RECENT CHANGES IN MARRIAGE FORMATION AND DISSOLUTION BEHAVIOUR IN CZECHIA

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Abstract

Marriage formation and dissolution behaviours have changed significantly over time in Czechia. This article studies in greater detail the marital behaviour changes observed in the period 1993–2022 using the LIPRO 4.0 multistate programme, which allows for a detailed analysis of changes in life expectancy according to years spent in each marital state, marriage formation and dissolution behaviours, and the average ages at the time of different marital status events. The probabilities for the transition to the divorced and to the remarried state at selected ages are also presented, along with a status-quo projection of the Czech population until 2030. The results indicate the continued postponement of marriage and subsequent marital events. Czechs have been spending an increasing time never-married since the establishment of Czechia. However, recent improvements in first marriage and remarriage rates at the same time as declining divorce rates since 2019 suggest a renewed interest in marriage. Despite these positive developments, the population projection indicates a continued increase in the never-married population.

INTRODUCTION

Demographic shifts in nuptiality and marital behaviour observed in Czechia[2] have coincided with major historical and political events that have had a significant impact on the social and economic circumstances of the Czech population, which in turn shaped their behaviours. During the period of state socialism, increases in nuptiality and fertility aligned with periods of a more favourable population climate, such as when people born during the post-war baby-boom reached marriage age and various pronatal measures were implemented to support young people. Decreases, on the other hand, correlated with the deteriorating economic situations in the 1950s and 1960s (*Fialova*, 2006; *Frejka*, 2008). The period from the end of the Second World War (WWII) to the start of the 1970s is regarded as the era of the nuclear family. The attitude in society was that most people wished to marry at least once, which was supported by the continuously high prestige associated with marriage and parenthood. This sentiment was reflected in early and frequent marriage, as illustrated in Graph 1, and in the small percentage of extramarital births (*Fialova*, 2006; *Rychtaříková*, 2018). Marriage at a relatively young age was facilitated by, among other factors, the full employment rate and the lowering

of the age of marital consent from 21 to 18 years in 1950 (*Fialova*, 2006). Welfare measures in the late 1960s and early 1970s, including state loans for newlyweds under 30 years of age to help them obtain housing, helped to further increase an already elevated first-marriage rate (*Frejka*, 1980; *Rychtaříková*, 2018). Contemporary primo-nuptiality life tables show that 90% of men and 96% of women were married before age 30. The peak in the number of marriages in the 1970s further coincided with people born in the post-war baby-boom reaching peak marriage age, which was very young, at an average of 24 to 25 years for men and 21 to 22 years for women (*Fialova*, 2006; *Rychtaříková*, 2018).

During state socialism, divorces could be obtained relatively easily, though divorce by mutual consent was not yet possible. Nevertheless, positive attitudes towards marriage coupled with incentives meant that divorced individuals would typically remarry quickly. Consequently, consensual unions and lone motherhood remained uncommon (*Fialova*, 2006; *Kučera*, 2008). The participation of women in the workforce granted them a certain degree of economic independence and facilitated the expansion of their social contacts. The chronic lack of necessary childcare facilities and other services, poor housing, the double burden for women of holding a job and managing the household worsened the situation at home, which contributed to the increasing divorce rate before 1989 (*Rychtaříková*, 2018; *Křesťanová*, 2020). In 1950, 12.1% of marriages ended in divorce, which increased to 20.3% in 1965 after the aforementioned change in law, and by 1989, as Graph 1 shows, 37.1% of marriages ended in divorce (*Czech Statistical Office*, 2022).

The trend in mortality lagged increasingly behind Western European countries. From the middle of the 1960s, mortality conditions deteriorated. The healthcare system was under-financed, and the population's lifestyle was largely unhealthy, with smoking, alcoholism, and a poor diet being commonplace, which exacerbated the situation. Between 1970 and 1990, the life expectancy of men and women had only improved by 1.4 and 3.0 years, respectively. With a widening life expectancy gap between men and women, there were significantly more widows than widowers by 1991 (*Kučera*, 2008; *Rychtaříková*, 2018).

In 1989 the state-socialist era ended in Czechia. This was also the last year that marital behaviour exhibited the 'traditional' features (*Rychtaříková*, 2018) of high nuptiality and young age at first marriage, which was swiftly followed by the birth of usually two children, and high abortion, divorce, and death rates (*Rabušic*, 1996; *Kučera*, 2008). The change in the political system in 1989 did not immediately affect the marriage rate. As a pragmatic response to new policies (such as newlywed loans only being provided until the end of 1990), the number of marriages in fact slightly increased in 1990, but this increase was short lived, and the number of marriages started to decrease steadily afterwards. The intensity of (first) marriage among younger people in particular declined rapidly (*Fialova*, 2006; *Křesťanová*, 2020). The period since the founding of Czechia has been marked by the postponement of marriage and childbearing, declining marriage rates, and the rise of alternative living arrangements, as indicated by the increasing number of extra-marital births (*Sobotka – Zeman – Kantorová*, 2003). The aim of this contribution is to further study and understand the changes and processes of marriage formation and dissolution since the Czech Republic was established in 1993.

UNDERLYING THEORETICAL CONCEPTS

While in Czechia traditional nuptiality patterns still prevailed, a distinct shift in family behaviour started to emerge in northwestern Europe in the 1960s and 1970s, such as the marked postponement of marriage and fertility and an increase in non-marital cohabitation and divorce. These changes were summarised as features of the 'second demographic transition' (SDT) by Ron Lesthaege and Dirk van de Kaa. The SDT is set apart from the first demographic transition (FDT) in that it is driven by societal changes that lead to demographic changes. For instance, the FDT was defined by early and universal marriage with huge investments into children. The institution of marriage remained intact, as indicated by the high remarriage rates and low divorce rates. Following the SDT, however, marriage has come to be preceded by longer single (never-married) living and cohabitation. Childbirth is no longer confined to marriage and

divorce rates are increasing, while remarriage is declining in favour of other living arrangements. A crucial underlying component of the SDT theory is Maslow's theory of changing needs (1954); as populations become wealthier and more educated, i.e. once their material needs have been satisfied, greater weight is attached to individual self-realisation and other higher-order needs. The SDT is therefore a reflection of both sociological and cultural factors (*Lesthaeghe*, 2010; *Lesthaeghe*, 2014).

The new demographic trends seem to have emerged around the time of the contraceptive revolution in the 1960s, which made fertility postponement possible and uncoupled fertility from marriage, leading to the sexual revolution. Finally, there was the gender revolution, which resulted in greater female autonomy and the weakening of the traditional nuclear family model. These revolutions fit within the framework of a rejection of authority and the resulting ideational and value reorientation that shaped aspects of the SDT. In summary, the STD is commonly characterised as: a shift (1) from the 'Golden Age of Marriage' to cohabitation and other non-marital forms of living arrangements; (2) from the era of the king-child to that of the king-couple with a child; (3) from preventative contraception to self-fulfilling conception; and (4) from uniform to pluralistic families and households (*Kuijsten*, 1996; *Lesthaeghe – Surkyn*, 2004; *Lesthaeghe*, 2010).

