the pace and character of the process varying with demographic, social, cultural, and economic factors (Kirk, 1996, p. 367; Willekens, 2015, p. 17–19; Kohler et al., 2002, p. 654–656; see also: Nauck, 2021; Neyer, 2021), such as the age and gender structure of populations, the strength of tradition and social norms, households' wealth, and the availability of employment. The role of governments' population and social policies is also substantial.

The differences in marriage patterns that are still observed between CEE (Central and Eastern European) countries and the rest of Europe are largely due to the former having been practically cut off from the inflow of people, products, and ideas from the West by the former USSR for almost all five decades after WWII.

In order to describe and explain changes in the family formation patterns, a number of theories have been created that consider the phenomenon from demographic, economic, sociological, and psychological perspectives. The most prominent among the demographic theories[3] are the first demographic transition theory[4] (which explains "progress from a pre-modern regime of high fertility and high mortality to a post-modern one in which both are low" (Kirk, 1996, p. 361, see also: Kirk, 1944; Notestein, 1945; van de Kaa, 1987)) and the second demographic transition theory, which relates to processes taking place in countries that have completed the first demographic transition.

The second demographic transition theory was proposed in response to changes in marital and procreative behaviours, such as a "fall in proportions married, rise in age at first marriage, rise in cohabitation, rise in divorce, increasing mean age at first parenthood, rising extra-marital fertility, [and] parenthood within cohabitation" (Lesthaeghe, 2010, p. 5; see also: Sobotka, 2008b; van de Kaa, 1997, 2002), reducing total fertility rates (TFR) below 2.1 children per woman (the generation replacement level). The changes, mainly driven by evolving worldviews and social factors such as "the rise of 'higher order' needs: individual autonomy, self-actualisation, expressive work and socialisation values, sexual revolution, efficient contraception, rising symmetry in gender roles, female economic autonomy, flexible life course organisation, [and] multiple lifestyles" (Lesthaeghe, 2010, p. 5–6; see also: Philipov, 2003; Sobotka, 2008b), first emerged in western and northern Europe in the 1960s and then gradually spread to other countries. They reached the former Eastern-bloc countries in the 1990s, at the time of turbulent political and economic reforms following the collapse of the Soviet empire (see, for instance, Philipov, 2003, p. 27; Philipov, Kohler 2001, p. 38–39; van de Kaa, 1997, p. 20).

The progressing secularisation of societies, the diminishing role of tradition, global technological advancements, and the improving standard of living

[1] A marriage pattern as understood in this paper is an age group-specific distribution of marriage rates obtained by dividing the number of new marriages by the number of persons in that age group. The analysis is conducted separately for male and female marriage patterns.

[2] A *LAT* relationship is defined as an emotional and intimate relationship between two partners who live separately (see, i.e., Lyssens-Danneboom, Mortelmans, 2015; Upton-Davis, 2012).

[3] The description of economic, psychological and sociological theories and concepts dealing with changes in family patterns can be found in Becker (1960), Becker, Barro (1988), Blake (1968), Caldwell (1978, 1980, 1982), Davis, (1945), Easterlin (1978), Freedman (1979), Hoffman, Hoffman (1973), Hoffman et al. (1978), Leibenstein (1957, 1975), Willekens (2015).

[4] The first demographic transition in Europe "began with a gradual decline in death rates dating generally from the early 19th century, followed by fertility decline beginning around 1880 in most countries, though earlier in France" (van de Kaa, 1987, p. 4).

in economically prosperous countries also catalysed the evolution of family formation patterns. Also of significance was the expansion of mass media and the Internet, which paved the way for globalisation processes because "the transition processes depend on social interaction" enabled by "ideas, opinions, attitudes and information on health and family planning practices […] transmitted through communication channels" (Willekens, 2015, p. 19).

The demographic changes known as the second demographic transition are still going on in some regions of several countries in Central and Eastern Europe. As regards developed countries that have completed the second demographic transition, a number of them, especially those in Western Europe, have entered the third demographic transition (Coleman, 2006). These countries have high and positive net migration rates because they are attractive for migrants who usually have more children than the native populations. As a result, their total fertility rates increase, too, limiting the demographic ageing of their populations. The processes initiated by the combination of low native fertility rates and high immigration rates are demographically significant "because they are changing the composition of national populations and thereby the culture, physical appearance, social experiences, and self-perceived identity of the inhabitants of European nations" (Coleman, 2006, p. 402; see also: Lichter, Qian, 2018, p. 169; López-González, González-González, 2018, p. 62).

## 3. Data and methodology

The male and female first marriage rates in 31 European countries in 2010 and 2018 analysed in this paper were sourced from the Eurostat database. The types of first marriage patterns were created as follows: the populations of first-married males and females aged 15–49 years in each country were divided into seven five-year age groups that were ordered from the highest first marriage rate to the lowest. The eighth group considered in the analysis was males and females aged 50+. As a result, 22 types of first marriage patterns were obtained for 2010 and 2018 (see Table 1).

The first marriage rates in 2018 were compared within and between countries using cumulative first marriage rates (CFMR) and quotients calculated by dividing the female first marriage rate by the male first marriage rate in the same age group.

The CMFRs were calculated as follows[5]. In the first step, five-year age groups in each European country were arranged from the highest first marriage rate in 2018 to the lowest; in the second step, the first marriage rates of the first five age groups were added up (starting with the age group with the highest marriage rate), and the total was multiplied by 5 (thus, the first CFMR was the same as the first marriage rate in the age group with the highest first marriage frequency, and the last one represented the sum of first marriage rates for all five groups).

Using Ward's method (see Ward, 1963; see also: Eszergár-Kiss, Caesar, 2017) with the Euclidean distance matrix, the selected countries were divided into groups (clusters) with similar age group-specific distributions of first (male and female) marriage rates.

In order to assess the progression of the second demographic transition in the countries in terms of marriage formation, an SDTM index was calculated for each country. The index was constructed by modifying the SDT1 index proposed by Sobotka (2008a) and replacing the original variables with the following ones[6]: $x_1$ – total first marriage rate; $x_2$ – mean age at first marriage (years)[7]; $x_3$ – the proportion of live births outside marriage, and $x_4$ – crude divorce rate (per 1,000 population).

The construction of the SDTM index started with the selection of appropriate variables. Four variables were considered. Depending on whether their effect on the phenomenon under study was positive or negative, they were named stimulants or destimulants, respectively (see Jóźwik, Gawrońska, 2018, p. 151–152; Trojanowska, Nęcka, 2020, p. 6). Three were found to be stimulants ($x_2$, $x_3$, $x_4$), meaning that their higher values had to do with the more advanced second demographic transition in the country regarding marriage formation. As the fourth one, $x_1$, proved to be a destimulant, it was converted into a stimulant using formula (1) (see Trojanowska, Nęcka, 2020, p. 6):

$$x'_{ij} = \frac{1}{x_{ij}} \quad (1)$$

where $x'_{ij}$ and $x_{ij}$ – the values of variable $j$ (a stimulant or a destimulant) for country $i$.

[5] The construction of the CFMR was inspired by the approach used to calculate total first marriage rates or total fertility rates (see Thomas, 2018, p. 104).

[6] T. Sobotka (2008a) constructed the SDT1 index using a different approach to ranking countries and the following variables: mean mother's age at first birth; the sum of age-specific fertility rates per 1000 women below the age of 20 years; the percentage of non-marital births; the total first marriage rate; mean age at first marriage; the total divorce rate.

[7] Variable $x_1$ was calculated as an average of females' and males' total first marriage rates; Variable $x_2$ was calculated as an average of females' and males' mean age at first marriage.

All four variables were normalised between 0 and 1 with formula (2) (see Kukuła, Bogocz, 2014):

$$z_{ij} = \frac{x_{ij} - \min(x_{ij})}{\max(x_{ij}) - \min(x_{ij})} \quad (2)$$

where $x_{ij}$ – the value of variable $j$ for country $i$; $z_{ij}$ a normalised variable.

The countries' SDTM indexes were calculated as the means of the normalised variables ($z_{ij}$). The higher the value of the STDM index, the more advanced a country is in the second demographic transition considered in terms of marriage formation.

Lastly, Pearson's coefficients were calculated to see how the types of first marriage patterns in 2018 and the SDTM indexes correlated with the selected demographic and economic indicators.

All data were obtained from the Eurostat database, and statistical analysis was performed in MS Excel 2016 and STATISTICA 13. The tables, graphs, and choropleth maps illustrating the data and research results were prepared using Quantum GIS ver. 3.16 and geographical data from the Eurostat[8] website.

## 4. Results

The analysis revealed that the selected European countries differed in mean ages at first marriage, first marriage rates, and first marriages as a share of total marriages. In most countries, the mean age at first marriage was rising, likewise the rates of second or higher-order marriages, while first marriage rates were falling. The highest mean ages at first marriage in 2018 occurred in Spain and Sweden, and the lowest in Belarus and North Macedonia; Romania and Lithuania had the highest crude marriage rates and total first marriage rates[9], whereas Luxembourg, Italy, Portugal, and Spain had the lowest ones. Changes in family formation patterns in these countries may have been caused by women having their first children at increasingly older ages (in 2018, the mean ages of women at the birth of their first child were the highest in Italy, Spain, Luxembourg, Greece, Ireland, and Switzerland, and the lowest in Belarus, Bulgaria, Romania, North Macedonia, and Ukraine).

