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Abstract

Co-residential partnerships are a pre-condition for childbearing and less time is spent in these unions when there is difficulty finding partners, delayed union formation, and partnership instability. This study explores patterns in co-residential partnerships across birth cohorts in 11 post-socialist countries to assess changes in the number of years spent in these partnerships and the patterns underlying any trend. Using the Harmonized Histories based on partnership data from Generations and Gender Surveys, we calculate changes in co-residential union trends. In about half of the countries, the share of women who have not entered a co-residential union by age 30 increased, whereas the proportion still in their first union by this age decreased universally. The latter trend, reflecting union instability, predated the transition from socialism. Delays in starting the first union were seen in only a few countries immediately after the transition began but more countries experienced union postponement in the cohorts coming of age in the 2000s. A declining median age at first union in the former Soviet republics before and immediately after the transition from socialism balanced the impact of increased union instability. Overall, the number of years spent in a co-residential union before age 30 declined across the Central and South-Eastern European countries, especially in Hungary. Union dynamics may have contributed to declining fertility in these countries. In contrast, little or no change in time spent in unions in the post-Soviet countries indicates that union dynamics were less likely to have influenced these women's fertility behavior.

Keywords: co-residential union, fertility, partnership instability, post-socialist countries, union formation postponement

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Introduction

Finding a partner and moving in together is one of the most significant rites of passage into adulthood. It reflects successful relationship building and sufficient resources on which two people can build an independent life together. Also, offspring are usually born in co-residential unions (Kiernan 2001; Thomson 2005). Delays in union formation and instability of unions can thus influence childbearing through reducing the time spent in the setting most conducive for family formation and expansion. In contexts with few births out of a union, demographers would think of co-residential unions as the relevant “exposure” for understanding childbearing (see e.g. Hellstrand et al. 2022). This study explores changes over time in co-residential union dynamics across 11 post-socialist countries in a period of dramatic fertility decline (Billingsley 2010; Billingsley & Duntava 2017; Frejka & Sobotka 2008), with an eye on whether changes intensified around the transition from socialism or maintained a steady pace. This descriptive analysis can inform our understanding on the potential relevance of union dynamics for declining fertility rates as well as offer an insight into the changes confined to this sensitive coming-of-age period in individuals’ lives.

Many studies on individual countries in our selected group have documented the delay in union formation or the increase in union instability (see e.g. Frejka 2008; Hoem et al. 2009; Puur et al. 2012). In addition, we have often seen the importance of being in a union for childbearing in single country case studies (Aassve et al. 2006; Baranowska-Rataj 2014; Philipov & Jasilioniene 2008; Puur & Klesment 2011). These comparative and case study analyses give, however, only a partial picture on their own of how fertility may be influenced by union dynamics. Likewise, micro-level studies of fertility that include partnership status cannot tell us how the lack of opportunity to have a child due to the lack of a partner has changed over time, possibly affecting fertility development. The main contribution of this article is that we focus on the combined role of these two partnership dynamics in generating a set number of years when women are in their twenties and are most likely to have children in the region of interest. We assess to what extent the two dynamics have together generated fewer years of being in a union during this critical segment of the life course. Specifically, we explore from a cohort perspective and using comparable measures whether the timing of entering a first co-residential partnership has increasingly been delayed, whether the share of people never entering a union by age 30 has increased, and whether the share of people still in their first union at age 30 has declined. Finally, we track how much union delay and instability has resulted in a decline in the total number of years spent in a co-residential union before age 30.

We use partnership histories from harmonized surveys conducted in the first decades of the 2000s. To observe the most recent cohorts possible, and get the best sense of how partnership dynamics are changing recently, we narrow our focus to what happens by the age of 30. Given that childbearing was confined to relatively young ages for the cohorts covered in this particular group of 11 countries, the twenties are relevant years of age to study. Nevertheless, we cannot conclude about unions that would be relevant for later childbearing or childlessness from this analysis. In order to maximize our capacity to capture the most recent trends, we focus exclusively on women, who enter unions earlier than men. Finally, we do not consider whether unions are marital or non-marital as this factor varies in importance to births over time and across our countries (Frejka 2008; Thornton & Philipov 2009). It may be that in some countries union timing and length did not change, but more time is spent in a non-marital union preceding marriage in which case it matters if childbearing remains confined to marriage or not (see e.g., Andreev et al. 2022; Hărăguș 2015). To account for such differences we would need to model how specific union type relates to births, whereas

our interest here is union dynamics more generally and possible implications of union dynamics for fertility.

Background

Postponement and instability of co-residential unions

All of the processes in which we are interested in this study are considered to be main features of the Second Demographic Transition (SDT), which is argued to lead to diverse family configurations and fertility rates (well) below population replacement levels (Lesthaeghe & van de Kaa 1986). The SDT is stimulated by ideational change centered on individualization that leads to stronger desires for self-actualization and was made possible by three revolutions: a contraceptive revolution, a sexual revolution, and a gender revolution. Combined, the three provided women with nearly complete control over their childbearing, strengthened their autonomy from men both economically and socially, and relaxed the need for marriage (Lesthaeghe & Surkyn 2004). As a consequence of these revolutions and the value transformations that accompanied them, pronounced changes in family patterns emerged throughout Europe, with little historical precedence in, especially, the former socialist countries, triggering governments' concern and sometimes pronatalist policy responses (Sobotka 2008; Goldstein et al. 2009).

In line with family changes as an outcome of the SDT, we would expect to see the life course of adults follow more heterogeneous paths, according to individuals' preferences. Indeed, we have seen cohort change from a pattern of "early, compacted, and simple" to "late, protracted, and complex" (Billari & Liefbroer 2010). This corresponds to foregoing or at least postponing marriage and childbearing, having fewer children overall, and less enduring partnerships. Even though the desire to form a household with a partner exists, ideational changes notwithstanding, the sense of urgency and the norms that structure the timing of this event have likely changed according to the theory. Moreover, ideas about love and partnership may have shifted toward what Giddens (1992) refers to as the "pure relationship", whereby partnerships are formed to meet one's own desires and expectations. These criteria may be more difficult to meet, thus delaying the process of finding a stable partner.