The SDT theory was also used as a framework to explain and understand the rapid demographic changes observed in Czechia following the change of regime in 1989 (*Sobotka – Šťastná et al.*, 2008). A main point of contention was the fact that the SDT theory was based on trends observed in Western countries, specifically northern and western Europe. In fact, the SDT manifested itself much later in other European countries, specifically those in southern Europe, and exhibited regionally specific features, such as the absence of home-leaving and the continued importance of marriage for childbearing (*Lesthaeghe*, 2010). Czechia and other former state-socialist countries underwent a profound economic and societal transformation after the regime's collapse, which had regionally specific impacts on family life. In Czechia, features of the SDT, such as an increase

in age at first marriage, the rise of non-marital living arrangements, and the decline in fertility, seemed to emerge simultaneously and within a very short period. Common criticisms of the SDT theory in the context of Czechia point out the very different external conditions in which the demographic changes took place. While the SDT was able to unfold more slowly and gradually in the West and under more favourable conditions, Czechia experienced unemployment and other insecurities as a result of the new political system. The sudden and rapid nature of the demographic changes that affected most indicators consequently resembled more of a crisis response than a new demographic regime (*Rychtaříková*, 1999; *Sobotka – Zeman – Kantorová*, 2003).

Others argued that the features associated with the SDT, such as high divorce rates, were already well established in Czechia before the change in regime. During the state-socialist period, the Czech population had also become secularised, which may have facilitated a quicker adoption of the new 'Western' system and its values and lifestyle (*Sobotka – Zeman – Kantorová*, 2003; *Fialová – Kučera*, 1997). Even though demographic behaviours changed under the influence of various external factors, it became clear over time that there was no return to the previous 'traditional' patterns of marriage and marriage behaviours. It therefore seems that the economic crisis due to the regime change destabilised this demographic regime during which some features of the SDT were already emerging. The new economic and social conditions allowed the SDT to take place at an accelerated pace and in the predicted direction (*Fialová – Kučera*, 1997; *Sobotka – Zeman – Kantorová*, 2003; *Lesthaeghe – Surkyn*, 2004).

DATA AND METHODS

To describe the demographic indicators of the total first marriage rate (TFMR) and total divorce rate (TDR) the analysis worked with the dataset Pohyb obyvatel České republiky v letech 1920–2022: analytické ukazatele (Population change in the Czech Republic in 1920–2022: analytic indicators), which is available on the website of the Czech Statistical Office (CZSO). Given that not all indicators were used prior to 1961, the period from 1961 to 2022 was selected

for the descriptive analysis, but the main focus is on the period from 1993 to 2022 (*Czech Statistical Office*, 2022).

The multistate analysis was conducted using the LIPRO 4.0 (LIfetyle PROjection) model and programme, which was developed by Evert van Imhoff and Nico Keilman at the Netherlands Interdisciplinary Demographic Institute (NIDI) for the purpose of modelling and forecasting households. LIPRO is a general deterministic multidimensional demographic projection model, which contains a number of features that make it particularly suitable for dynamic household and marital status multistate analyses and projections (van Imhoff 2005). The multistate methodology considers decrement tables and increment tables, which allows for the inclusion of retrospective or repeated events (*Dušek – Šustová*, 2011; *Willekens – Putter*, 2014).

For the LIPRO 4.0 multistate analysis of marital status in Czechia, demographic balance datasets by sex, age, and marital status (Bilance obyvatelstva podle pohlaví, věku a rodinného stavu) produced by the CZSO were used for each year from 1993 to 2022. These datasets contain comprehensive information regarding the population structure, encompassing live births, deaths, migration, and demographic characteristics such as gender, age (year of birth), and marital status. These datasets also provide information on the initial population, as of 1 January of the given year and the final population as of 31 December

of the given year, by year of birth, age, gender, and marital status, as well as information on deaths and net migration by year of birth, age, gender, and marital status. The data sets further contain information on live births according to the mother's marital status at the time of birth and mother's year of birth. Further, the CZSO datasets also include flow data and data on the transitions from one marital state to another by year of birth. As shown in Figure 1, the possible transitions are: never-married to married, divorced to married, widowed to married, married to divorced, and married to widowed. People may enter any marital state through immigration, while live births enter automatically into the never-married state. People may leave any marital state through death or emigration (*van Imhoff*, 2005).

The population under study is aged 0 to 85+ years and is studied in 1-year observation intervals. The methods of importing and setting up LIPRO for analysis have been described in detail in the LIPRO 4.0 Help Index (*van Imhoff*, 2005).

The analysis is divided into four parts. Firstly, a multistate analysis of marital status changes for the female and male population in Czechia is conducted for the period 1993 to 2022 based on 1-year observation intervals. The main outputs of this analysis are population-based multistate life tables, which provide information on life expectancy at birth (e0) according to the numbers of years spent in different marital states. Another output is formed

Figure 1 **Multistate representation of marriage formation and dissolution**
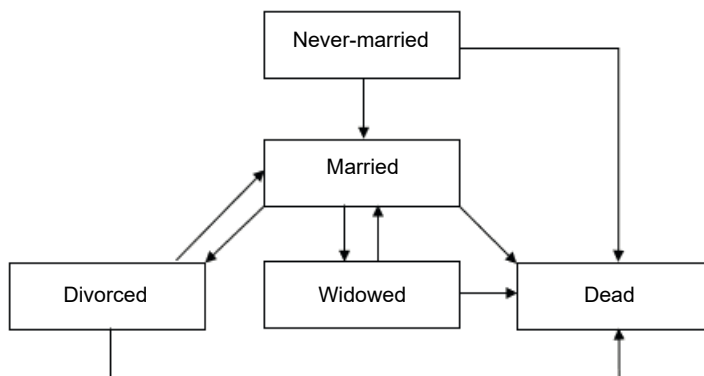
by experience tables, which are marital status-based life tables limited to the members of the life table population who experienced a certain event at least once in their lifetime. The state 'experienced at least once' is absorbing, meaning that an individual once in that state can never leave it. Like traditional life tables, experience tables start with an initial radix (100,000) and age-specific rates are applied to the surviving population. Experience tables make it possible to analyse the transitions between different marital states and the average ages at which they occur. LIPRO 4.0 generates the average ages at the first and any marital event in order to account for multiple divorce or remarriage events. Here, the average age at a first event will be studied. The basic underlying assumption for the calculations is that the events are distributed uniformly throughout the year (*van Imhoff – Keilman*, 1991).

Next, the probability of the transition from the married to the divorced state and from the divorced to the (re)married state in women and men of selected ages by the end of the year over the studied period are investigated. This provides further insights into the dynamics of marital behaviours. An example of how

this output is generated and displayed in LIPRO 4.0 is shown in Table 1. The selected ages are informed by the average ages at first divorce and first remarriage from the experience table outputs. To reflect the age difference between women and men at first marriage and at subsequent marital events, the ages selected for women are two years younger, with 34, 38, and 42 years for the transition of women from the married to the divorced state versus 36, 40, and 44 years for men, and 38, 42, and 46 years for the transition of women from the divorced to the married state versus 40, 44, and 48 years for men.

