

Warsaw School of Economics
Collegium of Economic Analysis

Interdependencies between marital instability and fertility

Marta Styrz

A summary of the doctoral dissertation

Supervisor: prof. dr hab. Irena E. Kotowska

Co-supervisor: dr Anna Matysiak

Motivation and research aims

Divorce rates increased sharply in most developed countries in the second half of the 20th century, and had reached historically high levels by the end of the century (Goldstein, 2003). The rapid and lasting rise in marital instability has attracted the attention of a range of social scientists, leading them to examine the determinants and consequences of marital instability. In this thesis I concentrate on a particular dimension of the on-going research on marital instability: i.e., on its associations with fertility, whereby fertility is considered both as a factor that influences marital instability and as a process that is affected by marital instability. Fertility and marital instability are the key components in the transformation of the family that has been occurring in developed countries since the 1960s, and they have led to fundamental changes in the reproduction patterns of populations.

The rise in the frequency of divorce has led researchers to investigate the consequences of divorce. The consequences of divorce on individuals and society are varied and profound. The increasing share of marriages that end in divorce and the rising numbers of people who remarry shape family structures by increasing the numbers of single-parent families, couples in which at least one of the partners was previously married, and reconstituted families. Individuals, and especially women, may experience material hardship after divorce. In addition, the family relationships and family networks of divorced individuals become more diversified and volatile, which could affect their well-being, security, material situation, and behavioural, social, health, and educational outcomes (Amato, 2000, 2010; Booth & Amato, 2001; Fomby & Cherlin, 2007; Huurre, Junkkari, & Aro, 2006; Kim, 2011; Lesthaeghe, 2010; Musick, Brand, & Davis, 2012; Musick & Meier, 2012; Potter, 2010; Rydzewski, 2010; Sigle-Rushton, Lyngstad, Andersen, & Kravdal, 2014; South, Crowder, & Trent, 1998; Steele, Sigle-Rushton, & Kravdal, 2009; Sun, 2001; Uunk, 2004).

As the persistence of below-replacement fertility levels has tremendous effects on the ageing processes and the demographic structures of populations, as well as on the economic and social progress of societies, fertility is a central topic in demographic and social research, and is increasingly mentioned in policy debates. Because of its relevance for population size, the balance between generations, social structures, and prospects for sustainable growth, fertility has long been a demographic outcome of a primary public concern (European Commission, 2005, 2006; Sobotka, 2008). Given the extent to which changes in fertility and marital instability affect the current and future demographic regimes, it is surprising that we have relatively little knowledge about the interdependence of these two processes.

In my thesis I explore the interdependencies between marital instability and fertility by investigating the effects of fertility on marital instability, and, conversely, the effects of marital instability on fertility. To this end I address two research questions:

(1) How does having children affect marital instability?

(2) To what extent do changes in the risk of marital disruption contribute to changes in completed fertility?

The question of whether having children contributes to marital stability has long been debated by social scientists. Although the literature on this topic is extensive, the results of studies that have examined the effects of having children on marital stability have not been conclusive. Both the theoretical considerations and the empirical findings indicate that having children can either stabilise or destabilise relationships. According to some theoretical arguments, having children decreases the risk of marital disruption because children constitute a form of marriage-specific capital that loses its value if marriage ceases to exist (Becker, Landes, & Michael, 1977). The presence of children also creates additional barriers to dissolving marriage, as having children increases the material, social, and psychological costs of a marital break-up, while also raising the utility of marriage and of role specialisation within marriage (Becker et al., 1977; Cherlin, 1977; Levinger, 1965; Parsons, 1940). On the other hand, the presence of children can place pressure on a family's resources, and can thus lead to increased strain on the partners' relationship (Conger et al., 1990; Falconier & Epstein, 2011; Gudmunson, Beutler, Israelsen, McCoy, & Hill, 2007; Heaton, 1990; Hirschberger, Srivastava, Marsh, Cowan, & Cowan, 2009; Schnittger & Bird, 1990; Twenge, Campbell, & Foster, 2003). Moreover, the birth of a child demands that both parents make major adjustments, which can create tensions that are destructive to marriage. Empirical studies have often found a negative association between the risk of marital disruption and the presence of children (e.g., Berrington & Diamond, 1999; Hoem & Hoem, 1992; Todesco, 2011). However, other studies have shown that the stabilising effect of having children diminishes as the children age (Andersson, 1997; Toulemon, 1995), differs according to the parity of each child (Lillard & Waite, 1993), and turns destabilising after the endogeneity of fertility on dissolution risk is taken into account (Fan, 2001; Svarer & Verner, 2008); and that the relationship between marital instability and fertility is positive, even if the endogeneity of fertility is not acknowledged (Böheim & Ermisch, 2001; Chan & Halpin, 2002).