Another set of mechanisms are highlighted in the literature on economic uncertainty, linking the phenomenon both to the postponement of family formation (including both starting a co-residential union and having children) and partnership stability (see e.g. Alola et al. 2020; Blossfeld et al. 2005; Vignoli et al. 2020). Accordingly, individuals who gained independence via the gender and sexual revolution, may face economic barriers due to, for example, pronounced labor market uncertainties that restrict opportunities for moving in together or leaving an unsatisfactory co-residential union. There is little research specifically on co-residential union avoidance or postponement, but much on marriage. In line with Oppenheimer's (1988) argument on uncertainty about men's future earnings being a barrier to marriage, the research indeed shows that when economic prospects are poor for men, marriage is delayed (see e.g., Oppenheimer 2003; Sweeney 2002; Xie et al. 2003 for the US; Kalmijn 2011 for Europe, and Jalovaara 2012 for Finland). In contrast, the economic context can affect divorce positively or negatively. Difficult economic circumstances due to unemployment or a decline in household income increases conflict in relationships related to stress accumulation (Conger et al. 1990) and Fischer and Liefbroer (2006) found higher dissolution rates when consumer confidence declined. Poor economic conditions can however increase the costs of separation and living independently, which is why we often see that divorce rates are pro-cyclical (Amato & Beattie 2011; Hellerstein & Morrill 2009; Schaller 2013).

Union dynamics and fertility

The relationship between union dynamics and fertility can operate due to both processes responding to the same mechanisms. As highlighted above, the SDT and economic considerations are key in the theoretical discussions of union postponement and instability, as well as childbearing. In this sense, the determinants of delaying a co-residential union are the same determinants of delaying childbearing. Alternatively, the relationship between union dynamics and fertility can operate mechanically in contexts without high adolescent fertility. As childbearing is closely linked to partnership, there is simply a shorter amount of time to have the children one might wish to have if beginning co-residential unions later in life or ending them earlier. This has generated various branches of research.

One relevant body of research is that specifically on childlessness. Mynarska et al. (2015) show the diversity of the paths that lead to childlessness in terms of educational attainment, labor market experiences and union histories for the cases of Italy and Poland. They find that the childless archetype of the highly educated woman is not the full story. Tocchioni (2018) highlights the importance of partnership in Italy along with the increasing proportion of single men in recent cohorts. Klímová Chaloupková and Hašková (2020) show that never being partnered was a main pathway to childlessness in Czech Republic. In addition, the transition from socialism was accompanied by union trajectories becoming more diverse and unstable for childless men. Similarly, the risk of childlessness increases with the number of years without a partner (Keizer et al. 2001). In Norway, both those who have a late entrance into a first union that is short-lived and those who do not quickly enter a union or have many short unions have high risks of remaining childless (Hart, 2019). Turbulent partnership histories in Germany were also linked to childlessness (Kreyenfeld & Konietzka 2017), as was never partnering (Raab & Struffolino 2020). In Finland, both fragmented and empty co-residence histories were linked to childlessness (Jalovaara & Fasang 2017).

Another branch of research focused on the implications of divorce for fertility rates. That union dissolution leads to lower fertility overall has been established in different country contexts (Winkler-Dworak et al. 2017). Thomson et al. (2012) also take into account changes in the timing of union formation. Partnership dissolution opens the door to a new partnership, which may offer an incentive for childbearing, regardless of the parity already reached. Assessing the contribution of multi-partner fertility to total fertility as a response to the expectation that unstable unions would naturally lead to fewer children, Thomson et al. (2020) find that childbearing within second or later unions comprises only a small share of total childbearing (up to 9%) in 14 European countries.

Post-socialist research

Post-socialist countries can be considered as ideal contexts for the theoretical pathways for change in union dynamics, involving individualization and uncertainty. With the collapse of the socialist system, norms and institutional structures shifted dramatically and rapidly. But the changes were not uniform. From a remarkably similar set of conditions in the 1980s, this set of countries underwent individual processes of identity and nation-building, market reforms, and policy development. In addition, the transformation was accompanied by worsening economic conditions that were either brief or protracted, depending on the context (Gimpelson 2001). In other words, we should not expect the countries to form a cohesive group on anything besides a shared history of state socialism. Indeed, we should expect that institutional developments affected the degree of individualization (Esping-Andersen 2007) if we extrapolate from existing comparative European research (Mayer 2001). When addressing their family dynamics we also need to take into account massive emigration of young people

from this region, especially Poland, Romania and Bulgaria, to Western and Northern Europe (Black et al. 2010; Engbersen et al. 2013; Zaiceva & Zimmerman 2016) further lowering fertility levels from 2005 onward.

In the literature on (or including) post-socialist countries, many of the same countries in this study have been addressed, sometimes comparatively, showing a delay in marriage and union formation, with much focus on the shift from marital to non-marital unions and childbearing (Andersson et al. 2017; Andersson & Philipov 2002; Billari 2005; Hoem et al. 2009; Puur et al. 2015; Sobotka & Berghammer 2021). Perelli-Harris and Lyons-Amos (2015) find that partnership patterns have changed more due to the rise of premarital cohabitation than an increase in divorce.

Increases in divorce risk or rates in post-socialist countries has been documented in studies on Bulgaria (Philipov & Jasilioniene 2008), Hungary (Bukodi & Róbert 2003; Spéder 2005; Spéder & Kamarás 2008), Romania (Mureşan et al. 2008), and Russia (Avdeev & Monnier n.d.; Solodnikov 2016). To date, the only comparative research on divorce has been Philipov and Dorbritz's (2003) study based on aggregated data and Härkönen et al. (2020) study based on individual-level data. Both studies argued that the transition from state socialism did not lead to a clear divergence from previous divorce trends. Our research addresses union instability more broadly and not just divorce; if we were to extrapolate based on divorce trends, which may or may not be indicative, previous findings imply that the contribution of union instability to time spent in unions is likely to vary across the countries we study and will not necessarily be tied to changes occurring after the transition from socialism began.

Based on the literature to date, no clear expectations can be drawn about which union dynamic trends will generate the most change over time, nor in which countries they will be strongest. As all countries included here experienced a fertility decline during the 1990s, there is potential for union dynamics to have changed in all countries if we assume they may be linked. Approaching the question from this angle (i.e., how fertility may have been influenced by union dynamics), it is worth considering differences with respect to the fertility decline. Two different patterns of fertility decline have been identified, whereby some post-socialist countries 1) maintained a relatively early age at parenthood but saw a decline in second and higher parity births, and others 2) experienced more postponement of parenthood but kept similar levels of second and higher parity births (Billingsley 2010; Billingsley & Duntava 2017; Spoorenberg 2013). The latter pattern appears more commonly in countries that were not former Soviet Republics and that experienced more rapid and successful economic transitions (Billingsley 2010; Sobotka 2003). If union dynamics contributed to fertility decline, we might expect delayed union formation to be the dominant contributor to fewer years in a union in countries with pronounced fertility postponement, whereas this is less likely to be the case where unions are not postponed. We might instead expect to see union instability shorten the years spent with a co-resident partner where higher parity births declined. To be clear, union stability is not currently a common explanation for lower second and third birth progressions in the literature.