Lastly, a status-quo projection using the LIPRO 4.0 modelling software is conducted based on the observed trends in the last 'normal' 5-year interval from 2015 to 2019. For the projection the demographic balance datasets by sex, age, and marital status (Bilance obyvatelstva podle pohlaví, věku a rodinného stavu) for the years 2015 to 2019 are used and the populations aged 0–85+ years of the 1-year observation period are aggregated into 5-year age groups and a 5-year observation interval. The aggregation of the flow data must take into consideration that individuals will age, and children will be born during the 5-year

Table 1 **Transition probabilities for women and men aged 35 years, 2022, Czechia**

		Never-married	Married	Widowed	Divorced	Dead
Women	Never-married	0.9476[1]	0.0510[2]	0	0.0004[*]	0,001
	Married	0[7]	0,982	0.0007[3]	0.0166[4]	0,000
	Widowed	0	0.0224[5]	0,977	0.0002[*]	0
	Divorced	0	0.0582[6]	0	0,941	0,001
Men	Never-married	0.9538[1]	0.0442[2]	0	0.0004[*]	0,002
	Married	0	0,984	0.0002[3]	0.0157[4]	0,000
	Widowed	0	0.0368[5]	0,963	0.0003[*]	0
	Divorced	0	0.0653[6]	0	0,934	0,001

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu)*
Notes: 1) The probability that a never-married women or man aged 35 remains never-married by the end of the observation interval.
2) Probability of transition from the never-married to the married state at age 35 by the end of the observation interval.
3) Probability of transition from the married to the widowed state at age 35 by the end of the observation interval.
4) Probability of transition from the married to the divorced state at age 35 by the end of the observation interval.
5) Probability of transition from the widowed to the married state at age 35 by the end of the observation interval.
6) Probability of transition from the divorced to the married state at age 35 by the end of the observation interval.
*) Transition probabilities that are not possible directly, but may need to be entered before reaching the final state by the end of the observation interval.

interval. A more detailed account of the method of data aggregation and data input into the LIPRO 4.0 model is stated in Van Imhoff 1999. For this part of the marital status analysis a two-sex consistency constraint was imposed so as to ensure that (1) the number of men entering marriage equals the number of women entering marriage; (2) the number of divorcing men equals the number of divorcing women; (3) the number of married men who die equals the number of women who become widows; and (4) the number of men who become widowers equals the number of married women who die. (5) For simplicity, the net migration for married couples is the same (van Imhoff, LIPRO 4.0 Tutorial 2005). The population is projected until 2030 to get an understanding of how the Czech population would develop if the rates observed in 2015–2019 remained constant.

RESULTS

In this section, the results of the multistate analysis of marital status changes in Czechia from 1993 to 2022 will be presented, including the average amount of time spent in the different marital states, the average ages at which the different marital status events occur, and the probability of a transition from one marital state to another in each 1-year observation period at certain ages. The results of the status-quo projection of the Czech population based on the last 5-year period 2015–2019 exhibiting 'normal' nuptiality behaviours will also be described.

A multistate analysis of marital status in Czechia from 1993 to 2022

The collapse of state socialism in Czechia and the adoption of a new political system triggered demographic changes that brought about a departure from the previous characteristics of family (and fertility) behaviours (*Sobotka – Zeman – Kantorová*, 2003). Throughout the state-socialist period, the TFMR was very high, especially in the 1970s, when the values were as high as 98% among women. From 1990 onwards the TFMR started to decline (Graph 1), only increasing again after 2013 and continuing to increase until the Covid-19 pandemic. The TDR increased steadily from 1961, declined in the early 1990s, and from 1993, most likely in connection with the rise of individualism, it started to increase again, except in 1999, when

Graph 1 **The changes in the total first marriage rate (TFMR) and the total divorce rate (TDR), 1961–2022, Czechia**
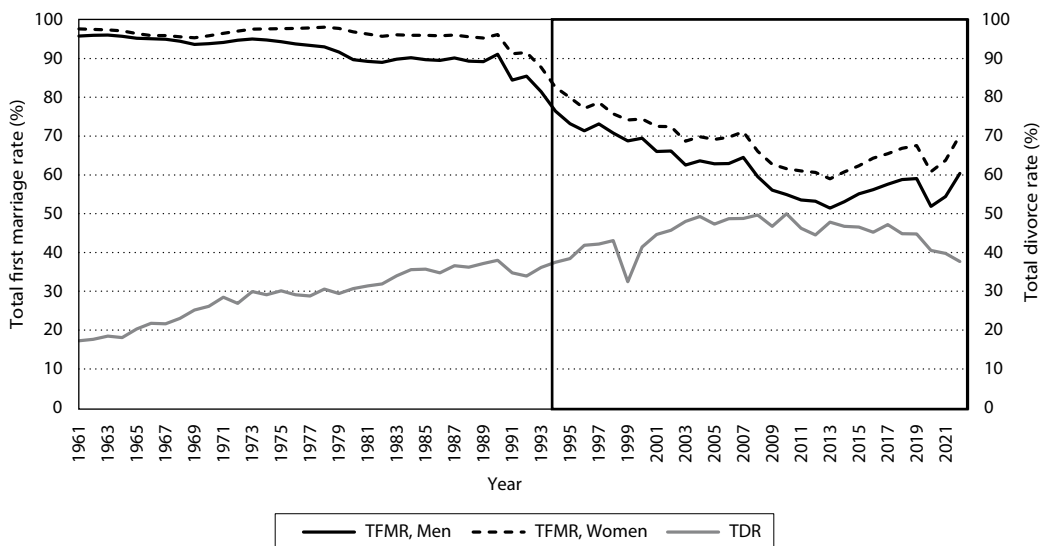

Data source: CZSO, Population change of the Czech Republic in 1920–2022: analytic indicators (*Pohyb obyvatel České republiky[1] v letech 1920–2022: analytické ukazatele).*

Note: Data obtained from primo-nuptiality life tables.

a change in the law made divorce for couples with minor children more difficult. The decrease in the TDR in the second half of the 2000s is related to the declining marriage rates, but while the TFMR increases again, the TDR continues to fall (*Křesťanová*, 2020). In 2020, the first pandemic year, the TFMR

Graph 2a **Life expectancy at birth (e0) by time spent in each marital state, women, 1993–2022, Czechia**
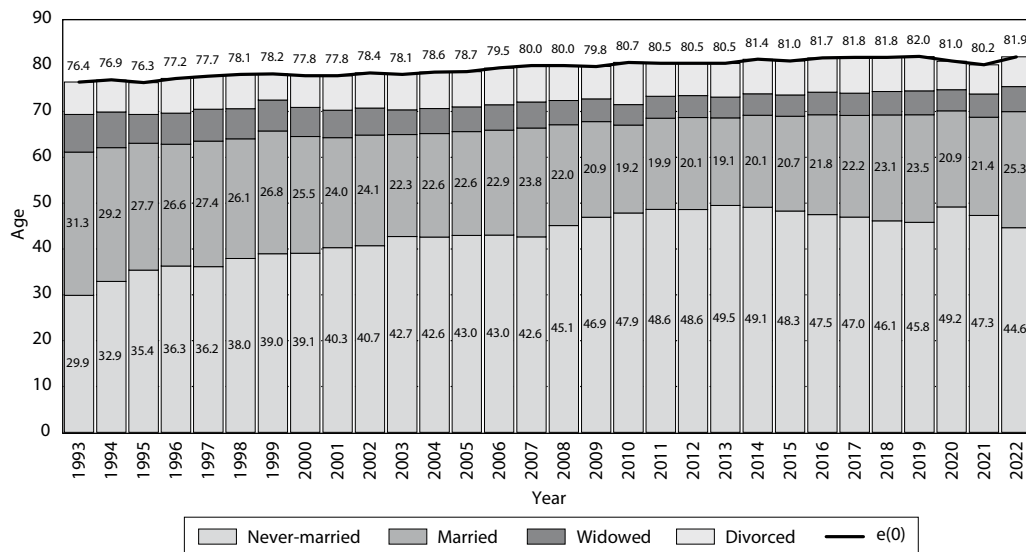
Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu)*
Note: Output of LIPRO 4.0 generated population based multistate life tables; number of years lived in each marital status.

