Realization of short-term fertility intentions in a comparative perspective: Which macro-level conditions matter?

Zsolt Spéder, Hungarian Demographic Research Institute
Lajos Bálint, University Pécs

Abstract
This is the first large-scale comparative study on the fulfilment of short-term fertility intentions across the countries of Europe. Exploiting the unique follow-up feature of the Generations and Gender Survey and adopting rigorous definitions of intentions and outcomes, it reports on the level of fulfilment and identifies clear heterogeneity across the European countries. Adopting a multilevel multivariate approach, it investigates the kind of macro-level factors that may explain differences in the realization of fertility intentions. Based on our analysis, we conclude that stability on the labour market (as measured by swings in the unemployment rate), stability of prices, strong welfare state involvement, and the dominance of specific attitudinal conditions all support greater realization of short-term fertility intentions.

1. Introduction

Although fertility intention is a very good – in fact, arguably the best – predictor of childbirth at the individual level (Schoen et al. 1999; Toulemon and Testa 2005), still we are well aware of the serious discrepancies between intention and realization. This is particularly true in the case of short-term, time-dependent intentions (Dommermuth et al. 2015; Régnier-Loilier and Vignoli 2011; Spéder and Kapitány 2009), as well as in the case of lifetime (family size) intentions and individual outcomes (Morgan and Rackin 2010). The discrepancy between intended family size (or any related ideals of family size) and fertility is also clearly visible when aggregate, country-level measures are compared (Goldstein et al. 2003; Ní Bhrolcháin et al. 2010; Sobotka and Lutz 2011). Correspondence is somewhat stronger when the ideal or desired number of children across different cohorts is compared with completed fertility (Livi Bacchi 2001; Beaujouan and Berghammer 2019); and we also know that this closer relationship of the cohort measures is, to some extent, a result of the over- or under-achievement of individual intentions (Morgan and Rackin 2010). Yet, the study of intention remains at the forefront in terms of understanding fertility behaviour (Philipov 2009a; Lutz 2020), and we believe that studying the correspondence between short-term intentions and the realization of those intentions can contribute especially to an understanding of reproductive decision making (Liefbroer et al. 2015).

Analysis of the link between intention and realization at the individual level reveals that the discrepancy is not unusual, and several factors influencing the link have been identified. Besides biological and emotional factors (Ajzen 1988), the dynamics of partnership relations or unexpected life-course events may modify intentions and lead to their postponement or abandonment (Liefbroer 2009), with the consequence that people forgo having children. Furthermore, several socio-demographic factors – such as partnership status, parity, age, labour market conditions or income – as

well as cultural specificities and perceived normative conditions, may also facilitate or hinder the realization of intentions (Kuhnt and Trappe 2016).

Studies that analyse several countries in parallel conclude that the overwhelming majority of the micro-level factors that influence the risks of realization operate in a similar way within the countries concerned; but they also reveal some country-specific factors at work (Régnier-Loilier and Vignoli 2011; Kapitány and Spéder 2012). Moreover, country comparisons highlight the fact that there is considerable country-specific heterogeneity in the rate of realization.

The study reported here contributes to the literature of fertility intention in two ways. First, using a rigorous method of variable construction we can reveal the magnitude of the differences in the rate of realization across 11 European countries, based on individual follow-up data. Here, we devote particular attention to the fact that the rate of realization is highly time dependent (Schoen et al. 1999; Dommermuth et al. 2015), and an accurate comparison can only be made if time elapsed since the measurement of intention is exactly the same in all cases. Secondly, we aim to identify macro-level factors that enable or inhibit the realization of short-term fertility intentions. Conceptual considerations will highlight the domains of social and economic dynamism, welfare state involvement and the cultural condition of the different countries. Individual factors are certainly included in our modelling, but only as control variables that enable us to uncover macro-level influences; therefore, micro-level results will not be discussed in detail.

To achieve our task, we utilize the first two waves of 11 countries in the Generations and Gender Survey (Vikat et al. 2007). The dataset is unique in the analysis of population processes; it is especially appropriate for the investigation of short-term intentions and their realization, since it includes a question that looks ahead (intentions for the next three years), and subsequent waves of the survey enable changes in the various life domains to be measured. For our purposes, if there is a stated intention of having a child within three years, we are able to measure whether a child is actually born within that three-year window.

We proceed as follows. First, we provide an overview of the relevant literature and identify the existing research gap. The following conceptual framework includes a short overview of the theory of planned behaviour, highlights potential macro-level conditions and mechanisms, displays macro-level measures and formulates hypotheses accordingly. Then, some basic characteristics of the countries under investigation are outlined. The section on data and methods details the analytical strategy, the variables and the rigorous way of defining the outcome variable. The results are shown in three steps: descriptive results, an overview of the effects of the individual control variables and a detailed report on the macro-level effects. In the final section, we discuss our findings, set out the limitations of our analysis and suggest further research.

2. Previous research into the realization of short-term fertility intentions

Research interest in factors that influence the discrepancy between fertility intentions and achieved fertility is a recurring topic in population studies. The recent growth in interest can be linked to the persistent low fertility of several Western European countries and the plunge in fertility in Eastern Europe; furthermore, contrasting ideal family size and fertility achievement enables us to identify a window of opportunity for policy making (Goldstein et al. 2003; Philipov 2009a). The literature is abundant, and it uses different kinds of measures of intention and outcome. We limit our overview basically to studies of short-term intentions and outcomes.

Micro-level determinants

A quite extensive corpus of literature focuses on the *individual determinants* of the realization or non-realization of fertility intentions in a single country (Berrington 2004; Dommermuth et al. 2015; Kuhnt and Trappe 2016; Heaton et al. 1999; Morgan and Rackin 2010; Philipov 2009b; Pailhé and Régnier-Loilier 2017; Schoen et al. 1999; Toulemon and Testa 2005). Based on these studies, several common factors can be highlighted. Some comparative analyses also investigate individual determinants and highlight general and country-specific patterns of micro-level effects (Régnier-Loilier and Vignoli 2011; Kapitány and Spéder 2012).

Demographic factors (such as age, partnership status and parity) clearly influence the success or failure of realization. A cohabiting partnership is self-evidently a prerequisite for successful realization of the intention. In some countries, the form of partnership also matters: whereas in the US and Hungary, the likelihood of a married couple realizing their intentions is greater than if they merely cohabit (Heaton et al. 1999; Schoen et al. 1999; Spéder and Kapitány 2009), in France and Norway there is no tangible difference (Testa and Toulemon 2006; Dommermuth et al. 2015). People who are in a 'living apart together' (LAT) relationship or who live alone have the lowest chances of realizing their intentions. The findings related to age highlight the 'ticking of the biological clock': women in the later phase of their fertility life course – usually those over 34 – are less likely to realize their childbearing plans (cf. references above). Additionally, in some countries younger women often put off having children. Lastly, parity also has a powerful influence on realization: people with one child are more likely to realize their intentions, whereas people with zero parity are, in many countries, typically non-realizing postponers.

The influences of *labour market position* are less clear cut, and gender-related country-specific conditions may play a bigger role (Hanappi et al. 2017; Kuhnt and Trappe 2016). Women's part-time employment often supports realization (Kuhnt and Trappe 2016), whereas their unemployment

hinders it (Pailhé and Régnier-Loilier 2017). The link between full-time employment and realization may be influenced by whether the work is in the public or the private sector, or by other features of the job (Régnier-Loilier and Vignoli 2011). The effects of the labour market position of the male partner are clearer: well-integrated, full-time participation in the labour market supports the realization of fertility intentions (Kuhnt and Trappe 2016; Spéder and Kapitány 2009).