It is interesting to note, however, that in the majority of European countries, most children in 2018 were still born to married parents (see Tables A1 and A2 in the Appendix).

### 4.1. Types of first marriage patterns

The analysis of age-group specific first marriage rates resulted in the creation of 22 types of first marriage patterns occurring in the selected countries in 2010 and 2018. The youngest type is type 1 (in both years, most marriages took place in the age group 20–24 years), and the oldest one is type 22 (the greatest number of marriages was for people aged 30–34 years). In 2018, only type 16 did not occur in any of the countries; in 2010, types 12, 15 and 22 were not observed. The most common types of first marriage rates in 2018 were types 20 and 14 (males) and types 5, 9, and 10 (females).

From each type, the first three age groups were selected to form broad categories of the types of first marriage patterns (A–G; see Table 1). In 2018, the types of male first marriage patterns that occurred in most countries belonged to Category F (age groups 30–34, 25–29, and 35–39 years); regarding the types of female first marriage patterns, types included in category D (age groups 25–29, 30–34, and 20–24) were the most common.

Comparing the age-group sequences that make up the youngest and oldest types of first marriage patterns reveals interesting shifts in the positions of particular age groups. For instance, the age group 20–24 years, which is first in types 1–3, is only fifth and sixth, respectively, in types 19–20, and 21–22; the age group 15–19 years, third in type 1 and fourth in type 2, is the last in types 11, 14, 15, 18, and 20-22 (see Table 1).

Table 2 shows the types of male and female first marriage patterns in the selected countries in 2010 and 2018. In almost all countries but Norway, Slovakia, and Austria[10], the types of first marriage patterns in 2018 are the same or higher than in 2010, which seems to indicate an increasing tendency to

[8] © EuroGeographics for the administrative boundaries (Eurostat).

[9] The total first marriage rate is "computed by adding the first marriage rates by age in a given year, separately for men and women" (Eurostat). It "represents the proportion of women or men who would eventually marry, if they were subject through their lifetime to the age–sex specific first marriage rates of a given period" (Ní Bhrolcháin, 2015, p. 118).

[10] Austria had type 18 of female first marriage patterns in 2010 and type 10 in 2018 because of similar first marriage rates between the age groups 25-29 years and 30-34 years and between the age groups 20–24 and 35–39 years. As for Norway, female and male types of first marriage rates were higher in 2010 than in 2018 due to the similarity of the female first marriage rates between the age groups 20-24 and 30-34 years and the male first marriage rates between the age groups 25–29 and 30–34 in 2010 and 2018. In Slovakia, comparable female first marriage rates between the age groups 20–24 and 25–29 years in 2018 caused that its type 4 of first marriage patterns in 2010 was replaced by type 4 (see Tables 1 and 2).

Tab. 1. The age-group composition of the types of first marriage patterns and the number of European countries where particular types occurred in 2010* and 2018**.

| Main category | Type | Age group ranked from the highest to the lowest first marriage frequency | | | | | | | | No. of countries with a given type in 2010 and 2018 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 2010 | | 2018 | |
| | | I | II | III | IV | V | VI | VII | VIII | Males | Females | Males | Females |
| | 1 | 20–24 | 25–29 | 15–19 | 30–34 | 35–39 | 40–44 | 45–49 | 50+ | 0 | 3 | 0 | 2 |
| | 2 | 20–24 | 25–29 | 30–34 | 15–19 | 35–39 | 40–44 | 45–49 | 50+ | 0 | 2 | 0 | 1 |
| | 3 | 20–24 | 25–29 | 30–34 | 35–39 | 15–19 | 40–44 | 45–49 | 50+ | 1 | 0 | 1 | 0 |
| | 4 | 25–29 | 20–24 | 30–34 | 15–19 | 35–39 | 40–44 | 45–49 | 50+ | 0 | 6 | 0 | 1 |
| | 5 | 25–29 | 20–24 | 30–34 | 35–39 | 15–19 | 40–44 | 45–49 | 50+ | 1 | 3 | 0 | 6 |
| | 6 | 25–29 | 20–24 | 30–34 | 35–39 | 40–44 | 15–19 | 45–49 | 50+ | 2 | 1 | 1 | 1 |
| | 7 | 25–29 | 20–24 | 30–34 | 35–39 | 40–44 | 45–49 | 15–19 | 50+ | 1 | 0 | 0 | 1 |
| | 8 | 25–29 | 30–34 | 20–24 | 35–39 | 15–19 | 40–44 | 45–49 | 50+ | 0 | 3 | 1 | 0 |
| | 9 | 25–29 | 30–34 | 20–24 | 35–39 | 40–44 | 15–19 | 45–49 | 50+ | 3 | 5 | 0 | 5 |
| | 10 | 25–29 | 30–34 | 20–24 | 35–39 | 40–44 | 45–49 | 15–19 | 50+ | 4 | 4 | 3 | 6 |
| | 11 | 25–29 | 30–34 | 20–24 | 35–39 | 40–44 | 45–49 | 50+ | 15–19 | 2 | 1 | 3 | 2 |
| | 12 | 25–29 | 30–34 | 20–24 | 35–39 | 45–49 | 40–44 | 15–19 | 50+ | 0 | 0 | 0 | 1 |
| | 13 | 25–29 | 30–34 | 35–39 | 20–24 | 40–44 | 45–49 | 15–19 | 50+ | 3 | 1 | 1 | 0 |
| | 14 | 25–29 | 30–34 | 35–39 | 20–24 | 40–44 | 45–49 | 50+ | 15–19 | 4 | 0 | 5 | 3 |
| | 15 | 25–29 | 30–34 | 35–39 | 40–44 | 20–24 | 45–49 | 50+ | 15–19 | 0 | 0 | 3 | 0 |
| | 16 | 30–34 | 25–29 | 35–39 | 20–24 | 40–44 | 15–19 | 45–49 | 50+ | 0 | 1 | 0 | 0 |
| | 17 | 30–34 | 25–29 | 35–39 | 20–24 | 40–44 | 45–49 | 15–19 | 50+ | 1 | 0 | 1 | 0 |
| | 18 | 30–34 | 25–29 | 35–39 | 20–24 | 40–44 | 45–49 | 50+ | 15–19 | 3 | 1 | 2 | 0 |
| | 19 | 30–34 | 25–29 | 35–39 | 40–44 | 20–24 | 45–49 | 15–19 | 50+ | 1 | 0 | 0 | 1 |
| | 20 | 30–34 | 25–29 | 35–39 | 40–44 | 20–24 | 45–49 | 50+ | 15–19 | 4 | 0 | 6 | 1 |
| | 21 | 30–34 | 25–29 | 35–39 | 40–44 | 45–49 | 20–24 | 50+ | 15–19 | 1 | 0 | 3 | 0 |
| | 22 | 30–34 | 35–39 | 25–29 | 40–44 | 45–49 | 20–24 | 50+ | 15–19 | 0 | 0 | 1 | 0 |
| | | | | | | | | | | | | | |
| A | 1 | 20–24 | 25–29 | 15–19 | – | – | – | – | – | 0 | 3 | 0 | 2 |
| B | 2–3 | 20–24 | 25–29 | 30–34 | – | – | – | – | – | 1 | 2 | 1 | 1 |
| C | 4–7 | 25–29 | 20–24 | 30–34 | – | – | – | – | – | 4 | 10 | 1 | 9 |
| D | 8–12 | 25–29 | 30–34 | 20–24 | – | – | – | – | – | 9 | 13 | 7 | 14 |
| E | 13–15 | 25–29 | 30–34 | 35–39 | – | – | – | – | – | 7 | 1 | 9 | 3 |
| F | 16–21 | 30–34 | 25–29 | 35–39 | – | – | – | – | – | 10 | 2 | 12 | 2 |
| G | 22 | 30–34 | 35–39 | 25–29 | – | – | – | – | – | 0 | 0 | 1 | 0 |

* Belgium and Montenegro – 2009 data; Belarus – 2011 data

** Austria, Belgium, Germany, France and Luxembourg – 2017 data; Ireland – 2016 data

Source: Eurostat data; calculated by the author.

postpone marriages. In both years, the type of male first marriage pattern was higher than the type of female first marriage pattern in all countries, excluding Austria, where the types of male and female first marriage patterns in 2010 were higher than in 2018. The youngest types of male and female first marriage patterns in 2018 occurred in Belarus and North Macedonia, and the oldest in Spain (see Table 2).

In 2018, the outermost types of male first marriage patterns characterised Belarus (3), Ireland, Italy, Sweden (21), and Spain (22); as regards the female first marriage patterns, the lowest and highest types occurred in Belarus and North Macedonia (1) and Spain (20).