Graph 2b **Life expectancy at birth (e0) by time spent in each marital state, men, 1993–2022, Czechia**
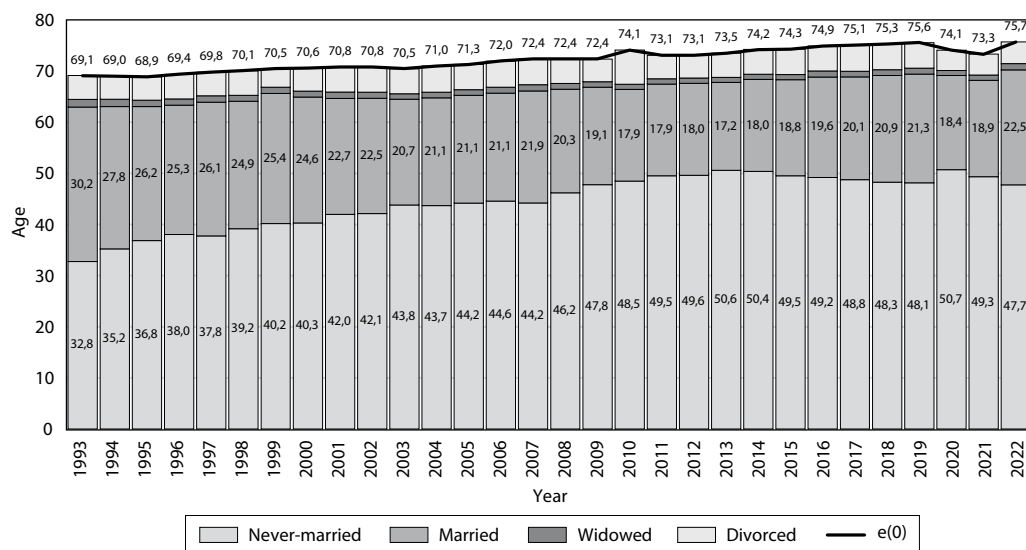
Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu)*.
Note: Output of LIPRO 4.0 generated population based multistate life tables; number of years lived in each marital status.

dropped significantly, but it recovered again in 2021 and 2022, when restrictions were lifted again (*MVCR*, 2023).

Following the collapse of the state-socialist regime, mortality decreased over time in women but especially among middle-aged and older men (*Kučera*, 2008). This is also reflected in life expectancy at birth e(0) according to the number of years spent in the different marital states,[3] which increased throughout the period from 1993 to 2022, except in the pandemic years, as seen in Graphs 2a and 2b. While a girl born in 1993 would be expected to live to 76.4 years, by 2019 she would be expected to live to 80.0 years. Although life expectancy at birth for males also increased over time, it remained lower than that of women throughout the studied period. In 1993 average life expectancy at birth for men was 69.1 years and by 2019 it had increased to 75.6 years. During the Covid-19 pandemic years, e(0) decreased temporarily in both women and men but recovered again in 2022.

There was also a notable increase in the amount of time spent in the never-married[4] state for both women and men. In 1993 women would spend 39.1% and men 47.4% of their lives in the never-married state. In 2013 the time spent never-married peaked at 61.5% for women and at 68.8% for men. As the time spent never-married increased, the time spent married declined from 40.9% in 1993 to 28.6% in 2019 for women and from 43.7% to 28.2% for men in the same period. Both women and men saw the smallest amount of time spent married in 2013, at 23.8% and 23.4%, respectively. This historical low was followed by a period of recovery suggesting that marriage is still, or again, valued in Czech society (*Křesťanová*, 2020). Men overall spend more time never-married and married compared to women, likely because they spent less time in the widowed state due to their higher mortality at older ages. In the early 1990s women would spend up to 10% of their lifetime in the widowed state, which decreased to 6.4% in 2019. The proportion of time spent in the divorced state has remained stable over the

study period for both women and men, with women spending slightly more time divorced, at around 9% of their lives, compared to around 6% to 7% in men. The pandemic impacted the amount of time spent in each marital state. The time women spent never-married increased, while the time spent married declined, as the time spent widowed and divorced increased temporarily as well. The time men spent never-married also increased during the pandemic and still exceeded the amount of time seen for women, but they spent less time in all the other marital states.

An analysis of the marriage formation and dissolution processes in Czechia from 1993 to 2022

This section presents an analysis of the experience tables outputs, i.e. the transitions between different marital states and the ages at which these events occur.

Graph 3 shows the proportion of women and men who experience marriage at least once after the entire experience table cohort has died (the lifetime probability of marriage). The proportion of ever-married women exceeds that of men throughout the studied period. From 1993 the proportion women and men who marry at least once decreased from 86.9% and 80.1% to 60.5% and 53.3%, respectively, in 2013. The near-immediate decline in the total first marriage rate and the number of marriages and the increase in the age at first marriage in the early 1990s have been attributed to young persons wishing to live more independently on their own or in unmarried cohabitation. With the adoption of a new political, economic, and social system, people's values changed too, and the trend of declining nuptiality continued (*Chromková Manea – Rabušic*, 2019). After 2013 the share of the ever-married population increased again and reached 68.9% for women and 61.4% for men in 2019. This is consistent with the trends observed in the previous section. During the Covid-19 pandemic the share

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3) Life expectancy at birth calculated using the LIPRO 4.0 multistate software differ from the life expectancies at birth published by the CZSO. This is because changes in the marital status structure affect the life expectancy in LIPRO 4.0 structure i.e., higher number of deaths by marital state at older age groups (*van Imhoff – Keilman*, 1991).

4) Refers to all women and men irrespective of whether they ever marry or not (*van Imhoff*, 1999).

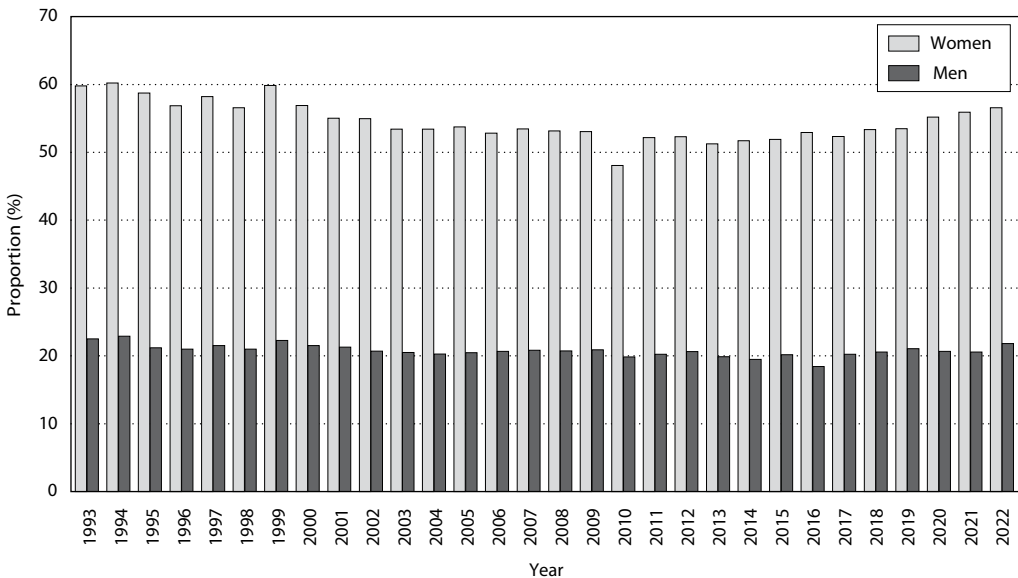Graph 3 **The proportion of ever-married women and men, 1993–2022, Czechia**
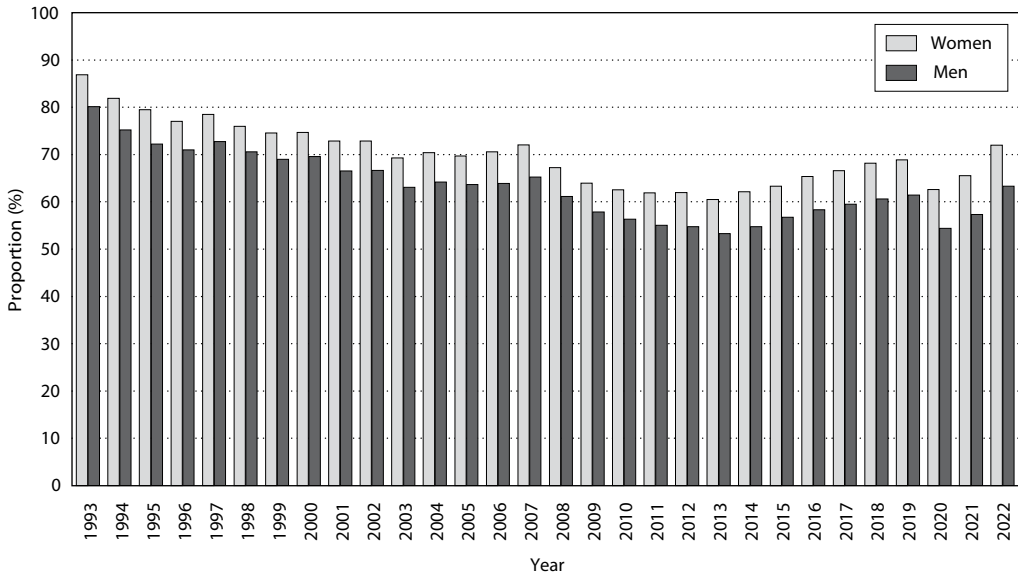
Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*