The role of the level of *education* appears to be mixed. In France, better-educated women have a greater chance of realizing their intentions (Testa and Toulemon 2006), whereas in Norway the effects are neutral (Dommermuth et al. 2015). By contrast, in the US the relationship is negative (Schoen et al. 1999; Heaton et al. 1999; Morgan and Rackin 2010). Income effects are rather similar: women in higher income brackets are more likely to realize their fertility intentions (Schoen et al. 1999; Dommermuth et al. 2015; Berrington 2004; Hanappi et al. 2017).

Finally, the *subjective characteristics* of people – their family norms and attitudes – also matter. That said, some variety in the results is apparent – partly due to the inclusion of different measures in the research programmes. Family role attitudes, for example, influence realization in the US and the UK: in the US, women who profess traditional family attitudes become parents as they intend (Heaton et al. 1999); meanwhile in the UK, more career-oriented women aged over 34 have a clearly lower likelihood of realization (Berrington 2004). *Subjective norms* have a significant effect in Germany (Kuhnt and Trappe 2016) and also in an international comparison (Spéder and Kapitány 2014). Those who state that their 'significant others' expect them to have a child stand a greater chance of realizing their intentions than those who do not. An increased feeling of uncertainty among highly educated Swiss women hinders realization (Hannapi et al. 2017), while the optimistic evaluation of the life course among Hungarian men supports the realization of their intentions (Spéder and Kapitány 2009). Lastly, the intention of having a larger family supports Norwegian people in realizing their short-term intentions (Dommermuth et al. 2015).

Comparative studies

Comparative research, based on *individual panel* data, has found significant *country-level variations* in the realization of short-term fertility intentions, especially between Western European and Eastern European countries (Bradurashvili et al. 2011; Riederer and Buber-Ennser 2019a; Spéder and Kapitány 2014). Of those who planned to have a child within three years, two fifths actually succeeded in France and Germany, a third in Hungary and Georgia, and a fifth in Bulgaria. Furthermore, when a two-year time window between intention and realization is used to compare four countries (the Netherlands, Switzerland, Hungary and Bulgaria), a clear East–West divide is visible (Kapitány and Spéder 2012). Lastly, when multivariate modelling is used, the difference between Western European and Eastern

European countries is vast: the chances of individuals realizing their childbearing intentions in post-communist countries are less than half those of people in Western countries.

Other country comparisons blur the East–West differences somewhat. On the one hand, such differences are sometimes only minor or quite negligible – e.g. when the capitals of Austria and Hungary are compared (Riederer and Buber-Ennser 2018). On the other hand, certain differences can also be identified between individual Western European countries (Switzerland has a lower rate of realization than the Netherlands) and between various Eastern European countries (Bulgaria and Russia have lower rates of realization than Hungary) (Kapitány and Spéder 2012).

Comparative analyses based on *cross-sectional* data estimating the correspondence between short-term *childbearing plans* and *births at the country level* have also shown considerable country variation (Harknett and Hartnett 2014). The level of realization ('achievement rate') seems to be generally higher when a pseudo-panel design is employed, than when an individual panel design is used. (The rate of realization based on cross-sectional data is estimated at around 50% in the 22 European Social Survey (ESS) countries.)

While research into individual factors that influence the realization of fertility intentions is abundant, and studies that identify country variations and similarities of individual factors are numerous, up until now no one has investigated the potential macro-level factors that influence country variations. This is the research gap that our analysis seeks to close by looking for possible macro-level conditions and mechanisms that support or hinder the realization of fertility intentions. Since our analysis can – indeed must inevitably – employ a rigorous definition of intention realization, we will also be able to add fresh insight to the levels of realization in those countries under investigation.

3. Conceptual framework: macro-level conditions with the potential to support or hamper realization

We are seeking macro-level mechanisms and conditions that hamper the realization of fertility intentions or that bring about a change in intentions. Before proceeding, it may be helpful to provide a brief overview of the theoretical framework that is employed for intention formation, since that will help to locate the potential macro-level effects discussed below.

A sketch of the theoretical framework for intention formation and realization

The Theory of Planned Behaviour (TPB) developed by Ajzen (1988) and used by the GGS is a social-psychological action theory that places great emphasis on understanding which factors and

mechanisms influence the formation of intentions, and that considers the relationship between intention and behaviour to be relatively straightforward. Ajzen describes it as follows: 'Intention is … assumed to be the immediate antecedent of behaviour' (Ajzen, 2002: 179). There are three subjective (yet different) types of factors that determine the formation of intentions. *Attitudes* relate to the given object and to evaluations about the expected outcomes (advantages and disadvantages) of the behaviour. *Subjective norms* include expectations that arise from the network of 'significant others'. *Perceived behavioural control* covers those factors that may make realization of the given behaviour easier or harder. The three influencing factors are weighted according to the importance ascribed by the individual concerned, and all are based on beliefs that are shaped by background factors not detailed further here (Figure 1; for an overview, see Ajzen 1988; Ajzen and Klobas 2013).

The actual short-term fertility intention is a result of careful deliberation: people at a given point in time consider the particular aspects of behaviour (including the financial and emotional advantages and disadvantages); how important particular aspects are to them; the importance that they attach to the expectations of significant others regarding childbearing; and finally, how they view perceived barriers to childbearing.

---- Figure 1 about here ----

In the original formulation of the theory, only limited attention is given to factors that 'can disrupt the intention–behaviour relation' (Ajzen 1988: 132). Emotions, dependence on others and unforeseen life-course events may all frustrate the realization of the intended behaviour. In a recent paper where TPB is applied to fertility behaviour (Ajzen and Klobas 2013), the authors especially highlight the role played by *enablers* of and *constraints* on behaviour – for example, the lack of available childrearing institutions. The framework is also very helpful in considering and trying to locate potential macro-level factors. Here, we can always consider whether a macro circumstance under discussion could modify any of the factors behind intention formation and change the stated short-term intention, or whether it could loosen or strengthen the intention–behaviour link.

Economic dynamics and uncertainty

Social change is inherent in modern society: change and renewal are continuous in Western societies, and economic and social innovations play a key role in renewal of the social system. People act and take life-changing decisions (e.g. about having a child) in such 'peaceful' times by taking account of their circumstances and any anticipated changes to them. But the pace of social change may be altered

(Zapf 1996). For example, the Great Recession was unanticipated and brought with it a fall in fertility behaviour (Goldstein et al. 2013; Comolli 2017). Similarly, the profound socio-political transition in Central and Eastern Europe, involving a shift from a redistributive economic system to a market economy and the associated transformation of the labour market, was also unforeseen. At times of unanticipated and profound change, life-altering decisions are avoided or postponed (cf. Rodin 2011). Such societal conditions were stressed by Spéder and Kapitány (2014), when they showed that the chances of individuals realizing their childbearing intentions in the post-communist countries were less than half those of people in Western countries. Considering potential factors influencing the different rates of realization, the unprecedented dynamism of the altered structural conditions during the regime change was highlighted.[1]

Fertility intentions tend to be formulated in the context of a run-of-the-mill, anticipated societal dynamics, with the actors making an assessment (attitudes) and taking into consideration the circumstances that could help them or hinder them (perceived control). It is assumed that economic or societal upheaval will play a key role in the non-realization of people's short-term fertility intentions, since unusual and unanticipated fluctuations may result in a *revision of intentions* and can create new impediments (actual control) that *loosen the link between intention and realization* (Ajzen and Klobas 2013). In order to capture the potential influences of social and economic dynamics on childbearing decisions, some measure that reflects fluctuations on the labour market and the consumer market (prices) could be taken into account.