The discussion about the effects of marital instability on childbearing has become increasingly important in recent years. The assumption that marital instability has negative effects on fertility was, however, seldom disputed until a reversal of the correlation between the macro indicators of divorce and fertility was observed. Before 1990, the correlation between those two indicators was

negative: i.e., countries with higher levels of marital instability had also lower fertility. But during the 1990s, the correlation between divorce and fertility became positive: i.e., countries with higher levels of marital instability also had higher fertility (Billari & Kohler, 2004; Prskawetz, Mamolo, & Engelhardt, 2010). After noting this reversal in the macro dependencies, researchers started to debate whether parallel changes were occurring on a micro level, and whether “union instability has become an engine of fertility” (Billari, 2005; Thomson, Winkler-Dworak, Spielauer, & Prskawetz, 2012). The idea that union instability may be positively linked to fertility outcomes is based on the observation that re-partnered individuals often have child(ren) with their new partner, even if they already had children from a previous union. Thus, it is possible that over the life course of an individual his or her subsequent unions will bridge the gap in fertility created by the dissolution of his or her first union. The existing research has not confirmed this assumption, as most studies have found that the average fertility outcomes of people who have experienced a separation did not exceed the outcomes of people who remained in a union (Beaujouan & Solaz, 2008; Thomson et al., 2012; Van Bavel, Jansen, & Wijckmans, 2012). At the same time, the results suggest that the fertility outcomes of individuals with discontinuous union histories are highly variable (Van Bavel et al., 2012), and that the higher degree of dispersion may be a prelude to the emergence of a positive association between marital instability and fertility on the individual level.

Hypotheses

To investigate my research questions I conducted empirical analyses using Polish data. Poland has more traditional patterns of family-related behaviours than most other European countries (Kotowska, Józwiak, Matysiak, & Baranowska, 2008). Although those behavioural patterns have changed considerably over the past 30 years marriage is still the dominant form of living together as a couple, and a marital union is considered to be the most appropriate arrangement for childbearing (Kowalska, 1999; Mynarska, 2009). In addition, compared to couples elsewhere in Europe, couples in Poland tend to marry relatively early, and are less likely to divorce (Styrc, 2010; Szukalski, 2013; Wieczorek, 1999). It is also important to note that Polish society is still heavily influenced by the Catholic Church, an institution that rejects the dissolution of religious marriages and extra-marital fertility. Based on my contextual knowledge of Poland and my overview of the relevant theoretical and empirical research, I have formulated three specific hypotheses.

H1: The presence of children reduces the risk of marital disruption in Poland.

Given that in Poland the legal obstacles to divorce are substantial for couples with minor children; and that the social and psychological costs of family break-up in a society that is traditional, religious, and family-oriented are high; I assume that for married couples with children the costs of separating

will be high. In addition, since the mother was—at least until recently—usually awarded custody of the children in cases of divorce in Poland, a divorced father often had only limited access to his children, and thus suffered a substantial loss of marriage-specific capital. I therefore assume that the presence of children should significantly add to the advantages of staying in a marital union, and that having children may therefore be expected to be associated with higher levels of marital stability.

H2: The stabilising effect of having children decreases as the children get older.

Conditional on finding the negative association between marital instability and the presence of children proposed in H1, I hypothesise that the stabilising effect of having children declines as the children get older. This prediction is derived from my review of the theoretical arguments on the effects of having children on marital instability. All of the theories I considered suggested either that the effects of the presence of children on marital instability should be strongest when the children are young, or that these effects do not change as the children get older. The theories that posit that children are marriage-stabilising factors generally support this claim by citing the mechanisms of marriage-specific capital, the economic dependence of woman, and the costs and barriers associated with raising children. Because raising very young children requires a great deal of time and effort, having young children is assumed to yield the strongest stabilising effect. As children grow older, it may be assumed that their value as a form of marriage-specific capital decreases, along with their demands for direct parental care.

H3: The rise of marital instability reduces fertility.

For marital instability to have a fertility-increasing effect, a woman must have her first child within her first union, and then re-partner at a relatively young age, when she is still biologically able to bear children. A pattern in which women get married and have their first child early should facilitate having additional children with a new partner. Nevertheless, if the first two hypotheses are true, then married couples with children will be less likely to divorce when their children are young. The dissolution of a marriage in which the couple have no children or adult children will not lead to a surplus of fertility driven by having children with multiple partners. Given that I expect to find a negative link between the presence of children and marital disruption, I hypothesise that in Poland an increase in marital instability will result in a smaller number of children being born over the life course.