Figure 1 reveals considerable differences in the distribution of age group-specific first marriage rates in Europe. In 2018, post-communist countries had relatively high male and female first marriage rates in the age groups 15–19, 20–24, and 25–29 years, whereas those in the groups aged 40+ were rather low. The group of countries with the lowest male and female first marriage rates in the first three age groups included Spain, Italy and Luxembourg; Sweden and Denmark had the highest male and

Tab. 2. European countries and the types of male and female first marriage patterns, 2010* and 2018**.

| Country | Females | | Males | |
|---|---|---|---|---|
| | 2010 | 2018 | 2010 | 2018 |
| Austria | 18 | 10 | 18 | 20 |
| Belarus | 1 | 1 | 3 | 3 |
| Belgium | 6 | 10 | 11 | 15 |
| Bulgaria | 4 | 4 | 9 | 10 |
| Croatia | 4 | 5 | 10 | 13 |
| Czechia | 5 | 9 | 14 | 14 |
| Denmark | 11 | 14 | 20 | 20 |
| Estonia | 5 | 9 | 10 | 14 |
| Finland | 9 | 12 | 13 | 14 |
| France | 10 | 11 | 14 | 15 |
| Germany | 9 | 10 | 18 | 20 |
| Greece | 8 | 9 | 17 | 20 |
| Hungary | 8 | 9 | 13 | 17 |
| Ireland | 16 | 19 | 19 | 21 |
| Italy | 9 | 14 | 20 | 21 |
| Latvia | 4 | 6 | 6 | 10 |

| Country (cont.) | Females | | Males | |
|---|---|---|---|---|
| | 2010 | 2018 | 2010 | 2018 |
| Lithuania | 4 | 5 | 6 | 10 |
| Luxembourg | 10 | 10 | 14 | 20 |
| Montenegro | 2 | 5 | 11 | 14 |
| Netherlands | 9 | 11 | 14 | 20 |
| North Macedonia | 1 | 1 | 5 | 6 |
| Norway | 10 | 7 | 20 | 14 |
| Poland | 2 | 5 | 7 | 11 |
| Portugal | 5 | 10 | 10 | 18 |
| Romania | 1 | 5 | 9 | 11 |
| Serbia | 4 | 5 | 10 | 11 |
| Slovakia | 4 | 2 | 9 | 8 |
| Slovenia | 8 | 10 | 13 | 15 |
| Spain | 10 | 20 | 20 | 22 |
| Sweden | 13 | 14 | 21 | 21 |
| Switzerland | 9 | 9 | 18 | 18 |

* Belgium and Montenegro – 2009 data; Belarus – 2011 data

** Austria, Belgium, Germany, France and Luxembourg – 2017 data; Ireland – 2016 data

Source: Eurostat data; calculated by the author.

female first marriage rates in the age groups 40–44, 45-49, and 50+.

The highest first marriage rates were found in post-communist countries (the leader was Romania) and the lowest ones in Luxembourg (see Fig. 1). Because the first three age groups in Luxembourg have comparable first marriage rates, the curves representing the first male and female marriage run flat, and the differences between the CFMRs are small (see Figure 1 and Table A3 in Appendix).

The values of the CFMR and total first marriage rates were higher for females in the majority of the countries (see Table A3 in Appendix). A between country-comparison of CFMRs showed that the first two age groups in Romania had the same CFMRs as those obtained for the first four age groups in Belarus, Montenegro, and Latvia, and similar to those obtained for the first five age groups in Serbia and Croatia.

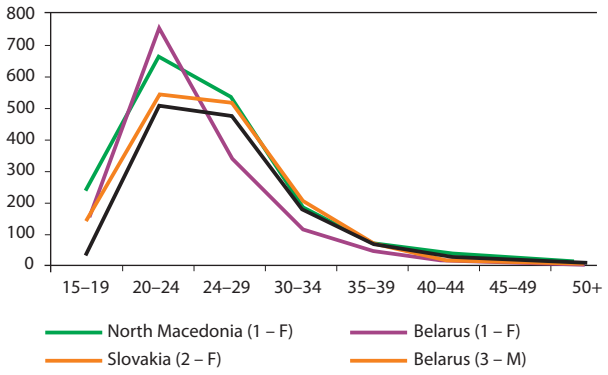
In the next step, Ward's method was used to divide the countries into groups with similar age group-specific first marriage rates in 2018. Thus, three clusters of groups for women and three for men were obtained[11]. The most similar male first marriage rates proved to be Serbia and Croatia; Latvia and Montenegro; Switzerland and Germany; Spain and Italy; and Slovenia, Netherlands, France, and Finland. In the case of female first marriage rates, they were Serbia and Montenegro; Netherlands and France; Denmark and Germany; Austria and Switzerland; Hungary and Czechia (see Fig. 2).

Let us note that the clusters of countries yielded by Ward's method and the earlier typology (Table 2) are not equivalent because Ward's method disregarded age-group sequences used by the typology, and the latter omitted first marriage rates. Even so, the clusters created by Ward's method include countries with the same or similar types of first marriage patterns (see Fig. 2).

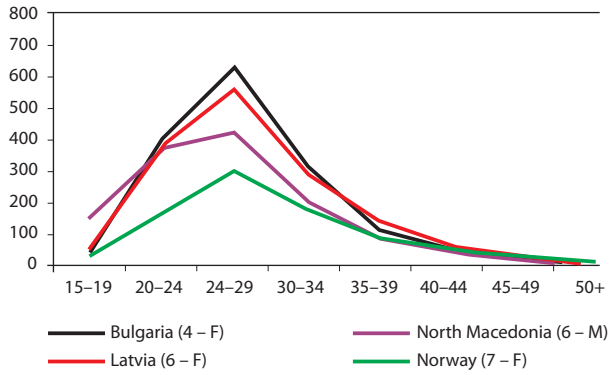
### 4.2. Quotients of male and female first marriage rates

The quotients of age group-specific male and female first marriage rates in each country in 2018 were calculated to facilitate the comparison of first male and female marriage rates (see Table 3). In all but a few countries, the female first marriage rates in the age groups 15–19, 20–24, and 25–29 years were greater than the male rates; in other age groups, it was the

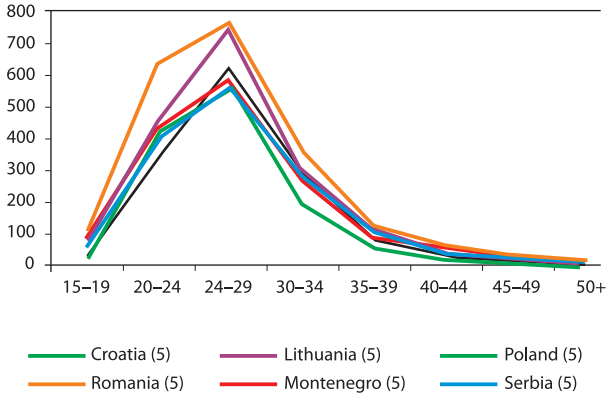
[11] The analysis of the graphs of amalgamation schedules in *Statistica* software indicated that this division of the countries in Figure 3 was optimal. The linkage distance used in creating the clusters was 0.09. Had a smaller distance been used, a greater number of more homogenous clusters would have been produced.



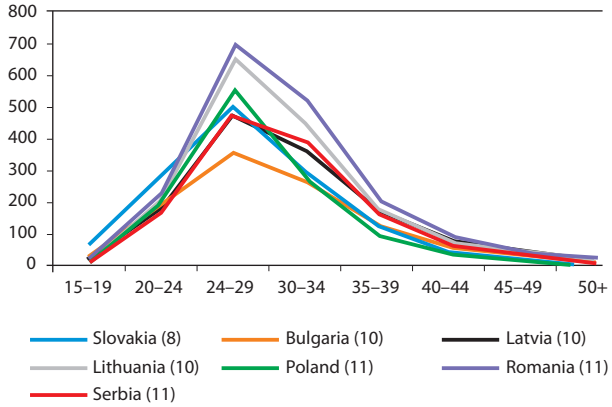

a) Categories A – B (types 1-3; males and females)



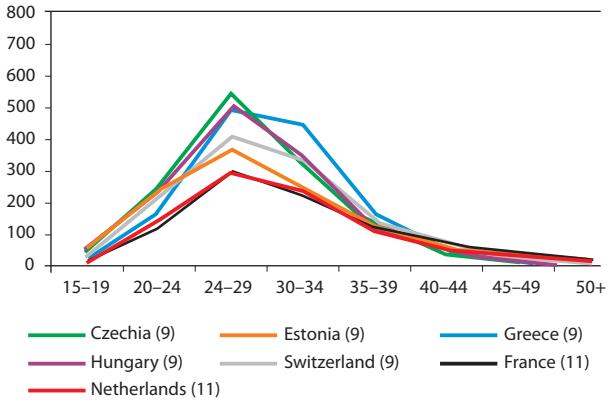

b) Category C (types 4, 6-7; males and females)



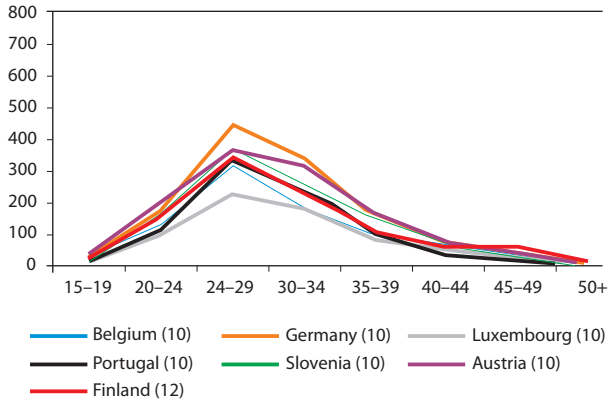

c) Category C (type 5; females)