Employment uncertainty is a major obstacle to having a child (or another child). The unemployment rate – the key indicator of labour market fluctuation – is a proven macro-level factor that influences fertility (Goldstein et al. 2013; Comolli 2017). Its dynamic nature is well suited to our analytical purposes. Since *unemployment* among people aged 15–24 may be more relevant to a generation that is starting to think about parenthood, and may be a more sensitive measure of labour market fluctuation, it is also worth considering youth unemployment. If the focus is on measuring unanticipated change, we can go even further and gauge the intensity of labour market change: an indicator of the youth *unemployment swing* reveals the maximum deviation of the unemployment rate from the average unemployment rate over a given period of time.

Rising consumer prices (inflation) affect the economic conditions of childbearing (Cornia and Paniccia 1996: 113–114). In simple terms, inflation increases the cost of having children, since the cost of goods and services for children rises disproportionately, destroys the savings of a household and often undermines the value of family benefits. Since 'inflation *per se* is perceived as a serious source

[1] Besides the high dynamism of structural factors, the paper also stresses the very slow change in values, and the asynchrony of changing societal conditions.

of instability by most economic agents' (ibid.: 113), we may assume that inflation is a relevant measure of uncertainty for the general public. The results of research that points out the effect of inflation on happiness (Di Tella et al. 2001) may also indirectly support our idea of treating inflation as an indicator of economic dynamism that has a bearing on the realization of short-term fertility intentions.

Overall, we assume that the greater the stability and the less fluctuation there is on the markets (i.e. a low unemployment rate, low inflation rate, lower swings on the labour market), the better are the chances of people realizing their short-term fertility intentions.

The institutional context: comprehensive social protection or spending on families

From the point of view of fertility behaviour, family policy packages are of key importance; and sure enough, country studies underscore their effect on fertility (e.g. Hoem et al. 2001; Milligan 2005; Spéder et al. 2020). The results of comparative papers are more mixed, however. One comprehensive European comparative analysis distinguished between five types of family support measures and showed that all the measures had some effect on fertility in developed countries. However, it concluded that it was the specific 'mix' of measures that was most important (Luci-Greulich and Thévenon 2013).

The effects of the welfare state may be more indirect. While it has various functions, we can highlight the fact that the influence and the effects of globalized markets are to some extent filtered by welfare state institutions, labour market regulations, etc. (Mills and Blossfeld 2005; Mayer 2001). Furthermore, welfare state packages provide a basic safety net for ordinary people, safeguarding them against labour market, health and income risks, and thus offering them a degree of stability (Leisering 2003).

The formation of intentions takes place within the context of a particular (welfare) state and within a particular family policy setting: actors are aware of the specific family support that they can expect, of the institutional help available in bringing up children, etc. – although there can be a significant difference in the information available to them, and especially between those currently without children (Parity 0) and those with (higher parities).

How then does the institutional setting influence the realization of fertility intentions? Two types of influence are assumed. Obviously, an *unforeseen alteration* in the institutional system (such as a change in access to subsidies) may affect those attitudes that shape intentions or indeed modify the actual enablers of the behaviour, thereby loosening the intention–outcome link. On the other hand, the *extent of welfare spending and family support* may affect the likelihood of intentions being realized. In this regard, the coverage of the safety net and the family policy packages indicates the availability of state provisions in the case of both generalized risks and life-course-related risks (Kalwij

2010; Leisering 2003; Mills et al. 2005; Mayer 2001). Therefore, it can be assumed that the further the welfare state extends and the closer the welfare net is woven, the lower the risk from unanticipated social and economic change and the less the perceived uncertainty. Similarly, the extent of the family support system (i.e. government spending on families) shows the government's commitment to contributing to the cost of children and may signal how far families can rely on state support in raising children.

It would be useful to take family policy and other institutional changes into account, but the lack of comparable policy indicators does not permit this. However, given the slow pace of institutional change, we can assume that the differences between countries will not be dramatically affected in the short (three-year) time period we focus on. (That said, the effects of policy changes on the realization of intentions should be a subject for future research.)

Overall, we assume that the more generous the welfare state is, the greater the general social provisions are as a proportion of GDP; and the bigger the state's financial involvement is in covering the cost of raising children, the greater the probability that childbearing intentions will be fulfilled.

Cultural conditions: insistence on traditional family values or autonomy?

Highlighting values in shaping demographic behaviour, including childbearing behaviour, is nothing new. According to the Second Demographic Transition theory, the main driver of change in couple and childbearing behaviour is value change (van de Kaa 1987; Lesthaeghe 2010). Reher emphasizes the importance of cultural path dependence in understanding demographic behaviour (Reher 1998). It is therefore reasonable to pay attention to whether, and how, value orientations and predominant attitudes can influence the formation of the intention to have children and the chances of achieving those plans.

Analyses based on the European Values Survey (EVS) clearly show that there are significant and persistent differences in the value orientations across European countries (Hagenars et al. 2004; Arts et al. 2004). The sharpest differences are to be found between Western democracies and post-communist countries (Hagenaars et al. 2004), but substantial differences can also be found among countries that subscribe to different welfare regimes (Arts et al. 2004). The summary results from the EVS research provide a useful starting point for our considerations. 'The results of our analyses seem to suggest that there is no unique trajectory of values change ... Value orientations appear dependent upon specific national contexts and [a] nation's historical development' (Hagenaars et al. 2004: 47–48).

Considering our framework of intention formation, the TPB, beliefs about having a child play a crucial role in shaping attitudes, norms and perceived control – and consequently, in the formation of

intention. Individual beliefs are rooted in and shaped by the normative system of a country (Liefbroer and Billari 2009; Mönkediek and Bras 2017). The normative system includes, among many other things, norms concerning partnership and family forms, gender roles, desired family size, the timing and sequence of family events, and mental timetables (Hagestad and Neugarten 1985). Since people living in different countries of Europe clearly differ in terms of their family-related attitudes and gender role norms (Lück and Hofäcker 2003), it is justified to assume that these differences may contribute to variation in intention formation. But the key question is how the normative system – the dominant orientation – can influence the realization of short-term fertility intentions. Since value change occurs only slowly, it would be misleading to assume that value change brings about change in intention and contributes to lower realization.

Two opposing mechanisms may instead be at work. First, the *strength of the intention* may differ at the country level. It is known that the strength of attitudes at the individual level clearly differs depending on information about the related action, on the involvement of the actors, etc. (for an overview, see Krosnick and Petty 1995). Since the strength of the attitude differs, the strength of the intention may also differ. Accordingly, we assume, for example, that in a country where the idea of the traditional family is dominant, *adherence to fertility intentions* is stronger. This could mean, when all else is controlled for – i.e. when differences in social dynamics are also considered – that the prevailing normative environment encourages those concerned to implement their intentions. Consequently, a greater proportion of them do so.

Secondly, based on *response conformity* (Bond and Smith 1996), a different kind of causation may be apparent: a society in which traditional values predominate may provide a stronger motivation (or greater pressure) for people to state their intention of having a child in the short term, since childbearing is highly esteemed in society. But when they come face to face with reality, people may realize that they have overstated their intention – in which case it is likely to be renounced. In this case, it is those very countries where people favour more traditional family roles that encounter greater revision (and non-fulfilment) of intentions.

Based on the principle of compatibility (Ajzen and Klobas 2013: 208ff), it is not general value orientations, but attitudes – values that are closely related to the object of investigation (in our case, having a child) – that are potential factors that influence the realization of intentions. Taking into account different potential and available measures of related cultural conditions, three dimensions emerge that may influence adherence to stated intentions and the fulfilment of those intentions: (a) the acceptance of non-traditional family forms; (b) the perceived importance of a child in making a

woman feel fulfilled; and (c) the question of whether having a child is or is not a purely private matter.