The thesis consists of five chapters, as well as an introduction and a conclusion. In the first chapter I provide background information for the analysis that follows by summarising the post-war demographic trends in family-related processes in Europe. In the second chapter I offer more insight

into the context of marital instability in Poland by describing the legal arrangements, the statistical picture, and the cultural framework of marital disruption. The third chapter focuses on the theoretical premises of the effect of having children on marital stability. The theoretical considerations of the third chapter are supplemented with an overview of the empirical research on this topic. The conclusions of this chapter are then implemented in the empirical study of the fourth chapter, where I estimate the effects of having children on marital instability in Poland using single- and multi-process event history models. In the fifth chapter I present the empirical study on the effects of marital instability on the number of children a woman has over her life course, which is conducted with the use of micro-simulation-based decomposition. In the final chapter, I summarise the conclusions of my thesis and elaborate on their contribution to our understanding of the interdependencies between marital instability and fertility.

Research methods and data

For the empirical study of the effect of children on marital instability of Poland I applied event history analysis, which is a standard statistical technique for analysing the timing of an event; in this case, of marital disruption (Feijten, Boyle, Feng, Gayle, & Graham, 2009). The event history model of marital disruption included a separate term for the number of children and for the children's ages. Additionally, premarital children and premarital conceptions were added as time-constant features of marriage. The regression of hazard of marital disruption takes into account that the intensity of marriage disruption changes with time and under the influence of time-constant and time-varying covariates, and that some couples do not experience the event within the observation period, or ever (right censoring) (e.g. Allison, 1982; Blossfeld, Golsch, & Rohwer, 2007; Singer & Willett, 1993). These features of event history analysis enable me to capture the effects of having children on the risk of marital disruption without distortion due to other dependencies on the observed factors and their time-varying nature. Following recommendations from previous research, I also consider the potential endogeneity of fertility in the equation for marital instability due to unobserved time-constant individual characteristics. The failure to take into account the potential endogeneity of fertility could lead to a bias in the estimated effects of fertility on marital instability, because the initial analysis may have captured some unobserved characteristics that influence both the propensity to conceive a child and the duration of the marriage. For example, women who are less family-oriented may be expected to have more children and to be less likely to disrupt their marriages. Thus, not taking family orientation into account will lead to an underestimation of the effect of having children on marriage disruption. Moreover, I control for the selection of entry into marriage, which may be another distorting factor. If there are some characteristics that we cannot measure that jointly influence the propensity to form and dissolve a marriage, and that are

correlated with covariates of marital dissolution, then the estimates of those covariates will be partly the product of self-selection. For instance, family-oriented women may be expected to be more likely to form marriages early, less likely to divorce, and more likely to conceive a child. Unless we control for selection into marriage, less family-oriented women will be underrepresented in the analytic sample, and thus the observed effect of having children on marital disruption will be further underestimated. In the analysis, I was able to take into account both the endogeneity of fertility and the selectivity of marriage through the simultaneous modelling of marriage formation, marital disruption, and fertility (Bernardi & Martínez-Pastor, 2011; Brien, Lillard, & Waite, 1999; Steele, Kallis, Goldstein, & Joshi, 2005; Upchurch, Lillard, & Panis, 2002). There are only a few studies on the association between the presence of children and marriage instability that were based on multi-process multi-level models. To the best of my knowledge, none of them took into account the selectivity of marriage.

To answer the question of whether divorce can be a pro-natalist force I used a micro-simulation-based decomposition to (i) check whether the increasing risk of union disruption contributed negatively or positively to the number of children born to a woman during her reproductive career, and (ii) evaluate the relative contributions of changes in union dissolution behaviour and changes in union formation and fertility behaviour. To this end, I first built a micro-simulation model of family-related behaviours; i.e., of fertility, union formation, and union disruption. Using this model, I simulated the individual family careers of 100,000 women. I estimated the parameters of the model using event history models of basic family-related behaviours. The evaluated outcome of the model was the mean number of children born to each simulated woman at the end of her reproductive career. Changes in the underlying intensities of experiencing the events of different types resulted in changes in the model outcome. By changing only one behaviour at a time while keeping the remaining behaviours constant, I was able to estimate the effect of the change in this particular behaviour on completed fertility. Comparing the effect of the change in a single behaviour to the effects of simultaneous changes in all behaviours also allowed me to calculate the contribution of this behaviour to the total change in completed fertility. Unlike other models found in the literature, the micro-simulation model enabled me to examine the life histories of women in considerable detail (Spielauer, Koytcheva, & Kostova, 2007; Thomson et al., 2012).