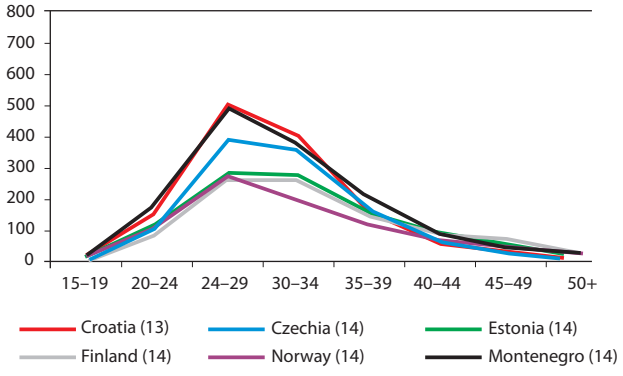

d) Category D (types 8, 10 and 11; males)



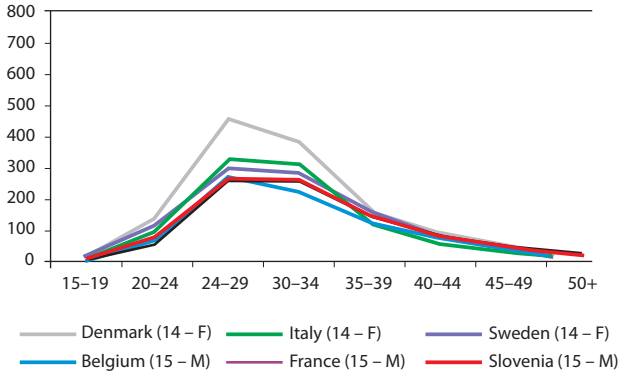

e) Category D (types 9 and 11; females)



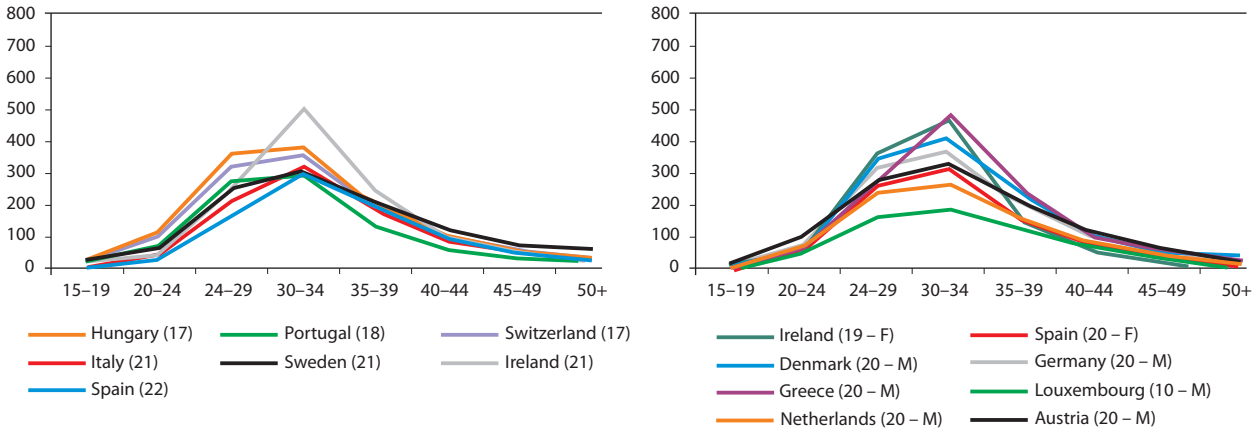

f) Category D (types 10 and 12; females)




g) Category E (types 13 and 14; males)




h) Category E (types 14 and 15; males and females)




i) Categories F – G (types 17, 18, 21 and 22; males) j) Category F (types 19 and 20; males and females)

Fig. 1. The broad categories of age-specific male and female first marriage rates in the selected European countries, 2018*.

** Austria, Belgium, Germany, France and Luxembourg – 2017 data; Ireland – 2016 data
Source: Eurostat data; created by the author.

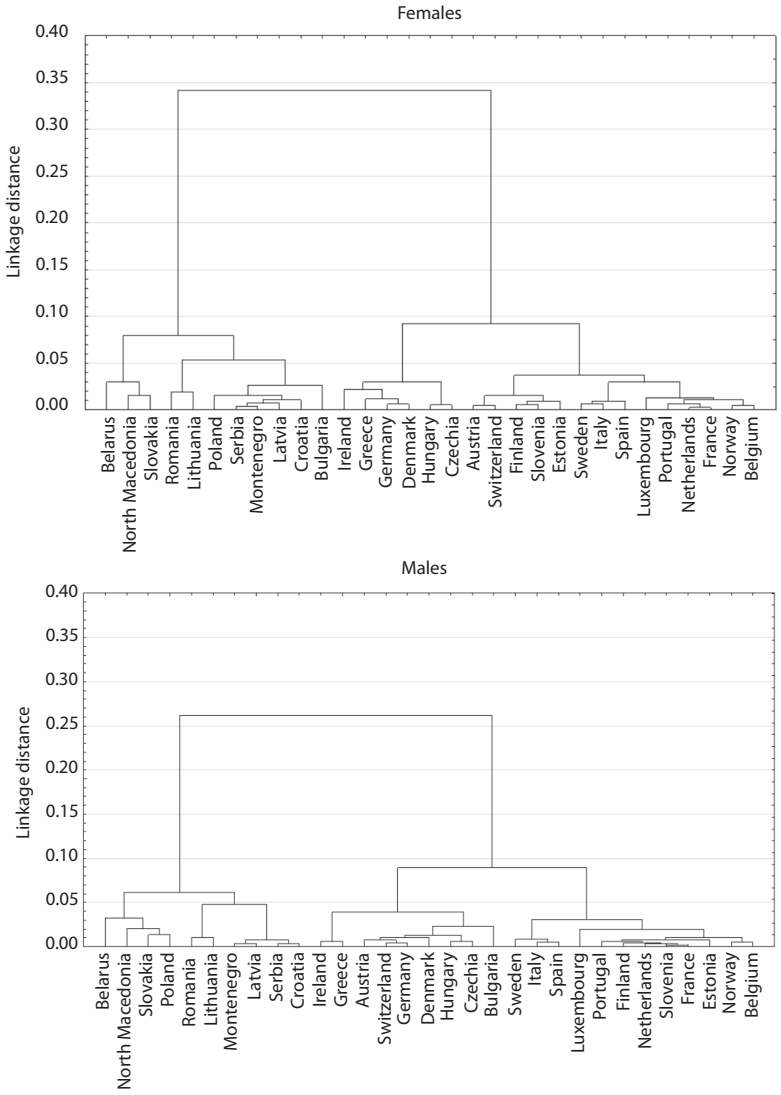



Fig. 2. Combinations of countries generated by Ward's method according to age group-specific first marriage patterns, 2018*.

* Austria, Belgium, Germany, France and Luxembourg – 2017 data – 2016 data.
Source: Eurostat data; created by the author.

Tab. 3. Quotients of male and female first marriage rates by age group, 2018*.