Overall, we assume that a more traditional, family-oriented normative environment provides stronger support for the realization of one's fertility intentions.

4. Some features of the 11 countries analysed

Detailed report of the analysed countries is beyond the scope of our study, but a few basic indices (GDP, total fertility rate (TFR), religiosity) suffice to illustrate the diversity of the 11 countries (see Table 1) – although the picture would certainly be even more varied if Southern European countries could be added. Differences between the Western and the post-communist Eastern countries are frequently cited. [2] Several key macro-level indicators suggest considerable heterogeneity across countries – for instance, in terms of per capita GDP or the prevalence of extra-marital births. Meanwhile, however, TFR generally shows no marked differences – and particularly not among the post-communist countries.

In terms of economic performance (GDP per capita), the four Western European countries have similar welfare levels, which far outstrip those of the post-communist countries. But among the latter, there are some marked differences: for instance, Georgia's economic performance is only about a quarter of Hungary's. Measured in purchasing power parities (over the period 2000–2005), the developed Western countries demonstrate economic performance roughly eight times that of Georgia.

In terms of TFR, the key measure of fertility, postponement and changes in the family pattern mean that all the countries surveyed in 2005 (except France and Sweden) had a very low figure, of around 1.3. Since then, TFR has risen somewhat in all countries. Of the Western countries, France and Sweden had very similar levels of fertility, at around the replacement level. The German-speaking countries have displayed low levels of fertility for several decades – for reasons other than changes in the fertility model. Some point to a bifurcation scenario (Rindfuss et al. 2016), while others (such as Sobotka 2016) emphasize a similarity between Austria and the Czech Republic. (High levels of childlessness in Germany and Austria contribute greatly to their low fertility rates.)

The goal here is not to provide an inclusive or comprehensive picture of each country's conditions. However, the account is useful in showing a range of differences in European economic performance, institutional systems and cultural climates. It also points to the demographic and social

[2] All analyzed Eastern European countries are post-communist countries. Western European countries are noted WE, whereas Eastern European countries EE in Table 1.

conditions to which our analysis refers.

---- Table 1 about here ---

5. Data and methodology

Data and sample

Our analysis is based on data from the Generations and Gender Survey (GGS), which captures the dynamic features of demographic behaviour by collecting longitudinal data (Vikat et al. 2007). The GGS is a follow-up study: sample members are interviewed at three-yearly intervals. Our analysis takes into account *every European country* for which data are available for the *first two waves* of the GGS. In the countries under consideration, the first interview took place generally in the first decade of the century,[3] with the second following (in the main) three years later. The sample attrition rate between the two waves was conventional in eight countries; however, three countries – the Czech Republic, Germany and Lithuania – had an extremely high attrition rate between the two waves, and therefore their samples are much smaller. However, based on a preliminary analysis of the longitudinal representativeness (Bartus and Spéder 2015), we also included in the pooled data those countries for which the attrition rate was unusually high. In order to ensure an identical age range for respondents in all countries, only those aged 21–44 at the time of the first wave were included in the analysis.[4] Pregnant women and men with a pregnant partner at the time of the first wave (defined on the basis of the woman having given birth within six months of the first interview) were excluded. In accordance with our research question, all women and men who responded positively to the intention question ('Do you intend to have a/nother child within three years?') were included in the analysis. (The two positive answers (*definitely yes, probably yes*) were collapsed into one (*yes*), since for Hungary we had only the 'yes' answer.) Altogether, 8,886 respondents from the 11 countries intended to have a child within three years. Since it is essential to include the women's characteristics (age, labour market status) as control variables in the multivariate analysis, *every woman* is included in the analysis, but only those *men with a co-resident female partner* are included. Consequently, our working sample has N=6498.[5]

Measures

[3] For detailed information on timing, see Table A1 in the Appendix.

[4] Age 21 emerged as the lower age limit, in line with the Hungarian data; the upper age limit comes from the Austrian sample, where 44 was the upper age limit for both women and men.

[5] Since for most countries we do not have information about the partners of respondents in a LAT relationship, the decision to include women's age as a control variable reduced the sample to N=7079. The inclusion of subjective norms also led to a further reduction in the sample, especially in France and Sweden.

Dependent variable

A valid comparison of fulfilment rates requires identical measures of intention (having a child within three years), fulfilment (childbirth) and time elapsed between expression of intent and realization. Since the timing of the second wave varied greatly across the countries (and to some extent within countries), and since the degree of fulfilment of fertility intentions clearly depends on the time elapsed since the intention was measured (Davidson and Jaccard 1979; Schoen et al. 1999; Dommermuth et al. 2015), a rigid time window – the 'time at risk' – had to be defined. A birth is considered to have been the *realization* of an intention if it occurred in the period of the *7th to the 36th month* following the first survey, when the intention ('want to have a child within three years') was measured. If no birth occurred during the 7–36-month period, *non-realization* was stated.

Individual control variables

The selection of our individual control variables is based on the findings of earlier studies and takes account of the potentials and limitations of the comparative datasets. The variables of sex, women's age group, partnership status and women's labour market status (and their categories) are self-explanatory (Table A2 in the Appendix). But two variables require some elucidation: since a readily comparable indicator of income status is lacking, income position is replaced by perceived income position (i.e. the perceived income *needs of the household budget* ('making ends meet')). The values of this variable indicate whether the household is making ends meet (i) easily, (ii) with some difficulty, or (iii) with great difficulty. The perceived *subjective norm index* measures the extent to which the respondent feels that 'significant others' – parents, friends, relatives – expect the respondent to have a child (a lower value indicates a higher expectation). Reference categories are given in Table A2 of the Appendix, where the variables are listed.

Country-level variables[6]

According to our conceptual framework, four measures of *economic and social dynamics* are included.[7] The unemployment rate and the rather more volatile youth unemployment rate (15–24), measured at the time of the first interview, are well-known measures of economic fluctuation (i.e. recession and prosperity). 'The swing in the unemployment rate' seeks to capture the magnitude of the change in the youth unemployment rate. The relevant indicator is derived from two measures that cover a nine-

[6] Values of country-level variables are listed in the Appendix (Table A3).

[7] Source: all economic indicators use World Bank data, https://data.worldbank.org (downloaded on 27.08.2018).

year period:[8] i.e. the maximum difference[9] in the youth unemployment rate is related to the average youth unemployment rate over that period. Inflation aims to capture economic and social uncertainty and unpredictability: the inflation rate is measured at the time of the first wave (actual inflation).[10]

Welfare state involvement is measured by two strongly related indicators: total social expenditure, as a percentage of GDP; and social protection spending on children, again as a percentage of GDP (ILO 2017: 402–413).

Three measures seek to capture the prevailing *cultural climate* related to family and childbearing. One – often found in related analyses (Thornton-Young-DeMacro 2001, Thornton-Philipov 2009) – is support for and acknowledgement of the institution of marriage (gauged in terms of the level of agreement with the statement 'Marriage is an outdated institution'). The second is whether having children is a private matter – whether it belongs to the sphere of individual autonomy or whether there are communal obligations (norms) involved, as well (full agreement with the statement 'People should decide for themselves to have children'). And the third measure determines how central the role of children is to the lives of women (agreement with the statement 'A woman has to have children to be fulfilled'). In each of these attitudinal measures, the percentage of people who agreed with the relevant statement became the country-level measure.[11]

Table 2 shows the correlations between the eight country-level variables. Aside from the two measures of unemployment and social protection, the measures of economic and social dynamics and the three attitudinal measures are not correlated. This renders them suitable for consideration as different qualities of societies.