To explore these patterns, we are the first to cover the distinct pathways to changes in union dynamics analyzed here, as well as the first to explore union dynamics for this wide range of countries, including the follow-up survey wave from the GGS.

Data and methods

The data used for this study is based on the Harmonized Histories dataset (Perelli-Harris et al. 2010) in which the partnership histories, as well as other information, were harmonized across Generations and Gender Surveys (GGS) for over 20 countries. This harmonization effort includes the second waves of GGS where available (7 countries). GGS relies on a nationally representative sampling strategy documenting all partnerships and their timing along with other life course events based on retrospective respondents' reports. Participants were asked about when they entered and ended their first co-residential union (marital or non-marital), if ever, and the sex of their partner. Subsequent unions were documented as well. While recall errors may occur, the country data for the participating countries has been carefully assessed and deemed of high quality (see e.g., Festy & Prioux 2002; Vergauwen et al. 2015). The sample that was created covers enough birth cohorts to track changes from before the end of state socialism to as recent years as possible. Table 1 lists the years in which each country was surveyed as well as the latest cohort to reach age 30 by the time of the survey. We limit the oldest cohorts to those born in 1945.

Table 1. Descriptive information related to the surveys, including GGS first and second waves

	Survey years		Oldest cohort	Latest birth cohort reaching age 30	Number of women in sample	Number of women reaching age 30
Belarus	2017		1945	1987	5059	4079
Bulgaria	2004	2007	1945	1977	5475	4093
Czech R.	2005	2008	1945	1978	3933	2843
Estonia	2004/05		1945	1974	3460	2709
Georgia	2006	2009	1945	1979	4162	3331
Hungary	2004	2008	1945	1978	5285	4443
Kazakhstan	2018		1945	1988	8538	6868
Lithuania	2006	2009	1945	1979	3642	2674
Poland	2010/11	2014	1945	1984	9172	7661
Romania	2005		1945	1975	4071	3344
Russia	2004	2007	1945	1977	4973	3961

The main comparison is of the birth cohorts who came of age before the transition from socialism began (1945-1969) and those born later (1970s). For a few countries we are able to also assess trends for the cohorts born in the 1980s. Because we focus only on cohorts that reached age 30 by the time of the interview, the differences in survey years has no impact on the results. However, this difference does mean that in some countries we can follow more recently born cohorts but not in others. The recent cohorts in these few countries can only be compared among themselves. The 11 countries are separated into two groups in the presentation of results on the basis of whether they once were part of the Soviet Union or not. Not only did the collapse of state socialism occur a little later for the Soviet Union, but as mentioned earlier distinct paths in fertility development as well as structural differences make this division sensible (see e.g., Aliyev 2015; Billingsley & Duntava 2017).

As the purpose of this study is to explore and describe trends, the methods used are relatively straightforward. Using the data on union histories we calculate 1) the share of all women in a given birth cohort that had not entered at least one co-residential union by their 30th birthday, and 2) the share of all women in a given birth cohort that are still in their first union at age 30. All women in our samples who reached age 30 by the time of the interview were included for the first calculation on ever entering a union, whereas we select only women who entered a union and reached age 30 in the second calculation related to union stability.

For the analysis of delayed union formation, we extract the median age at entering the first co-residential union from Kaplan Meier failure estimates in which the process time is age. Women enter the risk set at age 16 and exit at first union or the month of the interview. The Kaplan Meier estimate is the best way to establish statistics such as the median age at an event because it allows all people in the data to contribute to the estimate, even if some individuals under observation have not yet completed the event under study, meaning they are censored before the event occurs. All women in our samples were included for the analysis of union formation timing, up to the cohort for which we are able to derive an estimate for median age. The specific cohorts are detailed in the figures.

For the analysis of total time spent in a union, we sum the months in which women stated they were in a union including all union spells that occur before age 30. All women who reach age 30 were included in the analysis of total time spent in unions by age 30.

Results

The first question we address is whether the timing of entering a first co-residential partnership has been delayed over cohorts. We know from single-country studies that this is the case for some of our countries, but here we show the timing of the delay onset and the extent of the delay using the same procedure and cohorts across all 11 countries. In order to get the most recent estimates as possible, we estimate as many of the years in the most recent cohort bunch as possible to derive a median estimate. For example, in Belarus we are able to use the 1990 to 1995 birth cohorts because at least 50% of these women entered a union by the time they were surveyed in 2017. In contrast, Bulgarian women were surveyed most recently in 2007 and we are able to estimate a median age only for the 1980-81 cohorts. Which birth cohorts can be included is a function of both when the most recent survey was administered and how much union formation has been postponed. We cannot derive a median estimate for Hungary at all for the 1980s cohorts due to the greater extent of postponement there than in other countries that were surveyed in the same year (e.g., Czech Republic).