| | 15–19 | 20–24 | 25–29 | 30–34 | 35–39 | 40–44 | 45–49 | 50+ |
|---|---|---|---|---|---|---|---|---|
| Austria | 5.04 | 1.85 | 1.34 | 0.96 | 0.78 | 0.65 | 0.68 | 0.61 |
| Belarus | 4.44 | 1.50 | 0.73 | 0.64 | 0.71 | 0.68 | 0.49 | 0.46 |
| Belgium | 8.31 | 2.16 | 1.18 | 0.82 | 0.79 | 0.72 | 0.68 | 0.67 |
| Bulgaria | 5.11 | 1.82 | 1.16 | 0.76 | 0.69 | 0.66 | 0.48 | 0.48 |
| Croatia | 4.74 | 2.14 | 1.21 | 0.71 | 0.57 | 0.53 | 0.50 | 0.48 |
| Czechia | 6.23 | 2.31 | 1.37 | 0.89 | 0.63 | 0.53 | 0.38 | 0.33 |
| Denmark | 5.21 | 2.03 | 1.34 | 0.93 | 0.75 | 0.68 | 0.68 | 0.68 |
| Estonia | 4.65 | 2.07 | 1.29 | 0.87 | 0.80 | 0.72 | 0.55 | 0.48 |
| Finland | 2.72 | 1.81 | 1.30 | 0.91 | 0.75 | 0.71 | 0.84 | 0.52 |
| France | 7.00 | 2.00 | 1.15 | 0.86 | 0.80 | 0.79 | 0.79 | 0.69 |
| Germany | 6.74 | 2.37 | 1.40 | 0.92 | 0.72 | 0.62 | 0.67 | 0.61 |
| Greece | 4.35 | 2.97 | 1.68 | 0.92 | 0.60 | 0.46 | 0.39 | 0.37 |
| Hungary | 3.64 | 2.10 | 1.42 | 0.86 | 0.64 | 0.57 | 0.57 | 0.42 |
| Ireland | 1.53 | 1.70 | 1.50 | 0.93 | 0.68 | 0.59 | 0.52 | 0.43 |
| Italy | 7.08 | 2.79 | 1.62 | 0.98 | 0.71 | 0.71 | 0.73 | 0.64 |
| Latvia | 3.25 | 1.92 | 1.18 | 0.80 | 0.77 | 0.75 | 0.62 | 0.54 |
| Lithuania | 5.06 | 2.21 | 1.13 | 0.69 | 0.66 | 0.54 | 0.54 | 0.45 |
| Luxembourg | 2.66 | 1.89 | 1.38 | 0.97 | 0.74 | 0.75 | 0.62 | 0.73 |
| Montenegro | 9.15 | 2.40 | 1.17 | 0.72 | 0.50 | 0.66 | 0.52 | 0.41 |
| Netherlands | 5.57 | 2.12 | 1.25 | 0.87 | 0.72 | 0.69 | 0.66 | 0.60 |
| North Macedonia | 5.50 | 1.68 | 0.87 | 0.59 | 0.67 | 0.79 | 0.63 | 0.59 |
| Norway | 2.49 | 1.64 | 1.09 | 0.86 | 0.69 | 0.64 | 0.66 | 0.52 |
| Poland | 6.70 | 2.21 | 1.04 | 0.67 | 0.58 | 0.55 | 0.59 | 0.48 |
| Portugal | 2.60 | 1.83 | 1.25 | 0.87 | 0.74 | 0.69 | 0.76 | 0.76 |
| Romania | 14.31 | 2.65 | 1.09 | 0.68 | 0.62 | 0.67 | 0.73 | 0.58 |
| Serbia | 6.31 | 2.25 | 1.16 | 0.71 | 0.63 | 0.58 | 0.67 | 0.54 |
| Slovakia | 2.22 | 1.84 | 1.03 | 0.72 | 0.58 | 0.55 | 0.51 | 0.48 |
| Slovenia | 5.00 | 2.28 | 1.40 | 0.98 | 0.96 | 0.69 | 0.71 | 0.63 |
| Spain | 5.36 | 2.29 | 1.62 | 1.04 | 0.81 | 0.78 | 0.74 | 0.67 |
| Sweden | 5.85 | 2.04 | 1.31 | 0.97 | 0.80 | 0.75 | 0.79 | 0.67 |
| Switzerland | 7.82 | 2.05 | 1.28 | 0.94 | 0.75 | 0.64 | 0.66 | 0.65 |
| | | | | | | | | |
| $V_s$ | 0.46 | 0.15 | 0.16 | 0.14 | 0.13 | 0.13 | 0.18 | 0.20 |

* Austria, Belgium, Germany, France and Luxembourg –2017 data; Ireland – 2016 data; $V_s$ – coefficient of variation.
Source: Eurostat data; calculated by the author.

other way round. The exceptions were Belarus and North Macedonia, which had higher male first marriage rates in the group 25–29 years, and Spain, with the female rate in the group 30–34 years slightly exceeding the male rate.

The largest dispersion of the quotients in 2018 characterised the age group 15–19 years[12] (see Table 3) – the lowest quotient was calculated for Ireland (where the female first marriage rate was 53% higher than the male rate, both being relatively low), and the highest for Romania and Montenegro (the female first marriage rates in the two countries were 14 and 9 times higher than the male rates). The quotients calculated for Belgium, France, and Italy were rather high, but both male and female first marriage rates were relatively low.

In the majority of post-communist countries, and Greece and Ireland, the quotients obtained for age groups older than 30 years were below 1 and quite low (in all these countries, the male first marriage rates in the oldest age groups were much higher than the female rates). In Portugal, France, Spain,

[12] The dispersion of the quotients was assessed with a coefficient of variation $V_s$ calculated as a ratio between standard deviation and the arithmetic mean of quotients for a given age group across all countries.

Sweden, and Denmark, the male first marriage rates were only slightly greater than the female rates.

### 4.3. The SDTM index

The SDTM index was calculated to assess the progression of the second demographic transition in the selected countries in respect of marriage formation. That none of the countries has an index of 0 or 1 (see Figure 3) means that in none of them, all four variables making up the index had the highest or lowest values. The lowest SDTM index was obtained for North Macedonia (which had the lowest crude divorce rate, the proportion of live births outside marriage, and mean age at first marriage, but one of the highest total first marriage rates) and the highest for Sweden (with the highest mean age at first marriage and one of the greatest proportions of live births outside marriage and crude divorce rates). The progression of the second demographic transition as indicated by the SDTM index was also fairly slow in Croatia, Romania, and Serbia, while in France, Luxembourg, and Spain, it was relatively fast.

### 4.4. Correlations between the types of first marriage patterns and selected demographic and economic indicators

To assess the correlations between particular types of male and female first marriage patterns and selected demographic and economic indicators in 2018, Pearson's coefficients were calculated (see Table 4). Understandably, the correlations are strong and negative for the youngest groups and moderate and positive for the oldest groups, implying that the lower the type of first marriage patterns, the higher the first marriage rate in age groups up to 29 years, and the lower in the older groups. A similar regularity occurs in the case of age group-specific fertility rates (with the difference that the type of the first marriage pattern does not correlate with the total fertility rate). The correlations between the type of the first marriage pattern and the quotients of male and female first marriage rates in the age groups 25–29, 30–34, 35–39, 45–49 years, and older than 50 years proved positive. The types of first marriage patterns weakly, negatively, and significantly correlated with the crude marriage rates but not with the crude divorce rates. Positive and significant correlations were also obtained for the types of first marriage patterns and women's mean age at childbirth (total and at first birth), the proportion of the population aged 85 years and over, the median age of the male population, the duration of working life,

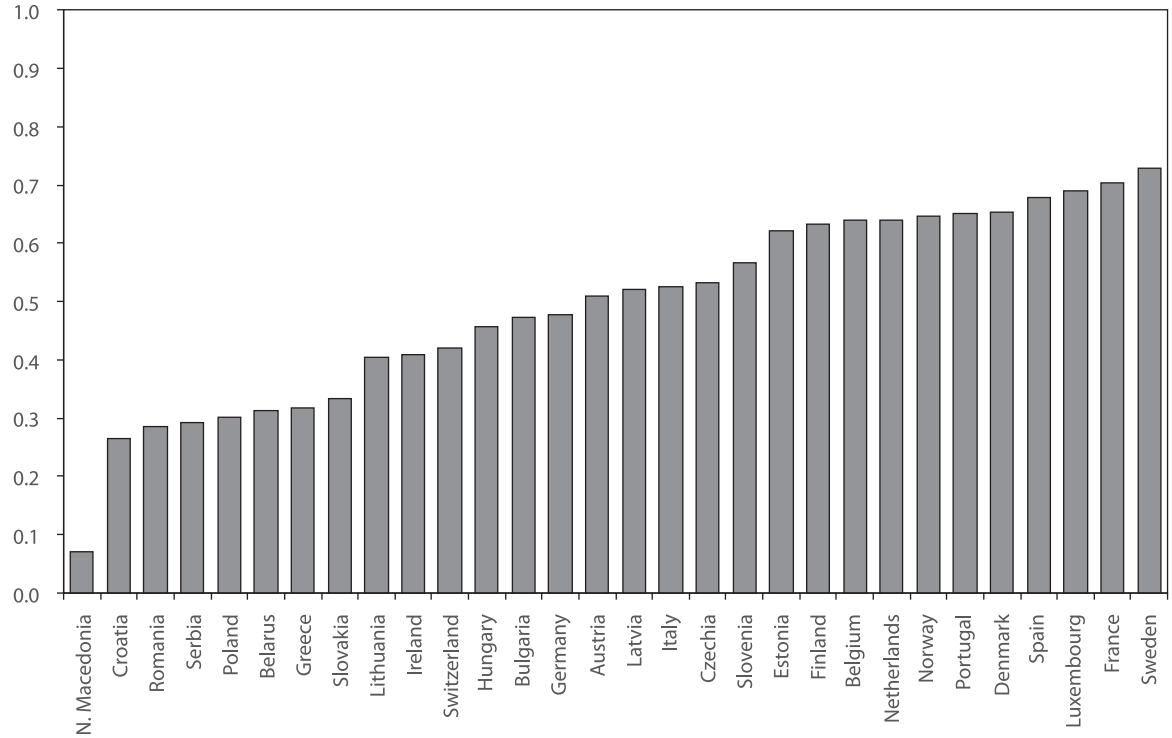



Fig. 3. European countries arranged by SDTM index, 2018[12].

Source: Eurostat data; created by the author.

[13] Total first marriage rates, the proportion of live births outside marriage and mean age at first marriage are detailed in Tables A1 and A2 in the Appendix. Crude divorce rates for Belgium, Germany, Greece, and Ireland were calculated using 2017 data and for France with 2016 data. Data on Montenegro were not available.

the gross domestic product, and the SDTM index. All results are acceptable.

## 5. Discussion and conclusions

Ordering the male and female first marriage rates for each of the eight age groups in the 31 European countries in 2010 and 2018 from the highest to the lowest produced 22 types of first marriage patterns. The analysis of the first three age groups from each type allowed seven main categories of first marriage patterns to be created.