---- Table 2 about here ---

Analytical procedure

[8] The nine years cover the six years before the first wave of the survey and the three-year period between the two waves of data collection.
[9] The difference between the maximum and the minimum youth unemployment rate over a nine-year period.
[10] During our investigation, we experimented with related variables, including different time dimensions, e.g. average unemployment rate, average inflation rate during the time between the first and the second wave; but these were highly correlated with the measures we used. We also experimented with the 'misery index' (inflation + unemployment) suggested by A. Okun (see Mankiw 2010); this is often used in economic analyses, but due to non-significant effects it is not included in our analysis.
[11] Source: European Value Survey - World Value Survey Longitudinal File 1981–2014 (AT: 2008; BG: 2005; CZ: 1998; FR: 2006; GE: 2009; DE: 2006; HU: 2009; LT: 1996; PL: 2005; RU: 2006; SE: 2006).

A *multilevel binary logistic regression* model was employed to model the realization of fertility intentions in 11 European countries, using the pooled dataset. Country-specific individual-level data typically have a multilevel structure, since subjects within the same country may have outcomes that are correlated with one another, due to the similarity of the general context. The conventional single-level logistic regression is unable to account for this kind of intra-cluster correlation. Furthermore, ignoring the multilevel structure of data can result in biases in parameter estimates and their standard errors. By taking account of the correlation within the cluster, we are able to make reliable parameter estimates of within-country effects.

We used *random intercept* logistic regression models. The model derives its name from the fact that the intercept is allowed to vary randomly across countries, through the introduction of cluster- (country-) specific random effects. The estimates of the extent of the similarity of subjects within a country can provide an important insight into the group-level effects on individual fertility behaviour.[12] Moreover, in accordance with our primary interest here, we extended our models by adding country-specific attributes to measure explicitly the size of the effect of different structural conditions.

We are aware of the problem of having an extremely low number of cases at the country level (Level 2), which can lead to estimation biases, as discussed in the literature (Bryan and Jenkins 2016). However, we accept and prefer the argumentation of Robson and Pevalin (2016), who contend that ignoring the group variance may lead to a bigger error (ibid.: 27). Note that in the case of some important comparative datasets (e.g. SHARE) there are also around a dozen countries, and multilevel models are used successfully (Engelhardt 2012). Additionally, alternative analyses (results not shown) strengthened the relevance of the analytical approach used. A country analysis of the realization of intention confirms the inclusion of the individual (Level 1) factors selected for the multilevel modelling; an analysis with country dummies using the pooled data supports the assumption of significant country differences.[13]

We will do our modelling step by step, always including only one macro variable in the multilevel models (with the exception of the final model, which will include two). The goodness of the models will be assessed by evaluating the between-country variance and the inter-class correlation (ICC). Both show whether a multilevel model is worth employing, and whether the introduction of the given country variable reduces the error term. The between-country variance shows the effect of country-specific predictors that have not been controlled for. Therefore, a significant decrease

[12] A single-level logistic regression on the pooled dataset with country dummies showed significant country differences and confirmed the appropriateness of the multilevel model. Results were checked also by regressing country-intercepts (odds of realization) and macro level factors; results were in accordance with our multi-level results.
[13] Results not shown may be supplied upon request.

following the introduction of a country variable indicates that the given Level 2 factors have a sizeable effect on realization. The ICC represents the ratio of the unexplained variance in the country level to the total variance. If it is close to zero in the empty model, then there is no sense in using the multilevel model. On the other hand, if the introduction of a macro variable causes the ratio to decrease markedly, then the variable in question contributes significantly to the explanation. Lastly, the Akaike Information Criterion (AIC) measure reports on the fit of the model – something that is relevant if we are comparing two models. A clear reduction in the AIC signifies a more robust model.

6. Results

Descriptive results

The rate of intention realization differs greatly across the countries when positive intentions are compared (Figure 2). A glance at the size of the bars makes it immediately clear that the differences are large and significant: two fifths of short-term childbearing intentions in Germany, France and Sweden (39–41%) were realized, but the figure was less than a fifth in Bulgaria and Russia (15.7% and 17.0%, respectively). It is interesting that three neighbouring countries with quite different social systems – Austria, the Czech Republic and Hungary – exhibit very similar levels of fulfilment. Here it should be noted that the two categories *definitely yes* and *probably yes* were collapsed. Generally speaking, if those two categories were treated separately, the rate of realization among those who responded *definitely yes* would be higher in each country, but the country heterogeneity and country rankings according to realization would remain the same (see Table A4 in the Appendix).

Since realization is dependent on individual characteristics (see below), country differences in terms of fulfilment are partly due to the different proportions of specific groups (*compositional effect*). Thus, for example, if in a particular country there are lots of women or men who live alone or in a LAT relationship, and who intend to have a child within the next three years, that will depress the country's fulfilment rate, since the probability of realization within those groups is very low. The countries examined clearly have a higher fulfilment rate if co-resident people or those with one child (Parity 1) are considered. For example, if we focus on cohabitees from the first wave, then half of all intentions in France and Sweden (49.7% and 49.4%, respectively) were realized; the figure in Russia was still only a fifth (18.9%) and in Bulgaria a quarter (23.1%). Hungary is in an intermediate position, as 29.1% of cohabitees who intended to have a child actually did so. (For the proportions of all the countries examined, see Table A5 in the Appendix.)

----- Figure 2 about here ---

Impact of individual-level characteristics on the realization of fertility intentions

Since the parameters of the individual variables are very stable across all models, and hardly change when we include different macro-level variables, we discuss the influence of individual factors, using the parameters of the multilevel random intercept model without a macro covariate (Table 3).[14] If relevant, the results from models with macro variables (Table A6 in the Appendix) are mentioned.

Overall, the majority of the associations are in line with the earlier research results outlined above. For a woman in the latter half of her thirties, the chances of realization clearly decline: those aged over 35 have only half as much chance of fulfilling their intentions as 29–34-year-olds. Furthermore, in several models, when macro variables are included, women aged 24–28 have a higher chance of realization than the reference age group. (Note, this statement is somewhat weaker when significance levels are considered.) Partnership clearly counts: cohabiting couples have two and a half times as much chance of realization as people living alone or in a LAT relationship. As far as parity is concerned, women with Parity 2 or more have significantly less chance of having the intended child than do women with lower parities. A comparison of zero parity and Parity 1 shows that women with Parity 1 have a somewhat better chance of realization, which is in line with the literature reviewed. (In those models with macro variables (see Table A6), the coefficients of Parity 0 are always higher than 1, but the effects are only significant in some models – and then at a very low level.) Considering the labour market position of women, inactive women have a clearly lower chance of realization than unemployed (and employed) women (cf. Table 3 and Table A6). Comparing employed and unemployed women, the former have a somewhat lower chance of realization, although the association is valid at a lower level of significance. Of course, caution should be exercised here, as labour market regulations may be country specific. Subjective norms are significant in all models: those who have a sense of greater normative expectations are more likely to realize their intentions. Lastly, subjective income level has an effect in line with the expected direction: economic hardship (major difficulty) hinders the realization of intentions. As we showed in our earlier studies, subjective (self-assessed) income is mainly important in the former communist countries (Spéder and Kapitány 2014). Overall, the individual factors show great stability across the modelling (they are identical to the third decimal place); thus, we will not bother to show them when we present the macro-level effects of the

[14] See also the 'Only individual (M1)' model in Table A6 in the Appendix. Here readers who are interested can find the parameters of the individual effects in different models.

multilevel models.