Note: This graph presents the probability of a person aged 0 ever marrying, i.e. lifetime probability of first marriage: $\sum d_{sm}/\ell(0)$.

Where: s = never-married, m = married, $\ell(0)$ = number of individuals alive at the beginning of the interval aged 0, dsm = population with event never-married to married (Schoen, 1988).

The ever-married state is absorbing, i.e., it can occur only once in a person's lifetime.

Graph 4 **The proportion of ever-married women and men who experience widowhood, 1993–2022, Czechia**

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*

Note: This graph presents the probability of a marriage ending in widowhood: $\sum d_{mw}/\sum(d_{sm} + d_{wm} + d_{vm})$.

Where: s = never-married, m = married, w = widowed, v = divorced, d = population with event (Schoen 1988).

of ever-married women and men dropped again, likely due to the restrictions imposed on social gatherings (*Slabá*, 2022).

Graph 4 illustrates the changes over time in the proportion of the ever-married female and male experience table population who experience widowhood at least once (the probability of a marriage ending in widowhood). With the increase in life expectancy at birth and the decline in male mortality in middle- and older age groups, a decline in the share of ever-widowed women was observed as well (*Rychtaříková*, 2018; *Křesťanová*, 2020). In 1993, 59.8% of women experienced widowhood, while in 2010 it was 48.1%. Overall, the share of men who experience widowhood is considerably smaller compared to women, and the trend is more stable over time, but declining. In 1993, 22.5% of ever-married men experienced widowhood, which decreased to 18.4% in 2016 but increased again to 21.8% in 2022. The proportion of women whose marriage ended in widowhood slightly increased again from 2013 and throughout the pandemic years, while in men it temporarily declined in those two years.

As described, in Czechia divorces under the previous regime divorces were easily accessible and tolerated, which resulted in a high divorce rate. Most divorces occurred within three to five years of marriage (*Rabušic*, 1996; *Fialova*, 2006). From 1993, the TDR continued to increase (Graph 1), which is also reflected in the increasing share of ever-married women and men who experience divorce, as seen in Graph 5. A new law was implemented in 1998 that made divorces among couples with minor children more difficult, resulting in a short-lived, yet significant drop in the number of divorces in 1999 (*Křesťanová*, 2020). Throughout the early 2000s the share of divorced women and men slightly increased or stagnated. A general declining trend was observed from 2007 until 2012, which coincides with the period of declining numbers of marriages. An increase in the proportion of women and men experiencing divorce was seen again in 2013, followed by a decline until 2016. In 2017 the figures peaked again and have declined since then, apart from a small increase in 2021. The proportion of women and men who experience divorce is very similar throughout the studied period, but until the mid-2000s more men tended to experience divorce than women, whereas from the mid-2000s women were more likely to experience divorce.

Graph 5 **Proportion of ever-married women and men who experience divorce, 1993–2022, Czechia**
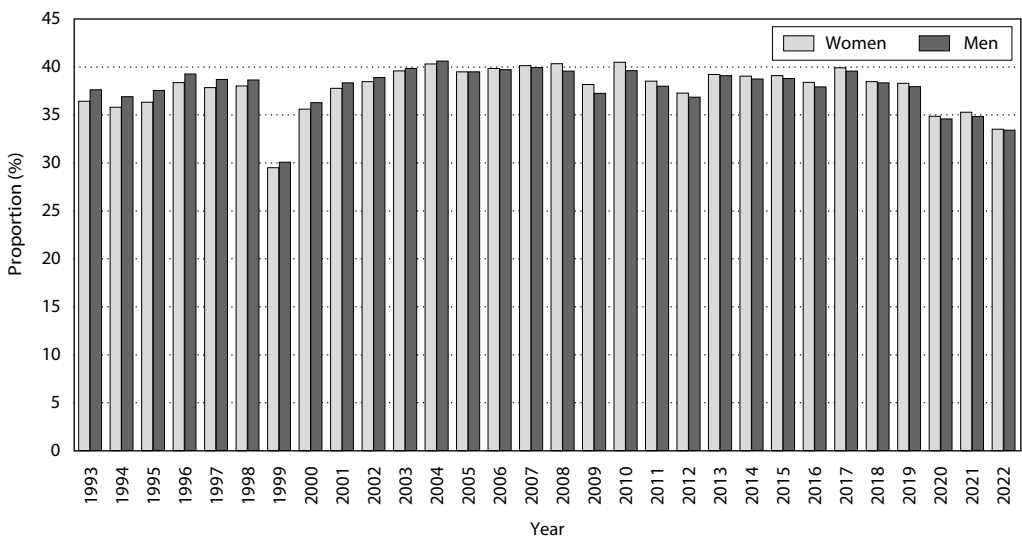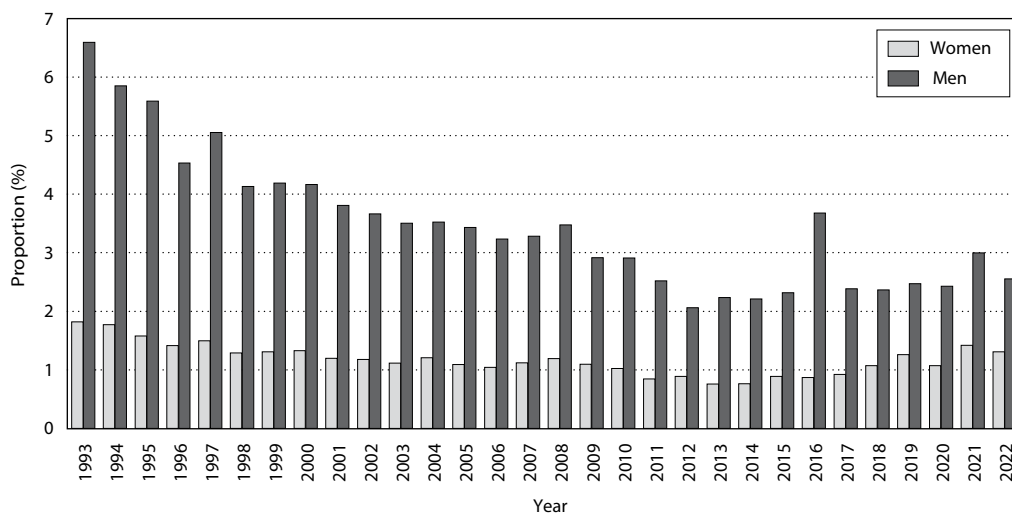

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*
Note: This graph presents the probability of marriage ending divorce: $\Sigma d_{mw}/ \Sigma(d_{sm} + d_{wm} + d_{vm})$.
Where: s = never-married, m = married, w = widowed, v = divorced, d = population with event (Schoen 1988).