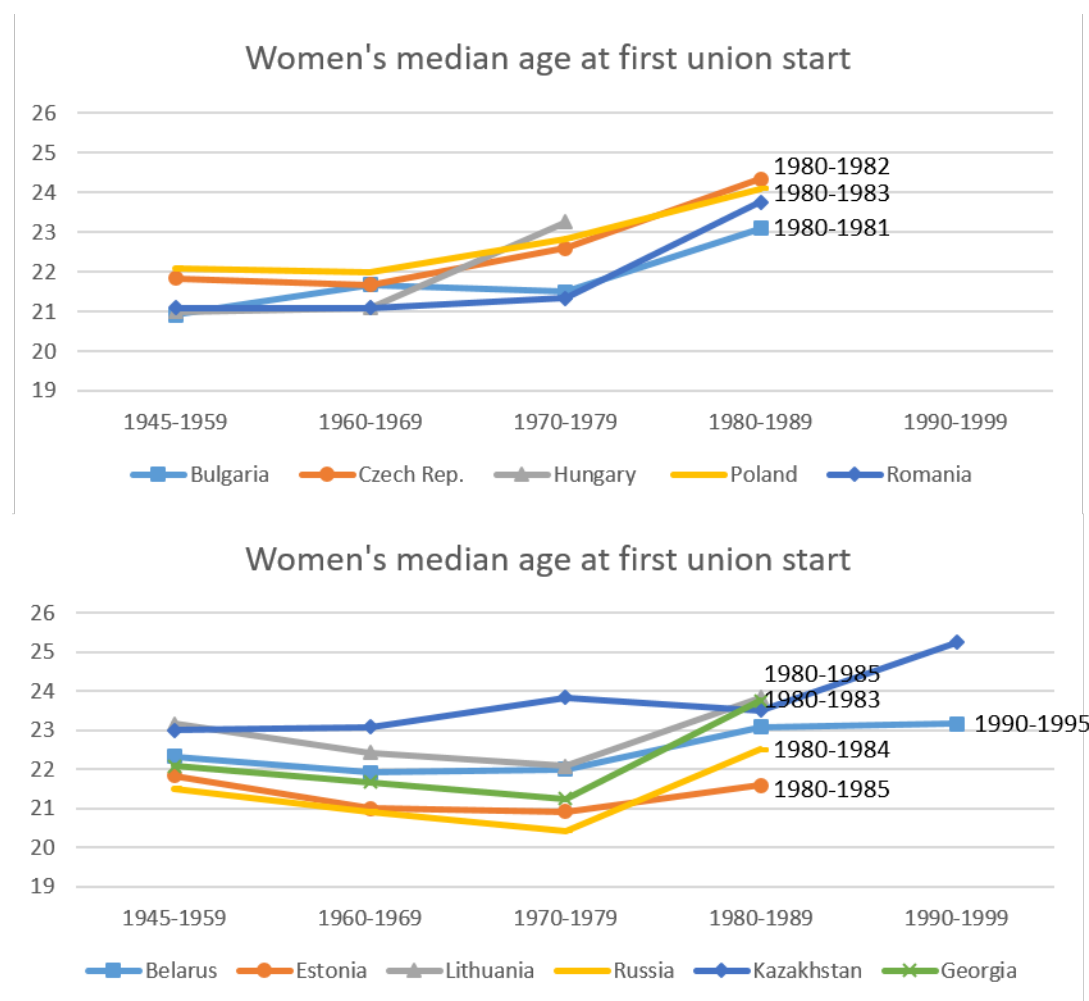
Although the trend is toward a delay in entering co-residential unions, the increase in age was not universal. For the 1960s cohorts, who came of age before the transition from socialism commenced, the median age at first union was between 21 and 23 for all countries (Russia had the youngest age at 20.9 and Kazakhstan the oldest at 23.1). By the time the 1970s cohorts came of age, this age range had spread from 20 to 24 (Figure 1).

In general the age at first union formation has been more homogenous outside the Soviet Union than within it. But whereas Bulgaria and Romania saw little change for the cohorts of the 1970s vis-à-vis the 1960s cohorts, the Czech Republic, Hungary and Poland showed a rapid increase in age at first union: almost a year in Czech Republic and Poland, and over two years in Hungary. Bulgaria and Romania experienced the onset of union postponement first for the 1980s cohorts that came of age in the 2000s, with increases of over a year and a half in Bulgaria and almost two and a half in Romania. Strong union postponement continued in

the other three Central and South-Eastern European (CSE) countries as well, even though the median age at union formation in Hungary could not be estimated for the 1980s cohort, as mentioned above. For the cohorts and countries for which the median age could be estimated, we see a two-year delay between the 1960s and 1980s cohorts, most of which occurring after the transition from state socialism.

In the post-Soviet group, Kazakhstan stands out with having the latest age at union formation of all countries for nearly all cohorts. Worth noting is the different pattern in this group compared to CSE with a slight decline in the age at entering first union until cohorts born in the 1980s. This mirrors what we know about timing of first birth trends in Russia (see, e.g., Billingsley & Duntava 2017). The transition from socialism therefore did not seem to have the same impact in this group. The pattern of a later union postponement, similar to Bulgaria and Romania, appeared in all countries, except Kazakhstan where postponement of union formation occurred only in the 1990s cohorts. Georgia and Russia experienced the most pronounced postponement of union formation from the 1970s to 1980s cohorts, with a delay of 2.5 and 2.1 years, respectively. In the cohorts considered, Estonia show the least postponement of only 0.6 years.

Figure 1. Women's median age at start of first co-residential union, by country and birth cohort



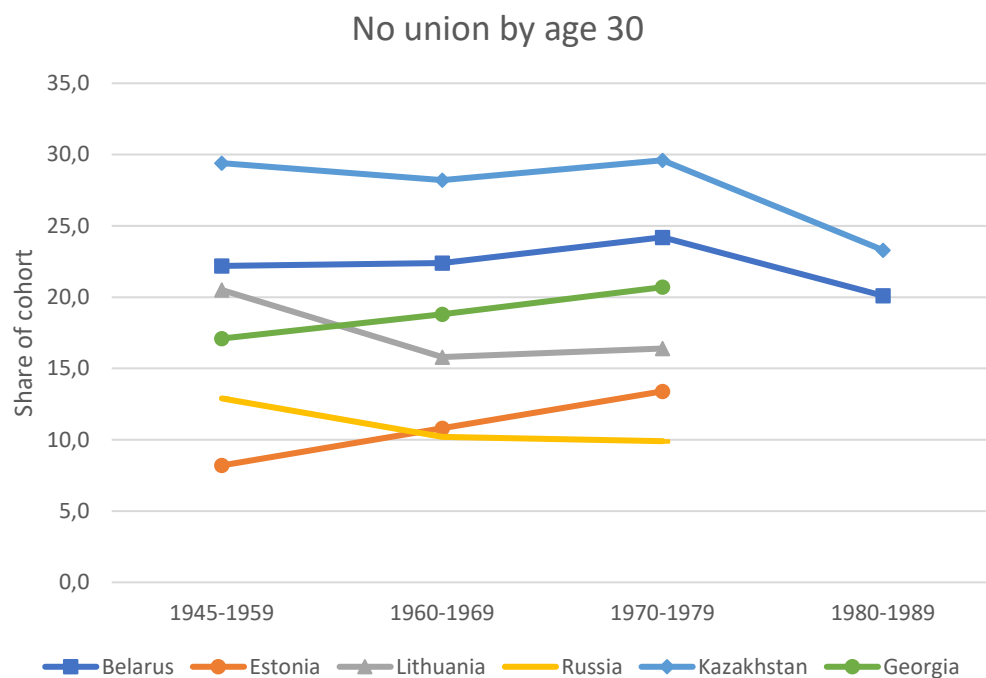
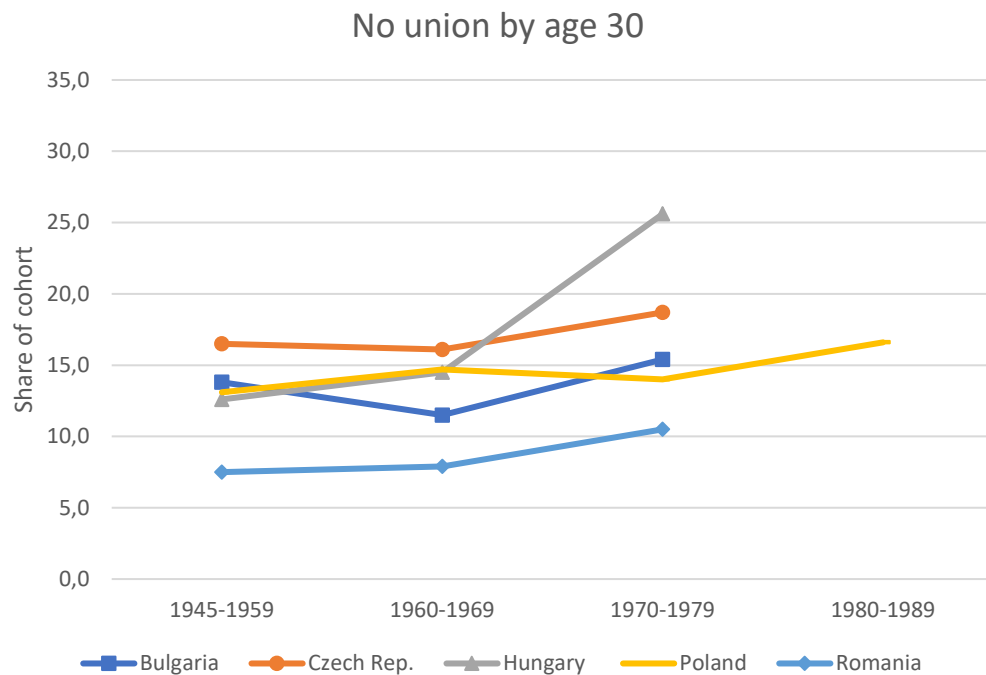
Note: Given survey year and the degree of partnership postponement, not all birth cohorts could be included in the analysis. No final cohorts are specifically indicated for Hungary and Poland in the top panel and Kazakhstan in the lower panel because the cohorts follow the legend.