---- Table 3 about here ----

Multilevel models, effects of macro-level factors

The ensuing multilevel models reveal how the macro-social conditions characteristic of specific countries affect the fulfilment of fertility intentions. We start with the empty model (Model 0) without any covariate, but assuming the multilevel structure of the data. Model 1, which includes only individual variables and assumes also the multilevel structure of the data, is a key reference, since this model controls for country differences that are due to compositional differences regarding individual factors. Then, step by step, we introduce the macro variables (Level 2) – always just one at a time – to see whether and how they influence the fulfilment of fertility intentions (see previous section). Lastly, we present a model where two macro variables are included.

Generally, we are interested in whether the country-specific (Level 2) variables introduced have a significant effect on the realization of fertility intentions. In parallel, we consider two measures – between-country variance and related inter-class correlation (ICC) – and see if they indicate whether the given multilevel model reduces variance, and if the introduction of country variables is statistically significant.

The empty model (Model 0) and the model of the individual variables without any macro covariate (Model 1) serve as benchmark models (see Table 4). This means we will compare all models with macro variables against Model 0 and Model 1. The ICC of our empty model, which measures the share of variation attributable solely to country characteristics, is above 0.05 – that is, according to the rule of thumb, the cut-off point for using multilevel models. However, if we include the individual variables (Model 1), the ICC increases to 0.079. This reveals some slight compositional effects. The fact that in Model 1 the between-country variance and the ICC are clearly larger than in the empty model tells us that, if individual effects are controlled for, there are greater country differences than in the empty model.

Now, pursuing our main interest – namely, how the macro indices affect the fulfilment of intentions – we consider the effects of the different country factors. On the one hand, six of the nine variables show significant effects (see Table 4), but reduce the between-country variance to differing degrees. On the other hand, the macro indicators included do not always have the expected effects.

The *unemployment rate* – one of the most reliable macro indicators in explaining macro-level fertility change – does not influence the fulfilment of fertility intentions, irrespective of whether the

general rate or the youth unemployment rate is used. However, a specific aspect of unemployment – the *swing (amplitude) in the unemployment rate* – does seem to affect the realization of intentions. Comparing Model 1 and Model 4, we see that the ICC is reduced by 40% (from 0.079 to 0.047). The parameter of the unemployment swing – an odds ratio lower than 1 (0.279) – tells us that the greater the swing in the youth unemployment rate of a country, the lower the chances of short-term fertility intentions being realized. While the unemployment rate does not have a direct effect – perhaps because it is part of the social and economic context when the intention is formed – big changes in youth unemployment may signal instability or volatility, and may lead to a revision of intentions. Overall, stability on the labour market fosters the realization of fertility intentions, whereas vast change and instability hamper it. The reduction in the 'between-country' variance is greater[15] if inflation is included in our model (Model 5). The ICC – the rate of unexplained country-level variance – more than halves, decreasing to 0.036. According to what we see, the higher the inflation, the lower the likelihood that short-term fertility intentions will be realized.

Both the indices that measure *welfare state involvement* have a significant effect. Since they are correlated, it is not surprising that their effects should operate in the same direction and should be relevant in the same way. Both total social expenditure as a percentage of GDP and spending on children facilitate the realization of intentions. The higher the expenditure as a percentage of GDP at the country level, the greater the chances of realization. Total social spending as a proportion of GDP has a statistically stronger effect than spending on children, since it reduces between-country variance. Total social expenditure has overall the lowest ICC (0.025) of all the models with one macro variable compared here. We assumed that spending on children would have a stronger effect, since it has been proved to influence TFR (Luci-Greulich and Thévenon 2013); in the case of the realization of intentions, perhaps the general risk-covering function of the welfare state is more important than the cost-reducing function of spending on children.

As for dominant *cultural (attitudinal) characteristics*, the results are mixed. The variable measuring support for marriage, often used as an indicator of traditional views in a society, displays no significant effect on the fulfilment of fertility intentions. However, the two indices related to the meaning attached to having a child do have an effect: there is a greater chance of someone having a child (in fulfilment of the intention) in those countries where the prevalent view is that the decision to have children is entirely a private (individual) one (i.e. where fewer people believe that having children is also a collective obligation). Furthermore, the proportion of intention fulfilment is greater in those countries where fewer people believe that having a child 'gives meaning to a woman's life'. The results

[15] And according to the AIC, Model 5 shows a better fit than Model 4.

do not support our initial assumption that in a society with predominantly traditional views, people will stick more strongly to their initial intentions. On the contrary, realization is higher when the dominant view is that having a child is a private matter and not a normative obligation.

We should be cautious in assessing which model seems most relevant in explaining the realization of fertility intentions. Based on the AIC, the model including total social expenditure as a proportion of GDP (Model 6) is the best, followed by the model featuring inflation (Model 5) and the model that includes the prevailing ideas about whether childbearing is a private matter (Model 9). But note also that there is significant correlation between the rate of social expenditure and the notion of childbearing being a matter for the individual. We do not see a causal relationship between the two variables, and nor do we assume a dependence on a third country-level factor; but it cannot be excluded.

Both the small number of countries (Level 2) and possible associations between the potential macro-level variables prevent us from including several different combinations of the Level 2 variables in the models. Nonetheless, we experiment by including two unrelated country variables at the same time. Model 11 pairs inflation and the variable for support for the view that having a child is a 'private matter' (see Table 4).

Statistically speaking, the model improved markedly (between-country variance is 0.051, ICC=0.015) and both variables remained significant, while the signs of the parameters are as before. The lower the inflation rate (the less the uncertainty) in a given country and the stronger the view there that having a child is a private matter, the greater the chances of childbirth intentions being fulfilled.[16]

Based on these results, we conclude that the specific features of the *macro-social environment* play a *considerable role in the realization of fertility intentions*. The model that includes inflation (uncertainty) and prevalent ideas related to individuality in childbearing proved the most promising; however, given the limitations of our analysis, caution is warranted.

---- Table 4 about here ----

7. Discussion and future research

We are aware of the limitations of our study. Increasing the number of countries and the heterogeneity of the countries would certainly improve the models; nor are we relaxed about the high attrition rate

[16] In a model (not shown) containing two related variables – namely, the social support ratio and support for the notion that having a child is a private matter – the two country variables proved to be not significant.

in three countries, although our preliminary analysis suggests that there are no strong biases. As for the country-level variables used, new kinds of macro-level indicators may yield additional evidence. Being aware of the limitations, still our analysis has enabled us to provide some fresh insights into the study of fertility intention realization. First of all, by taking advantage of the individual-level follow-up nature of the comparative GGS data, and by employing rigorous methods to construct variables, we have shown that there are considerable country differences in the realization of short-term intentions in Europe. The country rates for the overall probability of actually having a child, as intended, range from 15.7% (Bulgaria) to 40.6% (Germany). Since the results are based on individual follow-up data, the rate of realization at the country level is very reliable. But it should be noted that the country rate for the probability of having a child as planned is a result of the behaviour of various social groups: for example, those in a younger age group and living alone; and those in a stable, cohabiting partnership, aged around aged 30 and with at least one child already (to mention just two quite different groups of people who were intending to have a(nother) child in the short term). Clearly, the actual enablers have different effects on how far these two groups can fulfil their intentions. Of course, country differences in the composition of the groups are taken into consideration, the fact, that groups are heterogeneous according the chances of realization. Furthermore, for technical reasons we have collapsed those who *definitely* and who *probably* wanted to have a child; and it is well known that certainty of intention also influences the likelihood of realization (Shoen at al. 1999; Régnier-Loilier and Vignoli 2011; see also Table A4 in the Appendix).