Graph 6 **The proportion of ever-widowed women and men who remarry, 1993–2022, Czechia**
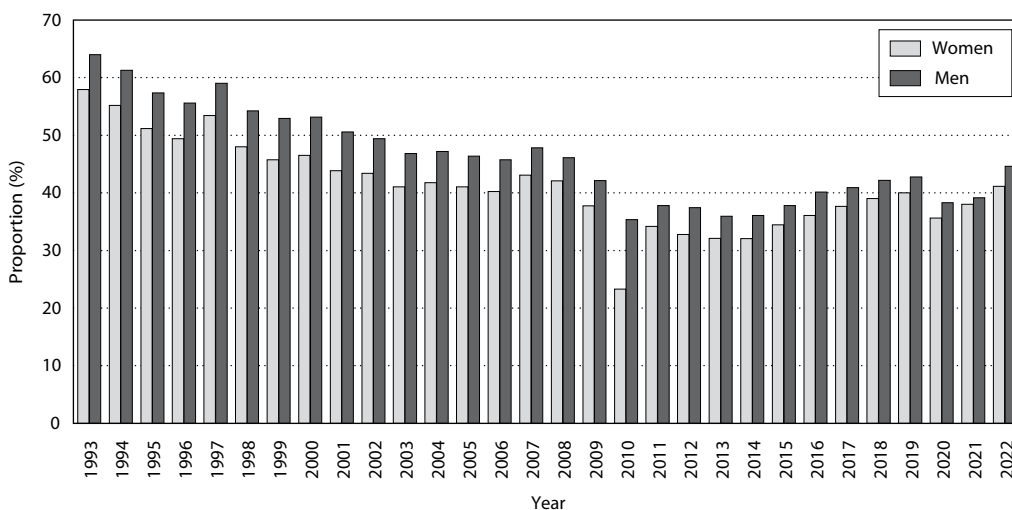

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*
Note: This graph presents the probability of remarriage from widowhood: $\Sigma d_{wm} / \Sigma d_{mw}$.
    Where: m = married, w = widowed, d = population with event (Schoen 1988).

Graph 6 shows the change in the proportion of widows and widowers who remarry at least once (the probability of remarriage from widowhood) in the period from 1993 to 2022. The share of remarried women and men from the widowed state decreased throughout the 1990s and early 2000s, increasing again from 2013. The proportion of widowed men significantly exceeds that of women throughout the studied period, but the gap between the genders is decreasing over time.

Graph 7 **The proportion of divorced women and men who remarry, 1993–2022, Czechia**

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*
**Note:** This graph presents the probability of remarriage from divorce: $\Sigma d_{wm} / \Sigma d_{mw}$.
    Where: m = married, v = divorced, d = population with event (Schoen 1988).

Divorcees, rather than widowed individuals, most often enter repeat marriages. Over time, the total remarriage rate of divorcees, as published by the CZSO, has fluctuated and it reached its lowest level in 2013. The total remarriage rate of divorcees is higher for men, as they tend to remarry more quickly (within 5 years of divorce) than women (*Křesťanová*, 2020). As seen in Graph 7, the share of women and men of the experience table cohort who experience remarriage after divorce at least once in their lifetime (the probability of remarriage from the divorced state) decreased in the period of 1993–2013, from 58.0% for women and 64.0% for men in 1993 to 32.1% and 35.9% by 2013 for women and men, respectively. The drop in 2010 may be the result of the observed peak in the TDR (*Křesťanová*, 2020). Until 2019, the proportion of divorced women and men remarrying increased again, followed by a temporary decline during the pandemic years. Throughout the period from 1993 to 2022, the share of remarried divorced men exceeds that of women, suggesting that men are more likely to remarry than women.

Another output of the LIPRO 4.0 experience table is that of the average ages for women and men at a marital status event, which are presented in Graphs 8a and 8b. The first event experienced by an individual is first marriage, followed by first divorce and by remarriage from the divorced state. The next event is remarriage from the widowed state, which precedes the final event, entry into widowhood. The average age at first marital status events for both women and men has increased over time. With the increasing age at first marriage, the age at first divorce and remarriage from divorce naturally increases as well. The increasing length of marriage over time also contributed to the rise in age at first divorce (*Křesťanová*, 2020). Women tend to experience the events generally at a younger age than men. With increasing male life expectancy at birth, the age gap for women and men entering widowhood decreased over the studied period. The biggest age difference between women and men was observed for the event of remarriage from widowhood, which men experience significantly later than women. This might be explained by men entering a subsequent marriage at a higher intensity at older ages, despite becoming widowed at an older age, compared to women, who might enter marriage mainly at younger ages (*Dušek – Šustová*, 2011; *Křesťanová*, 2020).
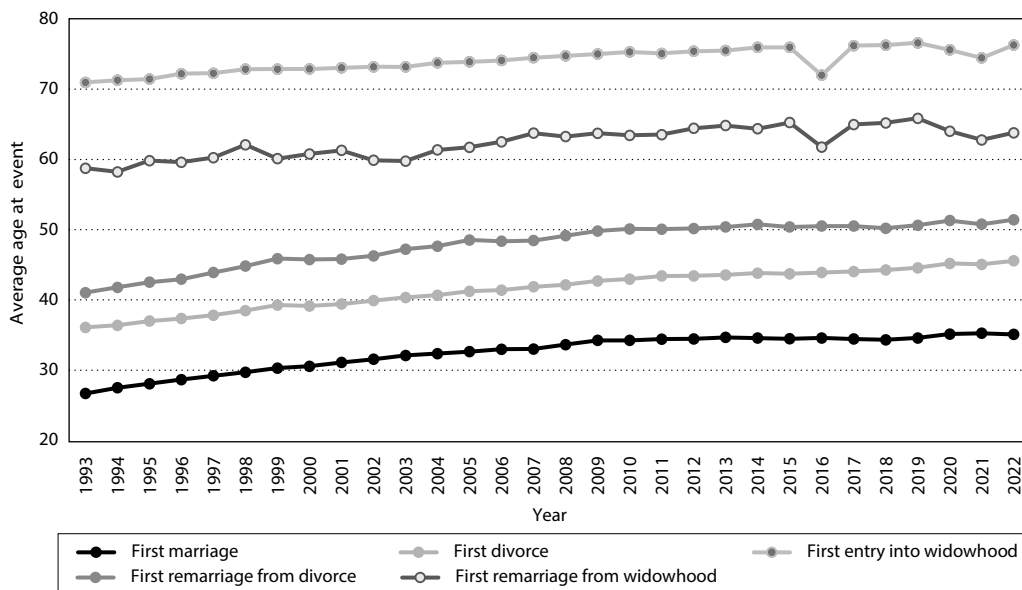
Graph 8a **The average age of women at first marital status event, 1993–2022, Czechia**
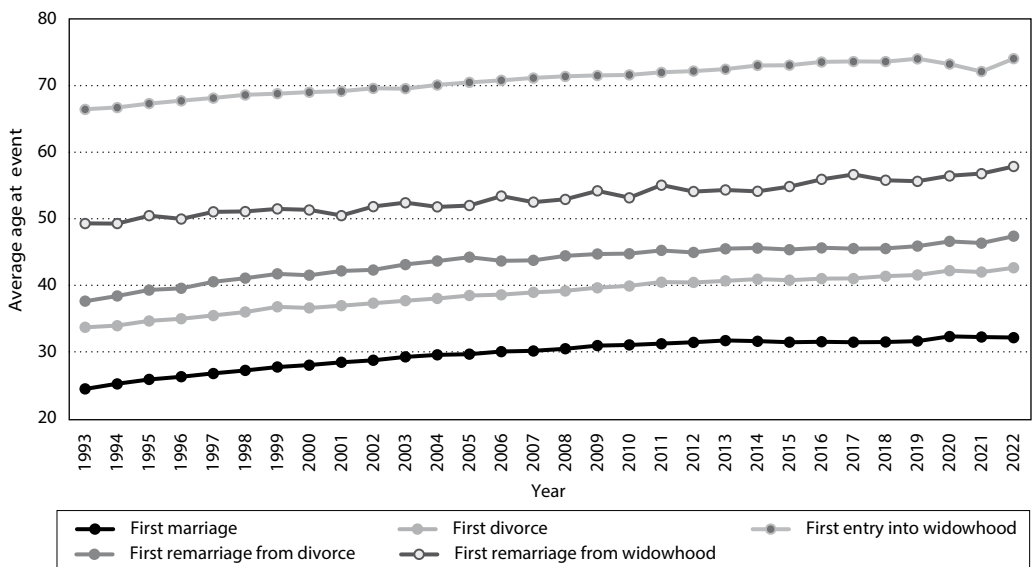
Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu)*.
Note: This graph is an output from LIPRO 4.0 generated multistate (experience) life tables by marital status.