In the majority of European countries, the mean age at first marriage was older in 2018 than in 2010. The predominant types of male first marriage patterns in 2018 were type 20 (with the highest first marriage rates in age groups 30–34 years, 25–29, and 35–39 years) and type 14 (age groups 25–29, 30–34, and 35–39, respectively). As for the types of female first marriage rates, type 5 (age groups 25–29, 20–24, and 30–34 years) and types 9 and 10 (age groups 25–29, 30–34, 20–24) occurred in most countries.

Countries in Central and Eastern Europe are very different from the rest of the continent regarding the types of first marriage patterns. In 2018, the youngest types occurred in post-communist countries (especially in Belarus and Macedonia) and the oldest ones in Spain, Ireland, Denmark, Italy, and Sweden (both male and female), and in the Netherlands, Luxembourg, Greece, Portugal, Switzerland, Germany, and Austria (male). These western European countries also had the highest mean age at first marriage and the highest mean age of first-time mothers.

Older types of first marriage patterns are characteristic of countries that are stronger economically and/or where the second demographic transition takes place at a faster pace. The group of countries where the second demographic transition is the least advanced according to marriage formation includes North Macedonia, Croatia, Romania and Serbia. The countries where it is the most advanced are Sweden, France, Luxembourg, and Spain.

The statistical analysis showed that in the age groups up to 30 years of age, the types of male and female first marriage patterns negatively and significantly correlated with first marriage rates, first fertility rates, and crude marriage rates. At the same time, they were positively and significantly associated with first marriage rates and first fertility rates in older age groups, the quotients of female and

Tab. 4. Pearson's correlation coefficients* between the types of male and first marriage patterns and selected demographic and economic indicators in 2018**.

| Indicator | Type – females | Type – males |
|---|---|---|
| FFMR (15–19) | -0.75 | -0.79 |
| FFMR (20–24) | -0.86 | -0.89 |
| FFMR (25–29) | -0.57 | -0.50 |
| FFMR (30–34) | 0.49 | 0.55 |
| FFMR (35–39) | 0.70 | 0.70 |
| FFMR (40–44) | 0.65 | 0.61 |
| FFMR (45–49) | 0.52 | 0.44 |
| FFMR (50+) | 0.48 | 0.47 |
| MFMR (15–19) | -0.64 | -0.70 |
| MFMR (20–24) | -0.82 | -0.90 |
| MFMR (25–29) | -0.77 | -0.76 |
| MFMR (30–34) | 0.07 | 0.12 |
| MFMR (35–39) | 0.52 | 0.61 |
| MFMR (40–44) | 0.64 | 0.69 |
| MFMR (45–49) | 0.54 | 0.50 |

| Indicator (cont.) | Type – females | Type – males |
|---|---|---|
| MFMR (50+) | 0.46 | 0.45 |
| F/M (15–19) | -0.14 | -0.07 |
| F/M (20–24) | 0.16 | 0.34 |
| F/M (25–29) | 0.78 | 0.86 |
| F/M (30–34) | 0.86 | 0.88 |
| F/M (35–39) | 0.49 | 0.32 |
| F/M (40–44) | 0.27 | 0.09 |
| F/M (45–49) | 0.41 | 0.31 |
| F/M (50+) | 0.37 | 0.39 |
| TFR | 0.09 | -0.02 |
| FR (15–19) | -0.52 | -0.53 |
| FR (20–24) | -0.69 | -0.82 |
| FR (25–29) | -0.39 | -0.43 |
| FR (30–34) | 0.56 | 0.61 |
| FR (35–39) | 0.83 | 0.80 |

| Indicator (cont.) | Type – females | Type – males |
|---|---|---|
| FR (40–44) | 0.83 | 0.75 |
| FR (45–49) | 0.61 | 0.63 |
| CMR | -0.52 | -0.57 |
| CDR | 0.07 | 0.03 |
| MAWC | 0.80 | 0.85 |
| MAWFC | 0.77 | 0.89 |
| PROP (0–14) | 0.22 | -0.01 |
| PROP (65+) | 0.23 | 0.29 |
| PROP (85+) | 0.52 | 0.54 |
| MAM | 0.29 | 0.45 |
| MAF | -0.05 | 0.02 |
| DWL | 0.37 | 0.38 |
| GDP | 0.49 | 0.58 |
| SDTM index | 0.65 | 0.58 |
| | | |

Note: FFMR and MFMR – female and male first marriage rates by age group; F/M – quotient of female and male first marriage rates in an age group; TFR – total fertility rate; CMR – crude marriage rate (per 1,000 population); CDR – crude divorce rate (per 1,000 population); FR – fertility rate in an age group; MAWC –mean age of women at childbirth; MAWFC – mean age of women at first birth; PROP – an age group's share of the total population; MAM – median age of the male population; MAF – median age of the female population; DWL – duration of working life (males and females); GDP – gross domestic product, market prices (current prices, euro per capita).

* Values in red are statistically significant ($p < 0.05$).

** For Austria, Belgium, Germany, France, and Luxembourg, all indicators were calculated with 2017 data; for Ireland with 2016 data; German CMR and French CDR were calculated using 2016 data. Data on Belarussian GDP and DWL were not available.

Source: Eurostat data; calculated by the author in *Statistica 13* software.

male first marriage rates in age groups older than 25 years, the mean age of women at birth (total and at first childbirth), the SDTM index, the proportion of the population aged 85 years and over, the median age of the male population, the duration of working life, and the gross domestic product.

Family formation patterns change under the influence of many factors, such as the wealth of society, governments' family policies, the history of a country, and long-established social norms. While post-communist countries are still characterised by younger types of first marriage patterns than other countries in Europe, in these countries, too, employment uncertainties and educational aspirations of populations, etc., mean that marriages are entered into at ever later age. Another notable factor in marriage formation in this part of Europe is tradition, whose influence is especially prominent in Belarus, Ukraine, Albania, North Macedonia, and Montenegro. In Bulgaria and Romania, the decisions to get married are in many cases determined by the ethnicity of the potential spouse. In countries such as Germany, Austria, Italy, and Spain, marriage and childbirth are delayed by economic circumstances, government support for working mothers being perceived as insufficient (the most effective in that respect are governments in France and the Nordic countries), and the dominant worldviews (see, e.g., Bueno, Brinton, 2018; Delgado et al., 2008; Frejka, Gietel-Basten, 2016; Gjonca et al., 2008; Gordo, 2009; Holland, Keizer, 2015; Koteski et al., 2014; Koytcheva, Philipov, 2008; Mureşan et al., 2008; Perelli-Harris, 2008; Prskawetz et al., 2008; Sobotka, Toulemon, 2008; Thévenon, 2011; Toulemon et al., 2008).

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## Appendix

Tab. A1. Crude marriage rate (per 1,000 population), total first marriage rates, live births outside marriage (%), and mean age of women at first childbirth (years) in selected European countries, 2000, 2010, and 2018.