Using our multilevel model, just to highlight group and country specific realization, we can calculate the country-level probability for a given social group. For example, let us take a group that is in the middle of its fertility career: women aged 29–33, cohabiting, with one child already (Parity 1), in employment and deemed well-off regarding their subjective income. As expected, the country-level rates are clearly higher than in the general case (Figure 3). In three countries, the probability approaches a kind of 'perfect fit level'; in several countries the probability is somewhat below the 50% mark; and in only two countries (Bulgaria and Russia) is it close to the 30% level. All in all, taking into consideration the within-country heterogeneity of those intending to have a child in the short term, together with the results of our multivariate analysis which show that social groups clearly differ in their success rate, then the overall country levels (Figure 3) are not strikingly low. Thus, there is a risk that any general statements on (low) realization that are based on the results for the fulfilment of fertility intentions of the overall population with such intentions will be misleadingly low.

Our findings can be compared to the estimations of Harknett and Hartnett (2014), based on European Social Survey data. Taking two consecutive waves of the cross-sectional ESS data, they measured short-term (three-year) fertility intentions in the first wave, and then, drawing on the second

wave, they examined the incidence of childbirth within the subsequent three years. Based on all this, they estimated the realization of intentions at the country level. Based on the individual follow-up feature of the Generations and Gender Survey data, we arrived at a generally lower level of realization at the country level. More disappointingly, our country rankings differ quite substantially from theirs in several respects: we found that France has a clearly higher rate of realization than Hungary, while Hungary and Austria have roughly the same rate; they, in contrast, found Hungary's realization to be somewhat higher than France's, and Austria to be clearly lagging behind, with a very low realization rate (ibid.: 269). It was thought likely that the two estimations would converge, and the country rankings according to the rate of realization were expected to be more congruent. Given the difference, we think that the follow-up data and rigorous measurement of the variables are the better (if not indeed the best) base for accurate country-level estimations.[17]

----- Figure 3 about here ---

Exploring the country-level conditions using multilevel binary logistic regression with individual-level controls, we considered three major dimensions of likely influences. The unemployment rate has been shown to be one of the most significant macro-level factors determining fertility development (Goldstein et al. 2013). But we found that the realization of short-term fertility intentions is not influenced by the unemployment rate. Rather, it was the 'swing' in the youth unemployment rate that was significant, as well as the inflation rate: the less marked the swing in unemployment, and the lower the inflation rate, the greater the chances of fertility intentions being realized. More generally, we might consider whether the two factors can be understood as indicators of *structural uncertainty* in a given society. This result is in accordance with the conclusion of our earlier studies, where we argued that *the increased pace* of social and economic change may be responsible for lower realization in post-communist countries. More precisely, the asynchronous pace of change between cultural conditions (values, attitudes) and structural circumstances (labour market): namely the discrepancy between the slow, sluggish change in values and orientations and the rapid change in economic circumstances may explain the lower rate of realization and non-realization (Spéder and Kapitány 2014).

We assumed that the type and the level of socio-political involvement might contribute to the realization of intentions, since they signify the availability of institutional resources for those in need. The two highly associated variables – social protection generally as a percentage of GDP and spending

[17] We found the group-level estimation based on the subsequent ESS waves appealing and justified, but we do not see it as our task to discuss whether it is the low sample size, country differences in the time windows of the fieldwork of the ESS, the high attrition rate in some of the GGS countries or some other reason that lies behind the different rankings of country estimations.

on children as a percentage of GDP – had a positive association with the likelihood of realization. This highlights the importance of the safety net in the realization of intentions. Nevertheless, it would be useful to include in future research more specific comparative indicators of government involvement.

We also considered the cultural/ideational condition of the societies. The use of three indicators demonstrated that cultural conditions play a part in the rate of realization. Beliefs regarding the private nature of the decision to have a child proved the most significant: the more support there was for the idea that 'People should decide for themselves to have children', the greater was the chance of respondents having the intended child. To put it another way, *in societies* with a weaker belief that 'having a child is also a public matter', people are less likely to 'overstate' their fertility intentions. Note that there is a very closely related *individual* factor – the strength of perceived norms: i.e. the more a person feels that those closest to her/him expect her/him to have a child, the greater are the chances of realization. Thus, taking account of attitudinal variables both at the macro and micro level, the greatest chances of someone having an intended child are among individuals with strong perceived norms (feeling the expectations of 'significant others') who live in a society where having a child is deemed to be a private matter.

The statistical analyses do not help us answer the question of *how* macro-level factors influence the realization of fertility intentions, but bearing in mind the TPB framework we may suggest some possible ways. Generally, structural factors (labour market dynamics, inflation) are expected to directly hamper realization: for example, inflation can increase the cost of having children or hinder expected access to housing. However, these factors may also lead to a revision of intentions, resulting in non-realization of the initial intention. Less generous welfare spending and family support provides less general security in the event of need; it perhaps also makes individuals feel more alone in their decisions, and so any unexpected change may loosen the intention–outcome link. Lastly, the attitudes and beliefs prevalent in society may produce overstated intentions; and when those intentions come face to face with reality, they may be revised. Overall, these are assumptions: future research may devise approaches that allow the mechanism for how macro-level conditions influence intention realization to be studied.

Acknowledgements

An earlier version of this paper was developed within the project International Comparison of the Effectiveness of Family Policy and Fertility, directed by the Institut National d'Études Démographiques (INED) (Principal Investigator: Laurent Toulemon) and financed by the Korea Institute for Health and Social Affairs (KIHASA). Many thanks to project participants for their comments at earlier stages of the research. Thanks to Lajos Bálint (Hungarian Demographic Research Institute) for his support in

modelling. Specific thanks to the anonymous reviewers, whose pointers helped significantly in the final stages of the paper.

References

Ajzen, Icek. 1988. *Attitudes, Personality and Behaviour*. Milton Keynes: Open University Press.

Ajzen, Icek. 2002. Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, 32(4): 665–683.

Ajzen, Icek and Jane Klobas. 2013. Fertility intentions: An approach based on the theory of planned behaviour. *Demographic Research*, 29(8): 203–232.

Arts, W., J. Geliessen and R. Luijkx. 2004. Shall the train ever meet? Differences and changes in socio-economic justice norms and beliefs in Eastern and Western Europe at the turn of the Millennium. In: W. Arts, J. Hagenaars and L. Halman (eds), *The Cultural Diversity of European Unity* (pp. 185–216). Leiden: Brill European Values Study.

Bartus, Tamás and Zsolt Spéder. 2015. Panel attrition in the GGP data. Evidence from nine European countries. Presentation at the GGS 2015 user conference, Vienna, 30 November – 1 December, Vienna, Vienna Institute of Demography, Manuscript, p. 12.

Beaujouan, Eva and Caroline Berghammer. 2019. The gap between lifetime fertility intentions and completed fertility in Europe and the United States: A cohort approach. *Population Research and Policy Review*, 38: 507–535.

Berrington, Ann. 2004. Perpetual postponers? Women's, men's and couple's fertility intentions and subsequent fertility behaviour. *Population Trends*, 117: 9–19.

Bond, Rod and Peter B. Smith. 1996. Culture and conformity: A meta-analysis of studies using Asch's (1952b, 1956) line judgment tasks. *Psychological Bulletin*, 119(1): 111–137.

Bradurashvili, Irina, E. Kapanadze and S. Tsiklauri. 2011. *Generation and Gender Survey in Georgia, II. Wave*. Tbilisi: Georgian Centre of Population Research and UNFPA.

Bryan, Mark L. and Stephen P. Jenkins. 2016. Multilevel modelling of country effects: A cautionary tale. *European Sociological Review*, 32(1): 3–22.