Graph 8b The average age of men at first marital status event, 1993–2022, Czechia
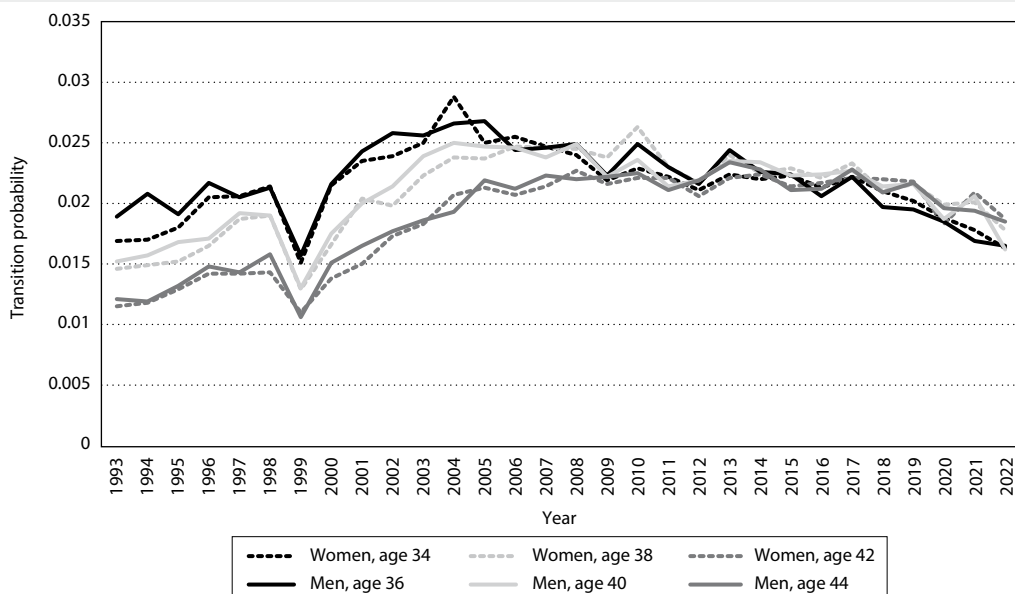

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*
Note: This graph is an output from LIPRO 4.0 generated multistate (experience) life tables by marital status.
The low age at first entry into widowhood and remarriage from widowhood in 2016 in men, might be due to more than usual events at younger ages and small numbers of that population overall.

Graph 9 Probability of the transition from the married to the divorced state by the end of the year at selected ages, 1993–2022, Czechia

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*
Note: Output of LIPRO 4.0 calculations.

Graph 10 **Probability of the transition from the divorced to the married state by the end of the year at selected ages, 1993–2022, Czechia**

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu)*.
Note: Output of LIPRO 4.0 calculations.

The postponement of marital events to an older age is a major driver of the recent trends observed in Czechia (*Křesťanová*, 2020). Graphs 9 and 10 show the development of the probability of the transition from the married to the divorced state and the probability of the transition from the divorced to the married state by the end of the year in Czechia from 1993 to 2022 for women and men at selected ages. The older ages for men were chosen to account for the age difference at marital status events between the two genders.

The probability of the transition from the married to the divorced state within the 1-year observation interval appears to be generally higher for men than women. Apart from 1999, the probability of the transition to the divorced state increased throughout the 1990s and early 2000s in men and women across all the studied ages. But women and men aged 34 and 36 years, respectively were more likely to divorce by the end of the year compared to their older counterparts. The probability of the transition at older ages (42 years for women and 44 years for men) increases over time before stabilising throughout the 2010s. The probability of the transition

to being divorced at younger ages on the other hand starts to decline in the second half of the 2000s before finally stabilising throughout the 2010s, reaching the lowest probability of all ages at the end of the studied period. From around 2017 onwards a decline in the transition probability is observed again across all age groups, with the exception of married women aged 42 and men aged 40, who experienced an increased probability of divorcing during the second year of the Covid-19 pandemic. It is also interesting to note that the difference in the probability of the transition from the married to the divorced state is quite marked for the different ages throughout the 1990s and 2000s. This changes, however, from around 2012, when the trends in probabilities converge to become more similar.

Most remarriages occur from the divorced state and they play an important role in the study of marital behaviours overall. The total remarriage rate is slightly higher among men than women, which is also reflected in the higher probability of the transition from the divorced to the (re)married state in men by the end of the observed year. Men aged 40 and women aged 38 have the highest probability of remarrying throughout the study period. The trends for both genders of all

the ages studied are subject to fluctuations, but, overall, the transition probabilities appear to be stagnating or slightly increasing. In 2010 the total divorce rate peaked and the transition probabilities for remarriage from the divorced state by the end of the year dropped. From around 2013 the probabilities of transition increased for men and women at all the ages studied, which is consistent with the observed increase in marriages overall (*Křesťanová*, 2020). During the pandemic years, the transition probabilities declined but recovered quickly.