The second question we set out to answer involved whether the share of people never entering a co-residential union by age 30 has increased. An increase in the median age at entering a union (see Figure 1 above) could be driven by either more people not finding partners or choosing not to move in together with their partner, or both. Only women who reached age 30 by the time of interview are analyzed here. For each country, we calculate the share in each birth cohort group that had not entered at least one co-residential union by their 30th birthday.

As shown in the previous figure, the post-Soviet states were more heterogeneous in their union behavior than those in our sample from CSE. In our earliest cohorts (1945-1959), between 7-17% of women had not entered a co-residential union in CSE, whereas it ranged from 8-30% in the former Soviet countries. And again, an increasing trend appears for CSE countries but not for post-Soviet.

Figure 2 reveals three different trends. First, there was a slight increase across birth cohorts before the transition from state socialism in Hungary, Poland, Georgia and Estonia, and a more pronounced increase thereafter in these countries except for Poland. Second, in Bulgaria, Czech Republic, and Romania we see an increase in the share not entering a union only after the transition for the 1970s cohorts. The third trend, with no consistent change across cohorts, or even a decrease for the youngest cohorts characterizes Belarus, Kazakhstan, Lithuania, and Russia. Putting the two pieces of information depicted in Figure 1 and 2 together, it would seem that only in Hungary might it be the case that some of the postponement of union formation may actually be driven by an increase in those who do not form a union at all by age 30. This conclusion is based on the fact that only in Hungary is there a relatively pronounced increase in both the age at forming a union and the share of women who did not enter a co-residential union by age 30.

Figure 2. Share of women that did not enter a co-residential union by age 30, by country and birth cohorts