| | Crude marriage rate (per 1,000 population)* | | | Total first marriage rates** | | | | | | Proportion of live births outside marriage*** | | Mean age of women at first childbirth **** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Males | | | Females | | | | | | |
| | 2000 | 2010 | 2018 | 2000 | 2010 | 2018 | 2000 | 2010 | 2018 | 2010 | 2018 | 2010 | 2018 |
| Austria | 4.9 | 4.5 | 5.3 | 0.51 | 0.50 | 0.59 | 0.55 | 0.51 | 0.63 | 40.1 | 41.3 | 28.2 | 29.5 |
| Belarus | : | 8.1 | 6.4 | : | 0.86 | 0.66 | : | 0.91 | 0.73 | 19.6 | 13.0 | 24.9 | 25.8 |
| Belgium | 4.4 | 3.9 | 3.9 | 0.48 | 0.43 | 0.42 | 0.51 | 0.45 | 0.43 | 45.7 | 49.0 | 28.0 | 29.0 |
| Bulgaria | 4.3 | 3.3 | 4.1 | 0.50 | 0.39 | 0.55 | 0.52 | 0.44 | 0.64 | 54.1 | 58.5 | 25.6 | 26.2 |
| Croatia | 4.9 | 5.0 | 4.9 | : | 0.66 | 0.67 | : | 0.71 | 0.72 | 13.3 | 20.7 | 27.5 | 28.8 |
| Czechia | 5.4 | 4.5 | 5.1 | 0.49 | 0.42 | 0.56 | 0.50 | 0.47 | 0.63 | 40.3 | 48.5 | 27.6 | 28.4 |
| Denmark | 7.2 | 5.6 | 5.6 | 0.71 | 0.66 | 0.66 | 0.74 | 0.68 | 0.67 | 47.3 | 54.2 | 29.0 | 29.5 |
| Estonia | 3.9 | 3.8 | 5.0 | 0.37 | 0.38 | 0.49 | 0.38 | 0.41 | 0.55 | 59.1 | 54.1 | 26.3 | 27.7 |
| Finland | 5.1 | 5.6 | 4.3 | 0.60 | 0.64 | 0.48 | 0.63 | 0.70 | 0.50 | 41.1 | 44.6 | 28.3 | 29.2 |
| France | 5.0 | 3.9 | 3.5 | 0.59 | 0.49 | 0.47 | 0.61 | 0.49 | 0.46 | 55.0 | 60.4 | 28.1 | 28.7 |
| Germany | 5.1 | 4.7 | 4.9 | 0.53 | 0.53 | 0.58 | 0.59 | 0.56 | 0.62 | 33.3 | 33.9 | 28.9 | 29.7 |
| Greece | 4.5 | 5.1 | 4.4 | 0.51 | 0.59 | 0.62 | 0.54 | 0.66 | 0.68 | 7.3 | 11.1 | 29.1 | 30.4 |
| Hungary | 4.7 | 3.6 | 5.2 | 0.48 | 0.36 | 0.60 | 0.49 | 0.39 | 0.66 | 40.8 | 43.9 | 27.7 | 28.2 |
| Iceland | 6.3 | 4.9 | : | 0.71 | 0.53 | : | 0.72 | 0.54 | : | 64.3 | 70.5 | 26.9 | 28.3 |
| Ireland | 5.0 | 4.5 | 4.3 | : | 0.52 | 0.58 | : | 0.51 | 0.56 | 33.8 | 37.9 | 29.2 | 30.5 |
| Italy | 5.0 | 3.7 | 3.2 | 0.60 | 0.50 | 0.46 | 0.65 | 0.54 | 0.50 | 21.8 | 34.0 | 30.6 | 31.2 |
| Latvia | 3.9 | 4.4 | 6.8 | 0.44 | 0.45 | 0.69 | 0.45 | 0.46 | 0.76 | 44.4 | 39.5 | 26.0 | 27.2 |
| Lithuania | 4.8 | 6.0 | 7.0 | 0.55 | 0.71 | 0.80 | 0.56 | 0.72 | 0.86 | 25.7 | 26.4 | 26.4 | 27.8 |
| Luxembourg | 4.9 | 3.5 | 3.1 | 0.50 | 0.35 | 0.31 | 0.55 | 0.39 | 0.34 | 34.0 | 39.5 | 29.5 | 30.9 |
| Montenegro | : | 5.9 | 5.3 | : | 0.82 | 0.71 | : | 0.83 | 0.78 | 15.7 | : | 26.3 | : |
| Netherlands | 5.5 | 4.5 | 3.7 | 0.55 | 0.52 | 0.44 | 0.60 | 0.53 | 0.44 | 44.3 | 51.9 | 29.2 | 30.0 |
| North Macedonia | 7.0 | 6.9 | 6.5 | 0.81 | 0.78 | 0.79 | 0.84 | 0.84 | 0.88 | 12.2 | 12.1 | 26.0 | 26.9 |
| Norway | 5.0 | 4.8 | 4.3 | 0.48 | 0.54 | 0.44 | 0.51 | 0.51 | 0.43 | 54.8 | 56.4 | 28.0 | 29.5 |
| Poland | 5.5 | 6.0 | 5.1 | 0.65 | 0.66 | 0.60 | 0.65 | 0.70 | 0.66 | 20.6 | 26.4 | 26.5 | 27.4 |
| Portugal | 6.2 | 3.8 | 3.4 | 0.70 | 0.43 | 0.44 | 0.71 | 0.44 | 0.45 | 41.3 | 55.9 | 28.1 | 29.8 |
| Romania | 6.1 | 5.7 | 7.4 | 0.61 | 0.70 | 0.94 | 0.64 | 0.77 | 1.07 | 27.7 | 30.9 | 25.5 | 26.7 |
| Serbia | 5.7 | 4.9 | 5.2 | 0.73 | 0.62 | 0.68 | 0.75 | 0.67 | 0.74 | 24.0 | 26.8 | 26.9 | 28.1 |
| Slovakia | 4.8 | 4.7 | 5.7 | 0.51 | 0.49 | 0.68 | 0.52 | 0.53 | 0.77 | 33.0 | 40.0 | 27.0 | 27.1 |
| Slovenia | 3.6 | 3.2 | 3.5 | 0.43 | 0.37 | 0.45 | 0.45 | 0.42 | 0.53 | 55.7 | 57.7 | 28.4 | 28.8 |
| Spain | 5.4 | 3.6 | 3.5 | 0.60 | 0.37 | 0.43 | 0.63 | 0.41 | 0.46 | 35.5 | 47.3 | 29.8 | 31.0 |
| Sweden | 4.5 | 5.3 | 5.0 | 0.51 | 0.59 | 0.55 | 0.53 | 0.66 | 0.55 | 54.2 | 54.5 | 28.9 | 29.3 |
| Switzerland | 5.5 | 5.5 | 4.8 | 0.59 | 0.62 | 0.55 | 0.65 | 0.66 | 0.60 | 18.6 | 25.7 | 30.0 | 30.9 |
| Ukraine | : | 6.7 | 5.4 | : | 0.63 | : | : | 0.68 | : | 21.9 | 20.5 | 24.4 | 25.4 |

Note: ":" stands for 'data not available'.

* Belgium, France and Germany – 2000, 2010, and 2017 data.

** Belarus – 2011 and 2018 data; Belgium and France – 2000, 2010, and 2017 data; Germany – 2000, 2009, and 2017 data; Ireland – 2010 and 2016 data; Latvia – 2002, 2010, and 2018 data; Montenegro – 2009 and 2018 data.

*** Belgium – 2000, 2010, and 2016 data; Cyprus – 2000, 2010, and 2017 data; Montenegro – 2009 data.

**** Belarus – 2009 and 2018 data; Denmark – 2012 and 2018 data; France – 2013 and 2018 data; Italy – 2013 and 2018 data; Montenegro – 2009 data.

Source: Eurostat data; calculated by the author.

Tab. A2. First marriages and mean ages at first marriage in selected European countries, 2000, 2010 and 2018.

| | First marriages (%)* | | | | | | Mean age at first marriage (years)** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Males | | | Females | | | Males | | | Females | | |
| | 2000 | 2010 | 2018 | 2000 | 2010 | 2018 | 2000 | 2010 | 2018 | 2000 | 2010 | 2018 |
| Austria | 76.2 | 74.6 | 77.6 | 77.0 | 76.4 | 78.7 | 30.0 | 32.5 | 34.2 | 27.4 | 29.9 | 31.5 |
| Belarus | : | 75.4 | 70.0 | : | 75.4 | 67.8 | : | 26.8 | 27.5 | : | 24.4 | 25.1 |
| Belgium | 74.7 | 72.2 | 70.0 | 75.7 | 73.6 | 70.6 | 29.1 | 31.7 | 33.5 | 26.9 | 29.4 | 31.2 |
| Bulgaria | 87.0 | 86.0 | 86.2 | 87.8 | 87.8 | 86.9 | 28.5 | 29.8 | 30.8 | 24.7 | 26.6 | 27.5 |
| Croatia | 90.7 | 91.2 | 87.6 | 91.0 | 91.6 | 87.4 | 28.5 | 30.0 | 31.0 | 25.4 | 27.1 | 28.3 |
| Czechia | 74.8 | 73.6 | 75.9 | 75.1 | 74.3 | 76.4 | 27.6 | 30.8 | 31.9 | 24.6 | 27.9 | 29.2 |
| Denmark | 72.7 | 75.1 | 75.0 | 71.7 | 74.7 | 74.9 | 32.5 | 33.6 | 34.9 | 29.9 | 31.2 | 32.5 |
| Estonia | : | 73.2 | 70.3 | : | 74.5 | 69.7 | 28.1 | 30.5 | 32.8 | 25.2 | 28.0 | 29.9 |
| Finland | 78.3 | 74.1 | 72.0 | 77.3 | 77.0 | 70.8 | 30.5 | 32.5 | 34.3 | 28.3 | 30.2 | 31.7 |
| France | 81.5 | 79.4 | 80.1 | 82.6 | 80.8 | 81.3 | 30.7 | 32.8 | 34.9 | 28.4 | 30.7 | 32.8 |
| Germany | 74.2 | 73.9 | 76.3 | 73.0 | 74.3 | 76.6 | 30.5 | 32.5 | 34.0 | 27.7 | 29.8 | 31.2 |
| Greece | 87.5 | 87.5 | 86.6 | 89.2 | 88.8 | 87.4 | 31.1 | 32.6 | 33.4 | 27.2 | 29.3 | 30.3 |
| Hungary | 79.0 | 76.2 | 77.9 | 79.6 | 77.1 | 78.7 | 27.6 | 31.2 | 32.4 | 24.8 | 28.3 | 29.6 |
| Ireland | : | 91.9 | 89.7 | : | 93.7 | 91.5 | : | 33.1 | 33.8 | : | 31.3 | 31.9 |
| Italy | 93.2 | 89.9 | 86.1 | 94.6 | 91.2 | 87.6 | 30.9 | 33.2 | 35.2 | 27.8 | 30.3 | 32.4 |
| Latvia | 70.3 | 72.0 | 68.3 | 70.5 | 74.4 | 68.2 | 27.2 | 29.4 | 31.8 | 25.0 | 27.1 | 29.2 |
| Lithuania | 78.4 | 78.6 | 76.1 | 79.7 | 80.0 | 75.3 | 26.1 | 28.7 | 30.7 | 23.8 | 26.5 | 28.2 |
| Luxembourg | 75.9 | 73.9 | 74.9 | 76.7 | 78.5 | 78.8 | 30.3 | 32.8 | 34.0 | 27.4 | 30.2 | 31.6 |
| Montenegro | : | 93.5 | 92.4 | : | 95.6 | 93.9 | : | 31.3 | 31.9 | : | 26.7 | 28.3 |
| Netherlands | 80.0 | 74.1 | 74.5 | 81.8 | 74.7 | 73.9 | 30.7 | 32.4 | 34.1 | 28.0 | 29.8 | 31.6 |
| North Macedonia | 91.7 | 90.5 | 91.8 | 93.7 | 92.9 | 93.0 | 26.8 | 28.2 | 28.9 | 23.7 | 25.2 | 26.0 |
| Norway | 80.3 | 77.6 | 73.6 | 80.3 | 69.7 | 68.6 | 30.9 | 33.7 | 33.1 | 28.4 | 30.8 | 30.5 |
| Poland | 90.0 | 89.1 | 85.5 | 90.5 | 89.5 | 85.0 | 26.5 | 28.4 | 29.8 | 24.1 | 26.1 | 27.4 |
| Portugal | 90.0 | 80.6 | 75.4 | 92.3 | 83.3 | 78.0 | 27.4 | 29.9 | 32.9 | 25.2 | 27.7 | 31.1 |
| Romania | 85.0 | 86.3 | 85.7 | 85.8 | 86.7 | 84.3 | 27.3 | 29.0 | 31.8 | 23.7 | 25.6 | 28.4 |
| Serbia | 86.3 | 87.6 | 85.3 | 87.6 | 88.8 | 86.0 | 28.8 | 30.5 | 31.4 | 25.3 | 27.2 | 28.4 |
| Slovakia | 87.9 | 86.0 | 85.2 | 89.7 | 88.0 | 86.0 | 26.9 | 30.0 | 29.2 | 24.1 | 27.2 | 26.5 |
| Slovenia | 90.2 | 88.8 | 88.1 | 90.2 | 89.8 | 88.7 | 29.9 | 31.7 | 33.7 | 27.0 | 29.0 | 31.2 |
| Spain | 93.4 | 85.1 | 81.0 | 94.6 | 86.6 | 82.3 | 30.2 | 33.1 | 35.6 | 28.1 | 30.9 | 33.5 |
| Sweden | 73.9 | 72.1 | 74.5 | 78.0 | 77.8 | 71.2 | 33.0 | 35.6 | 36.7 | 30.4 | 32.7 | 34.0 |
| Switzerland | 76.6 | 76.7 | 79.5 | 79.3 | 79.4 | 82.2 | 30.8 | 32.2 | 32.9 | 28.2 | 29.8 | 30.5 |
| Ukraine | : | 75.8 | 72.2 | : | 76.6 | 70.5 | : | 27.1 | : | : | 24.0 | : |