The main advantage of using the micro-simulation model is that it enabled me to follow the relationship between changes in individual behaviours and societal or lifelong outcomes. Because there are numerous dependencies between the transitions that occur over the life course, this linkage is too complex to be derived analytically. The numerical solution to this problem offered by micro-simulation can be used to bridge the micro-macro gap (Billari, 2006; Matysiak & Vignoli, 2009).

Thus, the main methodological advantage of the study is that I link existing knowledge on the interdependencies between processes on an individual level with the outcomes observed on a macro level, which is one of the current postulates for research in the social sciences (Billari, 2006; Matysiak & Vignoli, 2009; Willekens, 1999). Micro-simulations have been used in research on family-related behaviours in recent years, but studies that apply micro-simulations are still relatively rare. This application of dynamic micro-simulation modelling to family-related behaviours was the first for Poland. The only previous simulation model on the micro level in Poland that included time focused on labour market activity and the accumulated contributions to the pension system (Strzelecki, 2012).

The data used to estimate the multi-level multi-process event history model came from the first wave of the Polish Generations and Gender Survey (GGG-PL1) conducted in late 2010 and early 2011 (Kotowska & Jóźwiak, 2011). It contained the retrospective fertility, partnership, and employment histories of around 20,000 respondents. The parameters for the micro-simulation model were estimated using the data from the 2002 Polish Fertility Survey (PFS) conducted together with the Population Census. Around 265,000 women born in the years 1896-1986 completed an additional questionnaire on their children and partnership histories. The PFS data provided full partnership and childbearing histories, and offered a sample that was big enough to capture in detail the changes that occurred over time.

Results

I found that the presence of children is associated with increased marital stability; a result that is in line with my first hypothesis (H1). The more children a woman has, the higher her marital stability is likely to be; and the younger the child, the stronger the effect his or her presence has. The periods that were found to be associated with the lowest hazards of marital disruption were during pregnancy and when the child was up to three years old. The finding that the magnitude of the stabilising effect of the presence of children decreases with the children's ages is in accordance with my second hypothesis (H2). The potential mechanisms that are responsible for the effect of having children on marital duration are that, relative to a childless couple, a couple with children have increased costs of and barriers to marital disruption, a greater degree of economic dependence, and more marriage-specific capital. The dominance of the mechanisms that connect the presence of children to lower marital instability does not exclude the possibility that the mechanisms of adjustment and strain on resources are operating as well. The mechanisms that link the presence of children to lower marriage instability may be operating alongside the stabilising mechanisms.

The results obtained in the thesis simply show that the destabilising impact of having children, when applicable, is offset by the stabilising impact of having children.

My investigation of the effects of marital instability on completed fertility among Polish women indicated that increased marital instability translates into lower completed fertility. This finding is in accordance with my third hypothesis (H3). This result, which is based on the total number of births a woman had up to age 40, does not support the idea that marital instability is associated with an increase in the number of children born to a woman over her life course. Nevertheless, the rise in the numbers of fourth and fifth births following the increase in marriage dissolution leaves open the possibility that union instability could in practice stimulate fertility in different settings. In this analysis, the fertility-stimulating effect of marital instability applied only to the fourth and fifth births, and was negligible given the number of first, second, and third births lost. However, in the future or in other populations different combinations of the timing of behaviours and interdependencies could cause births of lower orders to increase as well, and the overall association between marital instability and the number of children born over the life course could be reversed.

Contribution

Apart from contributing to a general discussion on the link between marital instability and fertility using the case of Poland and advanced analytical methods that eliminated some of the methodological problems the research in this area has been dealing with, this dissertation has made other contributions to our current knowledge about the interdependencies of the two processes. A compilation of long time series of demographic family-related indicators, including the total divorce rate, provided some clear insights into the timing of changes in different countries of Europe, and also into the changing positions of countries in terms of divorce and fertility indicators. The compilation also provided background for discussing the relevant processes in Poland. In addition, I critically reassessed the existing knowledge on the topic by providing an overview of the theories and the empirical research. Finally, the analyses I conducted improved our knowledge about marital instability in Poland.