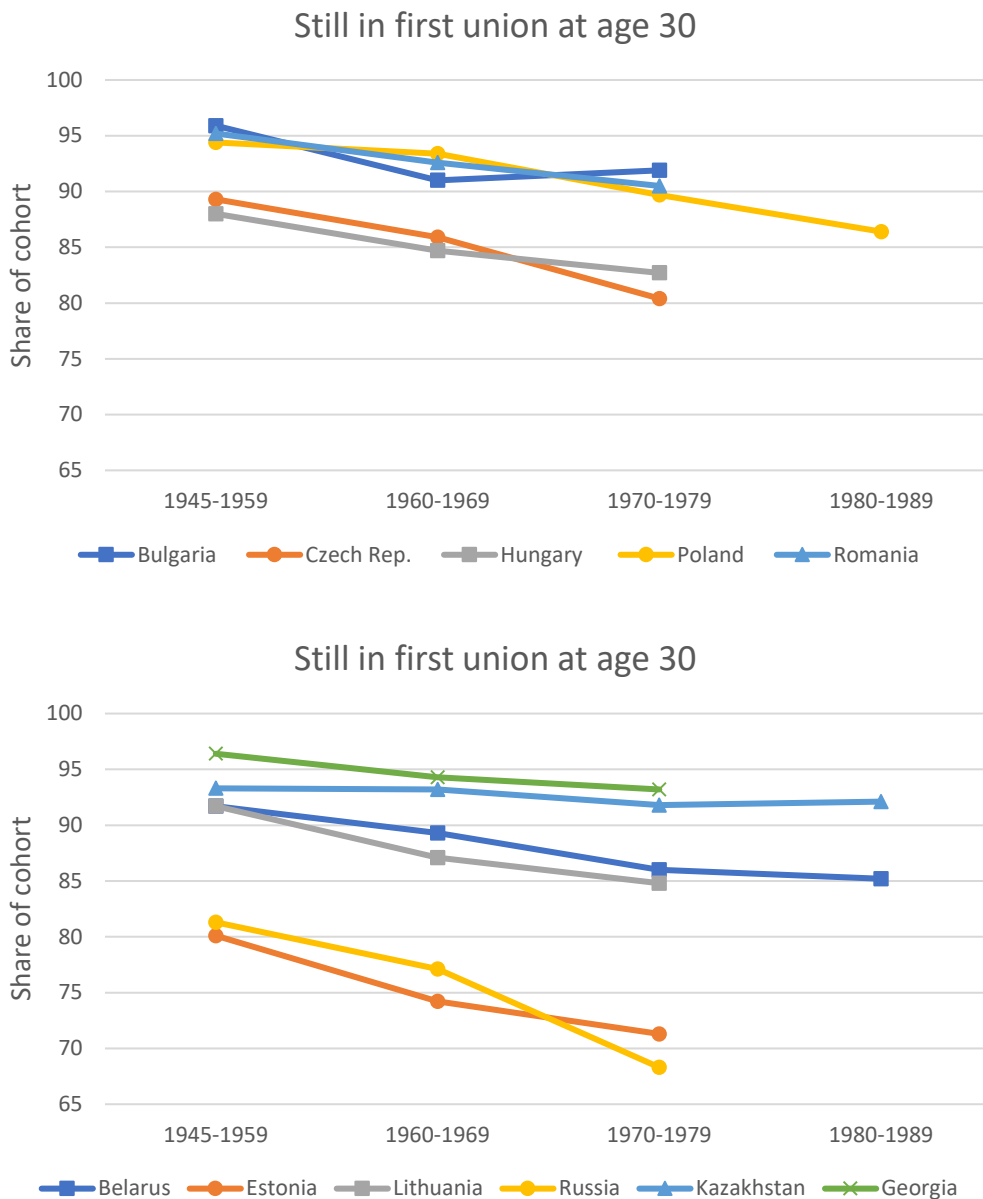


In the third analysis we focus on whether the share of women still in their first union at age 30 has declined. We would expect such a decline over time if there is an increase in partnership instability when women are in their twenties. For this analysis, we again only select women who reached age 30 at the interview, and also have entered a co-residential union by then.

In the CSE countries, we see striking similarities (Figure 3) between Czech Republic and Hungary on the one hand, in which a lower share of women (just under 90% for the earliest cohorts) were still in their first union by age 30, and between Bulgaria, Poland and Romania, in which the share was higher (around 95% for the earliest cohorts). Most post-Soviet countries cluster at the upper side of this range when we look at the earliest cohorts, but Estonia and Russia settle below the others at around 80% of women maintaining their first union until age 30.

A decline in the share of these unions lasting is notable across both groups of countries. Kazakhstan is the only country where there was no marked decline, hence we can conclude that partnership instability was not affecting the amount of time women spent in co-residential unions there. The pace of decline was similar across the rest of the countries, even with their different starting levels. The trends appear to be long-term and not related to the transition, which is what comparative research specifically on divorce has shown (Härkönen et al. 2020). The only exception is Russia, where a substantial decline in first union stability appeared for the transition cohort (1970s). These findings point to partnership instability particularly contributing to fewer years spent in a union during women's twenties in Czech Republic, Estonia, Hungary, Poland and Russia, and increasingly in all countries except Bulgaria and Kazakhstan.

Figure 3. Share of women that are still in their first co-residential union at age 30, by country and birth cohorts



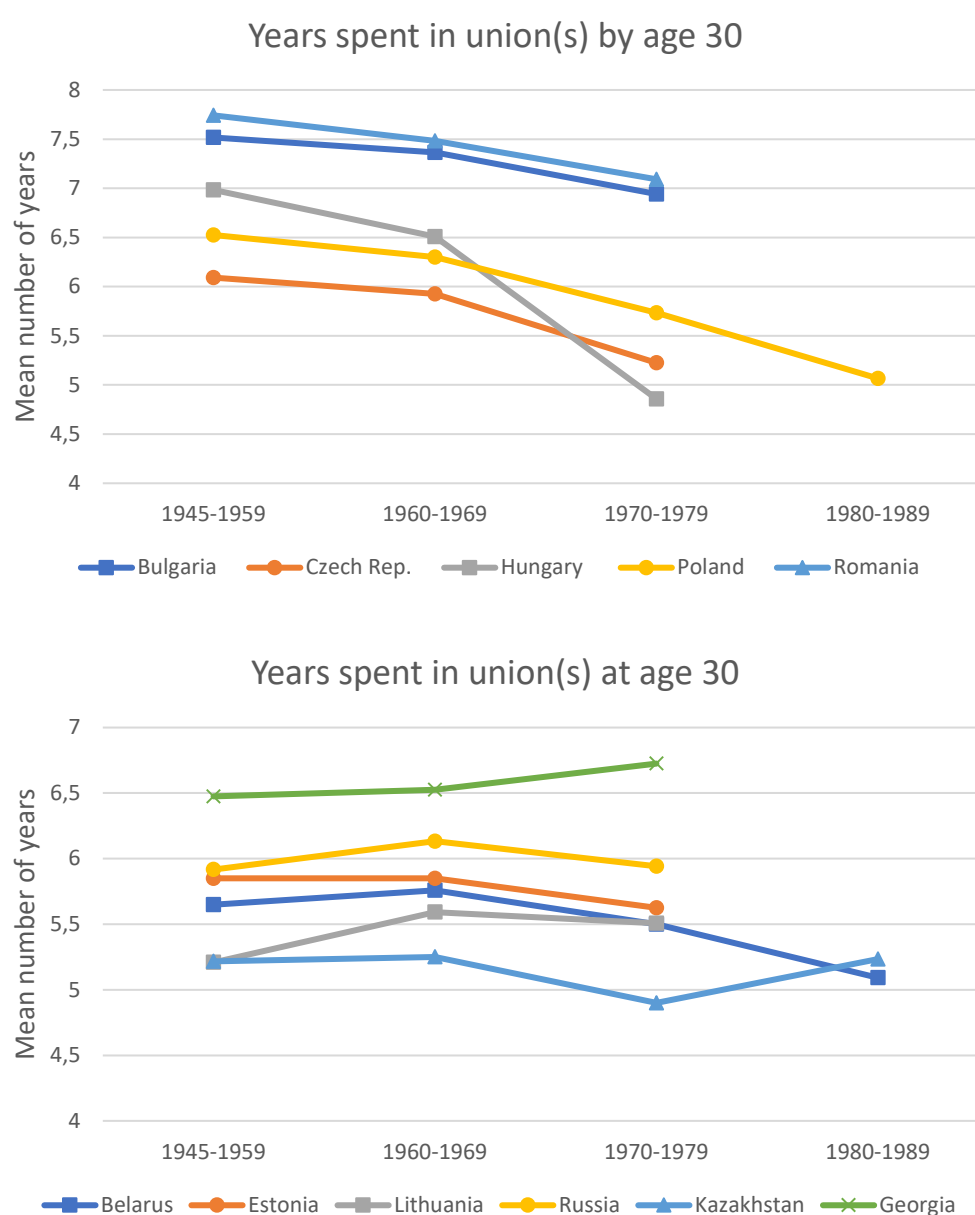
Finally, we calculate the total number of years spent in a co-residential union before age 30 and observe whether it has declined over cohorts. Note that we also include here women who were never in a union. This means that we pick up the contribution of changes in the share of women never entering a union before age 30, a delay in union formation, and union instability before age 30. The trends for only those women who were ever in a union before age 30 are displayed in Appendix A.