Note: ":" stands for data not available.

* Belarus – 2009 and 2018 data; Belgium and France – 2000, 2010, and 2017 data; Cyprus – 2000, 2009, and 2018 data; Germany and Ireland – 2000, 2010, and 2016 data; Moldavia – 2010 and 2016 data.

** Austria and Germany – 2000, 2009, and 2017 data; Belarus – 2011 and 2018 data; Belgium, France, and Luxembourg – 2000, 2010, and 2017 data; Croatia – 2001, 2010, and 2018 data; Ireland – 2010 and 2016 data; Latvia – 2002, 2010, and 2018 data; Montenegro – 2009 and 2018 data.

Source: Eurostat data; calculated by the author.

Tab. A3. CFMR for first five age groups with the highest marriage frequencies in European countries, 2018*.

| Specification | WOMEN | | | | | MEN | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1 – 2 | 1 – 3 | 1 – 4 | 1 – 5 | 1 | 1 – 2 | 1 – 3 | 1 – 4 | 1 – 5 |
| Austria | 0.19 | 0.34 | 0.44 | 0.52 | 0.56 | 0.16 | 0.30 | 0.41 | 0.47 | 0.52 |
| Belarus | 0.38 | 0.55 | 0.63 | 0.69 | 0.71 | 0.25 | 0.49 | 0.58 | 0.62 | 0.64 |
| Belgium | 0.16 | 0.25 | 0.32 | 0.37 | 0.40 | 0.13 | 0.25 | 0.31 | 0.35 | 0.38 |
| Bulgaria | 0.21 | 0.39 | 0.49 | 0.56 | 0.61 | 0.18 | 0.32 | 0.42 | 0.48 | 0.52 |
| Croatia | 0.31 | 0.48 | 0.62 | 0.66 | 0.69 | 0.25 | 0.45 | 0.53 | 0.61 | 0.64 |
| Czechia | 0.27 | 0.43 | 0.55 | 0.61 | 0.62 | 0.20 | 0.37 | 0.46 | 0.51 | 0.54 |
| Denmark | 0.23 | 0.42 | 0.51 | 0.58 | 0.61 | 0.20 | 0.38 | 0.49 | 0.55 | 0.58 |
| Estonia | 0.18 | 0.30 | 0.42 | 0.48 | 0.52 | 0.14 | 0.28 | 0.36 | 0.42 | 0.46 |
| Finland | 0.17 | 0.29 | 0.37 | 0.42 | 0.45 | 0.13 | 0.26 | 0.33 | 0.37 | 0.41 |
| France | 0.15 | 0.26 | 0.32 | 0.38 | 0.41 | 0.13 | 0.26 | 0.33 | 0.37 | 0.40 |
| Germany | 0.22 | 0.39 | 0.48 | 0.55 | 0.58 | 0.18 | 0.34 | 0.44 | 0.49 | 0.53 |
| Greece | 0.25 | 0.47 | 0.55 | 0.63 | 0.65 | 0.24 | 0.39 | 0.52 | 0.56 | 0.59 |
| Hungary | 0.25 | 0.42 | 0.53 | 0.60 | 0.62 | 0.19 | 0.37 | 0.47 | 0.52 | 0.56 |
| Ireland | 0.23 | 0.41 | 0.49 | 0.52 | 0.54 | 0.25 | 0.37 | 0.49 | 0.53 | 0.55 |
| Italy | 0.16 | 0.32 | 0.38 | 0.43 | 0.46 | 0.16 | 0.26 | 0.35 | 0.39 | 0.41 |
| Latvia | 0.28 | 0.47 | 0.61 | 0.68 | 0.71 | 0.24 | 0.42 | 0.52 | 0.61 | 0.65 |
| Lithuania | 0.37 | 0.60 | 0.75 | 0.81 | 0.83 | 0.33 | 0.55 | 0.66 | 0.74 | 0.78 |
| Luxembourg | 0.10 | 0.17 | 0.22 | 0.26 | 0.28 | 0.09 | 0.17 | 0.23 | 0.26 | 0.29 |
| Montenegro | 0.29 | 0.50 | 0.64 | 0.69 | 0.73 | 0.25 | 0.44 | 0.53 | 0.62 | 0.66 |
| Netherlands | 0.15 | 0.26 | 0.33 | 0.38 | 0.41 | 0.13 | 0.25 | 0.33 | 0.37 | 0.40 |
| North Macedonia | 0.33 | 0.60 | 0.72 | 0.81 | 0.85 | 0.31 | 0.51 | 0.67 | 0.72 | 0.75 |
| Norway | 0.15 | 0.24 | 0.32 | 0.37 | 0.39 | 0.14 | 0.24 | 0.30 | 0.35 | 0.39 |
| Poland | 0.29 | 0.50 | 0.60 | 0.63 | 0.64 | 0.28 | 0.42 | 0.52 | 0.57 | 0.59 |
| Portugal | 0.17 | 0.29 | 0.35 | 0.40 | 0.42 | 0.14 | 0.28 | 0.35 | 0.38 | 0.41 |
| Romania | 0.38 | 0.69 | 0.87 | 0.93 | 0.99 | 0.35 | 0.61 | 0.73 | 0.83 | 0.88 |
| Serbia | 0.28 | 0.48 | 0.62 | 0.67 | 0.70 | 0.24 | 0.44 | 0.53 | 0.61 | 0.64 |
| Slovakia | 0.27 | 0.53 | 0.64 | 0.71 | 0.75 | 0.25 | 0.40 | 0.55 | 0.61 | 0.64 |
| Slovenia | 0.19 | 0.31 | 0.39 | 0.47 | 0.49 | 0.13 | 0.26 | 0.34 | 0.38 | 0.41 |
| Spain | 0.16 | 0.28 | 0.36 | 0.40 | 0.43 | 0.15 | 0.25 | 0.33 | 0.37 | 0.39 |
| Sweden | 0.15 | 0.29 | 0.38 | 0.44 | 0.48 | 0.15 | 0.26 | 0.37 | 0.42 | 0.46 |
| Switzerland | 0.20 | 0.37 | 0.47 | 0.54 | 0.56 | 0.18 | 0.33 | 0.43 | 0.47 | 0.51 |

* Austria, Belgium, Germany, France, and Luxembourg – 2017 data; Ireland – 2016 data

Source: Eurostat data; calculated by the author.