My exploration of divorce in the countries of Central and Eastern Europe and my placement of the divorce patterns of these countries in the wider European context is one of the key contributions of this thesis, as this group of countries is often missing in international comparative studies of divorce (e.g. González & Viitanen, 2009; Kneip & Bauer, 2009; Smith, 2002). A comparison of family trends in all of the European countries made clear that although the Nordic countries were leaders in terms of changes related to fertility and union formation, in the area of union dissolution they were overtaken by a number of former Soviet republics. This fact is seldom taken into account in discussions of the

spread of divorce in the European countries. I also emphasised the diversity of the countries of Central and Eastern Europe, which are often considered as a single unit for reasons of shared political and economic history. My analysis showed that these countries are very different in terms of family-related behaviours, and that they are particularly diverse with regard to marriage instability. Some of these countries, including Russia and other former Soviet republics, were among the first to experience an increase in divorce, and are still among the countries with the highest levels of divorce. Other countries, like Poland and Romania, had very low rates of divorce until recently, and are still among the countries with the lowest levels of divorce.

In other analyses conducted for the thesis, I followed the long-term trends in family instability by supplementing the time series of the total divorce rate with the latest available data. Because it standardises for marriage duration, the TDR is more useful as a measure of the intensity of divorce than rates that count divorces in relation to the population size or the number of marriages. Thus, the TDR is less dependent on fluctuations of the number of new marriages. Until the beginning of the 21st century, the TDR was provided by the Council of Europe in its publications with demographic indicators. The newer data are available in the Generations and Gender Programme Contextual Data Base, but only until 2008. Thus, the values for the most recent years were calculated specially for this thesis with the use of duration-specific divorce rates provided by the EUROSTAT.

Additionally, this thesis contributes to the research on the effects of children on marital stability by providing a systematic overview of the theoretical arguments that have so far been made in the literature. The overview makes clear that while the theoretical arguments are not conclusive about the direction of the effect of having children on marital instability, they consistently predict that the magnitude of the effect increases with the number of children and decreases as the children grow up. These theoretical considerations also allowed me to present arguments about the ways premarital conceptions and premarital children should be modelled in the analyses of the effect of the presence of children on marital instability. The overview of the empirical research demonstrated the wide range of approaches and results obtained in the demographic studies of this topic. The overview also made clear that the appropriate specification of child-related factors in statistical analyses is important for obtaining undistorted results, and that it is also important to take into account the potential endogeneity of fertility.

In addition to contributing to the international discussion on the interdependencies of marital instability and fertility, the thesis extends considerably our knowledge about marital instability in Poland. The analyses presented in this thesis were possible thanks to the availability of relatively recent representative surveys that collected family biographies retrospectively. These analyses

provide a considerable amount of up-to-date information about family-related processes in Poland, and about union dissolution in particular. For example, the model estimated to provide information on the effect of having children on marital instability also reveals how marital instability has been changing over time and by union duration. Moreover, the model provides information on the effects of the timing of marriage on a woman's life, as well as on the effects of education, premarital cohabitation, and childhood background variables, including parental separation, place of residence, and the importance of religion. The results significantly improve our knowledge about correlates of union dissolution in Poland, because there are relatively few studies on this topic, and those that exist have only recently been published (Borucka, Romaniuk, & Frątczak, 2012; Rydzewski, 2010; Stycr, 2010; Stycr & Matysiak, 2013). In addition to the analysis with micro-level data, constructing the time series of the TDR in Poland and matching it with the timeline of legislative changes and changes in the duration of the divorce procedure enabled me to gain deeper insights into the changing intensity of marital disruption, and also allowed me to formulate expectations about which short-term increases and decreases are driven by the tempo effect.

Conclusions

The findings of my thesis contribute significantly to our knowledge about the interdependencies of marital instability and fertility. Making use of recent large-scale, representative survey data, I applied appropriate techniques of longitudinal analysis combined with some advanced methods for taking into account the endogeneity of the processes under consideration and for linking micro and macro perspectives. The main implication of my findings is that the contemporary changes in family-related behaviours reinforce each other. The reduction in fertility contributes to the rising instability of marriages, and rising marital instability translates into a reduced number of children born to a woman. Those statements apply to a country that was in the initial stages of family deinstitutionalisation. It is possible that as the changes in family-related behaviours progress in Poland these interdependencies will change. It is also possible that they are already different in some countries that are more advanced in this transition process. The diverging findings about the effects of marital instability on completed fertility by birth order suggest that it is possible that union dissolution could stimulate fertility. This important topic should be researched in different institutional settings and on populations at different levels of advancement in terms of family-related behavioural changes. In particular, repeating the analyses for Poland using more recent data can provide us with interesting insights into how the interdependence of fertility and marital instability changes with the progression of family destabilisation and deinstitutionalisation.

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Marita Styrud