Constant projection of changes in marital status from 2015 to 2030

Lastly, the changes in marriage formation and dissolution were projected into the future until 2030 based on the rates of the 5-year period 2015–2019 at ages 0–85+, assuming the transition rates and migration remain constant over the projection interval. A comparison of the projected data for women and men for the year 2020 (as of 1 January) and the actual data collected by the CZSO for the year 2020 and presented as of 1 January (highlighted) shows a very small difference in the percentage of women and men in the different marital states. For women, as shown

in Graph 11a, the projection model predicted marginally lower percentages for the never-married, widowed, and divorced states, but slightly higher percentages in the married state than were actually seen in the year 2020. In men (Graph 11b), the model projected a slightly lower percentage of married men and a slightly higher percentage of never-married men and the percentages of widowed and divorced men were the same. Assuming the rates and migration remain the same, in 2025 and 2030 there would be an increase in the percentage of never-married women and men, but a decrease in the percentage of married individuals. The percentage of widows would decrease, while the percentage of divorced women would increase. The percentage of widowers on the other hand is projected to increase in 2025 and 2030, but the percentage of male divorcees would increase until 2025 and decline again in 2030. Consistent with recent trends, more men would be never-married and married compared to women, while there would be more widowed and divorced women. The (longer-term) consequences of the recent Covid-19 pandemic, the resulting economic situation, and the war in Ukraine on marriage behaviours remain to be seen (*Slabá*, 2022; *Štyglerová – Němečková*, 2023).
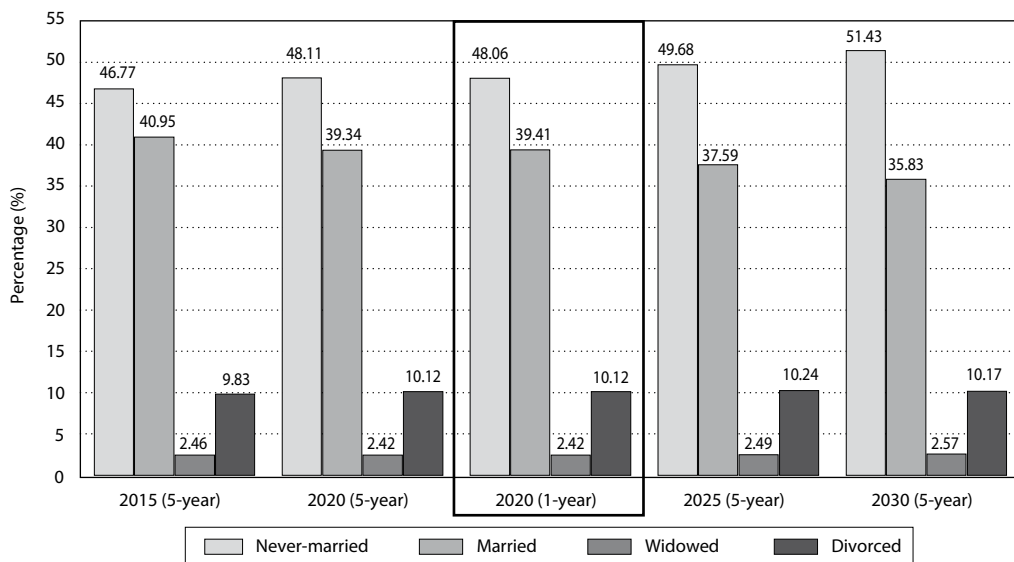
Graph 11a **Constant projection of the female population by marital status, 2015–2030, Czechia**
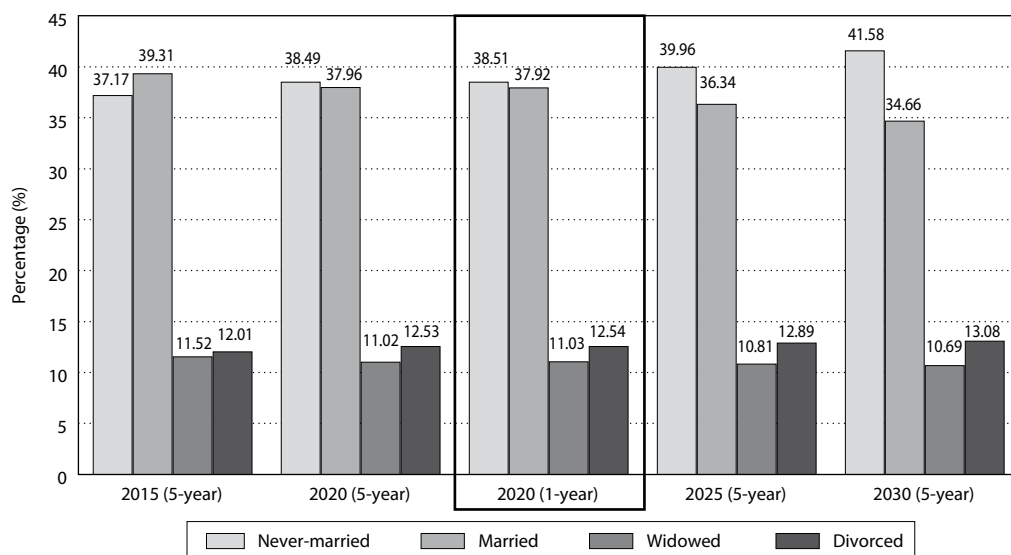
Data source: CZSO, demographic balance dataset (*Bilance obyvatelstva podle pohlaví, věku a rodinného stavu*).
Note: The highlighted year 2020 represents the 1-year observation interval real life data.

Graph 11b **Constant projection of the male population by marital state, 2015–2030, Czechia**

Data source: CZSO, demographic balance dataset *(Bilance obyvatelstva podle pohlaví, věku a rodinného stavu).*
Note: The highlighted year 2020 represents the real life date of the 1-year observation interval.

CONCLUSION

The aim of this article was to study the changes in marital formation and dissolution in Czechia since 1993 using the LIPRO 4.0 multistate model and programme. The LIPRO multistate model is well suited to the dynamic multistate analysis of marital states, as its methodology allows for the inclusion of retrospective and repeat events. The first output studied was life expectancy at birth based on the number of years spent in different marital states, followed by experience tables, the average ages at events, and the probability of the transitions between different states. The analysis was concluded with a population projection.

Overall, the observed recent trends in marriage formation and dissolution appear to follow the trajectory predicted by the SDT: Life expectancy at birth increased for both genders, but despite significant mortality improvements, women's life expectancy exceeds that of men, which is reflected in the higher proportion of ever-married women who become widowed. Over time both genders spend an increasing amount of time never-married. This development is mirrored in the decreasing proportion of ever-married women and men until 2013 when the time spent married and the proportion of married individuals increases again.

Following the change in regime in 1989, divorce was the only indicator that stagnated or slightly increased. Initial increases during the 1990s may have been linked to increasing self-realisation, while later declines were a result of declining marriage rates. As marriage rates increased again from 2013 onwards, the TDR kept declining, suggesting a renewed interest in the institution of marriage. First marriages, as well as remarriages, have played a crucial role in the observed increase in nuptiality in Czechia in the past ten years. While the proportion of widowed individuals who remarry is small, especially among women, there has nevertheless been a small increase after years of decline. Similarly, the number of divorced women and men who remarry also increased again from 2013 onwards. In both cases, more men remarry than women, as supported by the shorter amount of time spent in these states compared to women.

Another significant change observed since the founding of Czechia is the overall postponement of marital events. As the average age at first marriage increased, so did the average ages at all subsequent events, changing the age structure of divorced, widowed, and remarried individuals. While the probability of the transition from the married to

the divorced state has been declining overall since the second half of the 2010s, it also indicates an increasing probability of divorce with increasing age and a declining probability at younger ages over time. While the probability of the transition from divorce to remarriage is more stable over time overall, an increase after 2013 could be observed. And remarriage has remained most likely in men and at selected younger ages. The final analysis of the status-quo projection predicts an increase in the number of never-married and a decline in the number of married individuals until 2030, despite the apparent reversal of negative marriage trends.

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