In our earliest cohorts, women in the CSE countries spent more years in co-residential unions in general (between 6.1 and 7.4) than women in the Soviet republics (between 5.2 and 6.4). But this lower range of time spent in unions in the latter group held relatively stable across the cohorts even during the transition from state socialism. In contrast, the CSE countries saw a universal decline in the number of years with a partner (Figure 4). Hungary showed a strong

decline (a loss of 2.1 years) in time spent in union(s) for the transition cohort. In a rare estimate for the 1980s cohorts, Poland showed a loss of one and a half years. The remaining CSE countries lost between half a year and a year. This more moderate decline appears to be part of a longer trend in Bulgaria and Romania.

The post-Soviet countries mainly show a slight decline for the transition cohort, except for Georgia, and with recovery in Kazakhstan for the most recent cohort. The change for the post-Soviet countries amounted to less than half a year. Interestingly, very little change appeared for Russian women; the strong increase in union instability there seems to be counter-balanced by the younger age at entering a union until the very last cohort.

Figure 4. Average number of years women spent in co-residential unions, by country and birth cohorts



In Appendix B, the same procedure is followed for estimating the number of years spent in unions up to age 35. While this is arguably a better measure (than observing only up to age 30) of understanding how this precondition for childbearing has changed over time, it

includes a substantially reduced number of women in the latest cohorts as those who did not reach age 35 by the time of the interview were excluded. The same general trends appear, nevertheless.

Discussion

Despite much focus in the literature on changes in childbearing behavior, little attention has been given to whether there were changes in a basic pre-condition for childbearing, particularly co-residential unions. Difficulty finding partners, delayed union formation and increased partnership instability can reduce the number of years individuals spend in partnerships, which is the main context for childbearing. This study was primarily concerned with the coexistence of these partnership changes in recent decades and how they together shape the possibilities women have for childbearing. We focused on the former socialist countries in which fertility rates declined dramatically, particularly following the transition from state socialism. This group of countries is far from homogenous, given variations in the success of market reforms (Bohle & Greskovits 2007) as well as changes in norms and values (Sobotka 2011).

Before considering our findings, a few limitations should be highlighted. First, the focus here was on changes in union patterns while women are in their twenties, but some childbearing may occur later, weakening the relevance of ages during the twenties the longer childbearing is postponed. However, a robustness check for our final analysis extended the years of observation to age 35 and found similar trends. Second, a potential limitation is that our data relies on respondents remembering when their unions began and ended, and there may be some margin of error due to difficulties recalling the exact dates. However, we cover only co-residential unions, which include the momentous event of a partner moving in or out of one's home or oneself moving in or out of a partners' home, diminishing recall issues compared to non-residential partnerships. Whereas the oldest cohorts could have a more difficult time recalling dates than younger cohorts, the pattern of nearly universal marriage entered at young ages that dominated partnership dynamics in the region at the time they were young and formed a family mitigates such concerns. An important omission in this study is that we did not distinguish between marital and non-marital co-residential unions, even though the extent of non-marital unions as well as whether such union is considered suitable for childbearing are likely to vary across countries. Our interest was in the changes in union dynamics more generally and the possible implications for fertility development. Finally, this is not an exhaustive analysis of potential contributors to low fertility; we cannot account, for instance, for substantial emigration of young people, which may be temporary or not registered for many of these countries and may have negative implications for official fertility rates.

Overall, our results show that partnership dynamics have changed to a degree that they may be a potential contributor to declining fertility rates in Central and Southeastern Europe, and in Hungary in particular. We observed a striking decline in the number of years women spent in co-residential unions over the cohorts in this country. From a relative stability in years in a union before age 30 until the transition began, the women who came of age after this time lost 2.1 years spent with a co-resident partner in Hungary. By the 1980s cohorts, women in Poland had lost a year and a half and it is likely that this continued decline applies to countries with similar trends for which we cannot estimate the development for younger cohorts (Czech Republic in particular). In Poland, this decline seemed to be driven by both a later age at entering a union and less stability of co-residential unions. In Hungary, all three

processes (delay, abstaining from a union, and instability) contributed to fewer years that women spent in unions, but only union instability appears to have been a longer term trend and not a feature of the post-transition cohorts. This means that even before the end of state socialism Hungarian women were on their way to fewer years spent in unions during their 20s, but the transition from socialism ushered in an era of greater loss.

In sum, all former socialist countries that were not part of the Soviet Union showed evidence of women spending fewer years overall in co-residential unions during their twenties. We can conclude that partnership dynamics have changed enough in these countries to have contributed to fertility decline as well then, albeit of less importance than in Hungary (until more recently in Poland and potentially Czech Republic). Except in Hungary, this loss in time appears to have little to do with women not entering a union at all, but rather was driven by a new trend of postponed co-residential unions and a continued, but modest, increase in partnership instability. The delayed formation of a union mirrors the more pronounced postponement of parenthood visible in this group of countries (Billingsley & Duntava 2017).

We considered countries with shared history of being part of the Soviet Union separately. We do not find a unified picture within this group, however. In fact, there is more diversity within this groups than between the two groups of countries in terms of first co-residential union timing, never in a union by age 30, and partnership instability. This is in keeping with expectations based on varied institutional developments and how these shape life course developments (Mayer 2001). In addition, the diversity grew over the cohorts observed here. Nevertheless, we see a very different scenario than in the CSE countries.

Most importantly, we do not see a trend toward fewer years spent in union across cohorts in the post-Soviet countries. In overall years lost in co-residential unions, Kazakhstan looks the most similar to the Central and South-Eastern countries discussed. Women in the post-transition cohort lost a little over half a year in their twenties; but unlike Poland or the rest of the CSE countries, the trend reversed instead of deepening with the 1980s cohorts. Interestingly, this recovery in time spent in unions occurred at the same time that postponement of first union began. And there was negligible change in union stability. The factor that may explain the recovery and offset the impact of postponement was a notable decline in the share of women who do not partner by age 30, similarly to Belarus. That more women seem to be partnering by age 30 than in previous years, even if at older ages, is worth exploring in future research. Pointing toward a strong link between partnership and fertility dynamics, the reversal of this union trend mirrors a reversal in the declining fertility trend observed in more recent years in Kazakhstan (Spoorenburg 2015).

Belarus and Estonia saw a very minor decline—about two or three months—in time spent in co-residential unions for the 1970s cohorts compared to older cohorts. The contribution of union dynamics along the lines studied here to childbearing in these two contexts could therefore be only very minor, if at all. However, looking at the 1980s cohorts in Belarus, which are not available for most of our countries, a more substantial decline in years spent in a co-residential unions appears. This is mostly driven by postponement of the first union, as the median age for this cohort increased by over a year. Union instability appears to have contributed slightly as well. The small decline observed in Estonia cannot likely be explained by postponement of first co-residential union (at least not in the 1970s cohorts, the most recent we can observe there). Rather it appears due to both partnership instability and an increase in the share of women who do not partner by age 30.

The final three countries—Georgia, Lithuania and Russia—experienced very little change in the time women spent in a co-residential union during their twenties. These three countries

saw a fall in the age at first co-residential union instead of postponement for the pre-transition cohort. This was not unusual for the post-Soviet countries, as the median age either held constant or was dipping for these women; it was not until the 1980s cohorts that we saw an increase in the median age (except for Kazakhstan). This increasingly early entrance into co-residential unions was strong enough to offset other dynamics. For example, there was no overall effect on total years spent in unions in Russia of a sharp increase in union instability (Lithuania experienced only a modest increase, whereas Georgia saw barely any change at all). And a steady but small increase in the share of women who never entered a union during their twenties in Georgia (with only negligible change in Lithuania and Russia) mattered little for total years in union. By the time women are in their early 30s, however, these other union dynamics (instability and never entering a union) appear to become more dominant, as we can see more signs of a decline in total years spent in a union when considering trends up to age 35 (see Appendix B). Whether union stability has potential as a single contributor to the decline in higher parity births in Russia, for example, is something that may be worth further exploring.

Taken together we can say that the changes in early co-residential union dynamics may have contributed to the fertility decline in Central and South-Eastern Europe, but probably played a limited role in the post-Soviet states. Just as we found various patterns of changing union dynamics in these 11 countries, the early stages of family building are less static also elsewhere in the world. Marriages are increasingly postponed in advanced societies elsewhere in Europe, North America (for overview see Oláh et al. 2021) and Asia, but this trend is accompanied by rising singlehood only in certain contexts displaying long-term extremely low fertility, in particular Southeast and East Asia (Raymo et al. 2015; Yeung et al. 2018). The prevalence and acceptance of consensual unions as context for childbearing varies even across Europe and by social strata especially in the US (Perelli-Harris & Lyons-Amos 2015). All in all, a better understanding of the relationship between partnerships and childbearing is necessary if partnership dynamics are to be considered as new avenues for policy-making aiming at sustainable societal development.

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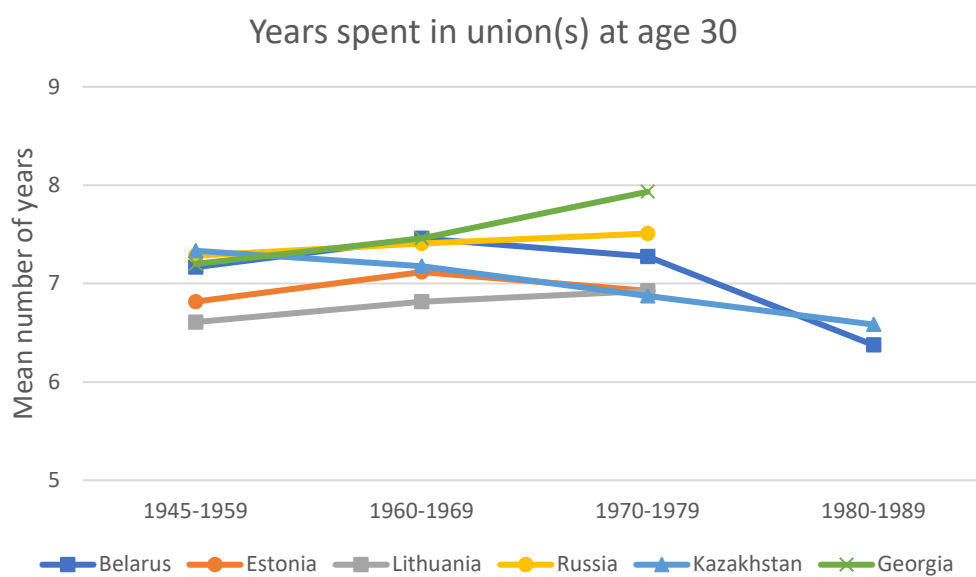
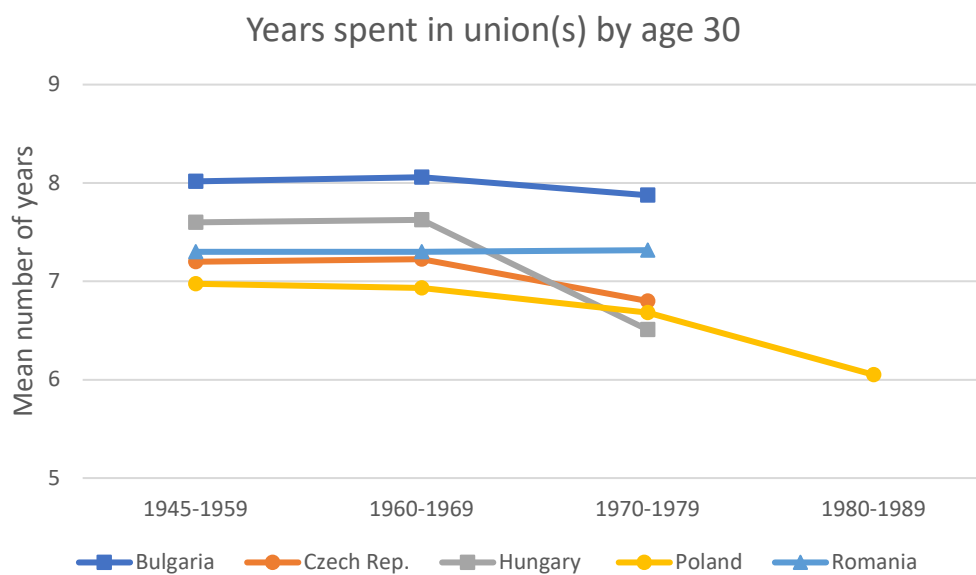
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Appendix A. Average number of years women spent in co-residential unions, by country and birth cohorts, excluding women who never enter a union before age 30



Appendix B. Average number of years women spent in co-residential unions before age 35, by country and birth cohorts, including women who do and do not enter a union before age 30