Comolli, Clara Laura. 2017. The fertility response to the Great Recession in Europe and the United States: Structural economic conditions and perceived economic uncertainty. *Demographic Research*, 36(51): 1549–1600.

Cornia, Giovanni Andrea and Renato Paniccia. 1996. The transition's population crisis: An econometric investigation of nuptiality, fertility and mortality in severely distressed economies. *MOCT-MOST: Economic Policy in Transitional Economies*, 6(1): 95–129.

Davidson, Andrew R., James J. Jaccard. 1979. Variables that moderate the attitude-behavior relation: Results of a longitudinal survey. *Journal of Personality and Social Psychology*, 37(8): 1364–1376.

Di Tella, Rafael, Robert MacCulloch and Andrew J. Oswald. 2001. Preferences over inflation and unemployment: Evidence from surveys of happiness. *American Economic Review*, 91(1): 335–341.

Dommermuth, Lars, Jane Klobas and Trude Lappegard. 2015. Realization of fertility intentions by different time frames. *Advances in Life Course Research*, 24: 34–46.

Engelhardt, Henriette. 2012. Late careers in Europe: Effects of individual and institutional factors. *European Sociological Review*, 28(4): 550–563.

Goldstein, Joshua, Wolfgang Lutz and Maria Rita Testa. 2003. The emergence of sub-replacement family size ideals in Europe. *Population Research and Policy Review*, 22(5): 479–496.

Goldstein, Joshua R., M. Kreyenfeld, A. Jasilioniene and D.K. Örsal. 2013. Fertility reactions to the 'Great Recession' in Europe: Recent evidence from order-specific data. *Demographic Research*, 29(4): 85–104.

Hagenaars, J., L. Halman and G. Moors. 2004. Exploring Europe's basic value map. In: W. Arts, J. Hagenaars and L. Halman (eds), *The Cultural Diversity of European Unity* (pp. 23–58). Leiden: Brill European Values Study.

Hagestad, Gunhild O. and Bernice L. Neugarten. 1985. Age and the life course. In: E. Shanas and R. Binstock (eds), *Handbook of Aging and the Social Sciences* (pp. 36–61), 2nd ed. New York: Van Nostrand Reinhold.

Hanappi, D., V.-A. Ryser, L. Bernardi and J.-M. Le Goff. 2017. Changes in employment uncertainty and the fertility intention-realization link: An analysis based on the Swiss Household Panel. *European Journal of Population*, 33: 381–407.

Harknett, K. and C.S. Hartnett. 2014. The gap between births intended and births achieved in 22 European countries, 2004–07. *Population Studies*, 68(3): 265–282.

Heaton, T.B., C.K. Jacobson and K. Holland. 1999. Persistence and change in decisions to remain childless. *Journal of Marriage and Family*, 61(2): 531–539.

Hoem, Jan M., Alexia Prskawetz and Gerda Neyer. 2001. Autonomy or conservative adjustment? The effect of public policies and educational attainment on third births in Austria, 1975–96. *Population Studies*, 55(3): 249–261.

ILO. 2017. *World Social Protection Report 2017–19: Universal social protection to achieve the Sustainable Development Goals*. Geneva: ILO.

Kalwij, Adriaan. 2010. The impact of family policy expenditure on fertility in Western Europe. *Demography*, 47(2): 503–519.

Kapitány, Balázs and Zsolt Spéder. 2012. Realization, postponement or abandonment of childbearing intentions in four European countries. *Population*, 67(4): 599–629.

Krosnick, J.A. and R.E. Petty. 1995. Attitude strength: An overview. In: R.E. Petty and J.A. Krosnick (eds), *Attitude Strength: Antecedents and consequences.* Mahwah: Lawrence Erlbaum, pp. 1–24.

Kuhnt, Anett-K. and Heike Trappe. 2016. Channels of social influence on the realization of short-term fertility intentions in Germany. *Advances in Life Course Research*, 27: 16–29.

Leisering, Lutz. 2003. Government and the life course. In: J.T. Mortimer and M.J. Shanahan (eds), *Handbook of the Life Course* (pp. 205–225). New York: Springer.

Lesthaeghe, Ron. 2010. The unfolding story of the second demographic transition. *Population and Development Review*, 36(2): 211–251.

Liefbroer, Aat C. 2009. Changes in family size intentions across young adulthood: A life-course perspective. *European Journal of Population*, 25: 363–386.

Liefbroer, Aat C. and Francesco C. Billari. 2009. Bringing norms back in: A theoretical and empirical discussion of their importance for understanding demographic behaviour. *Population, Space and Place*, 16(4): 287–305.

Liefbroer, A.C., J.E. Klobas, D. Philipov and I. Ajzen. 2015. Reproductive decision-making in a macro-micro perspective: A conceptual framework. In: D. Philipov, A.C. Liefbroer and J.E. Klobas (eds), *Reproductive Decision-Making in a Macro-Micro Perspective* (pp. 1–15). Dordrecht: Springer.

Livi Bacci, Massimo. 2001. Comment: Desired family size and the future course of fertility. *Population and Development Review*, 27: 282–289.

Luci-Greulich, Angela and Olivier Thévenon. 2013. The impact of family policy packages on fertility trends in developed countries. *European Journal of Population*, 29(4): 387–416.

Lück, Dieter and Dirk Hofäcker. 2003. Rejection and acceptance of the male breadwinner model: Which preferences do women have under which circumstances? GLOBALIFE Working Paper, No. 60. Otto-Friedrich University of Bamberg.

Lutz, W. 2020. Fertility will be determined by the changing ideal family size and the empowerment to reach these targets. *Vienna Yearbook of Population Research*, 18: 1–8.

Mankiw, Gregory N. 2010. *Macroeconomics*. New York: Worth Publishers.

Mayer, Karl U. 2001. The paradox of global social change and national path dependencies: Life course patterns in advanced societies. In: Alison E. Woodward and Martin Kohli (eds), *Inclusions and Exclusions in European Societies* (pp. 89–110). London: Routledge.

Milligan, Kevin. 2005. Subsidizing the stork: New evidence on tax incentives and fertility. *Review of Economics and Statistics*, 87(3): 539–555.

Mills, M. and H.-P. Blossfeld. 2005. Globalization, uncertainty and the early life course: A theoretical framework. In: H.-P. Blossfeld, E. Klijzing, M. Mills and K. Kurz (eds), *Globalization, Uncertainty and Youth in Society* (pp. 1–24). London: Routledge.

Mills, M., H.-P. Blossfeld and E. Klijzing. 2005. Becoming an adult in uncertain times. In: H.-P. Blossfeld, E. Klijzing, M. Mills and K. Kurz (eds), *Globalization, Uncertainty and Youth in Society* (pp. 423–441). London: Routledge.

Mönkediek, Bastian and Hilde Bras. 2017. Family systems and fertility intentions: Exploring the pathways of influence. *European Journal of Population*, 34: 33–57.

Morgan, S.P. and H. Rackin. 2010. The correspondence between fertility intentions and behavior in the United States. *Population and Development Review*, 36: 91–118.

Ní Bhrolcháin, Marie, Eva Beaujouan and Ann Berrington. 2010. Stability and change in fertility intentions in Britain, 1991–2007. *Population Trends,* 141: 13–35.

Pailhé, Arian and Arnaud Régnier-Loilier. 2017. The impact of unemployment on the realization of fertility intentions: A longitudinal approach to family trajectories in France. *INED Population Studies,* 7: 123–146.

Philipov, Dimiter. 2009a. Fertility intentions and outcomes: The role of policies to close the gap. *European Journal of Population*, 25: 355–361.
Philipov, Dimiter. 2009b. The effect of competing intentions and behaviour on short-term childbearing intentions and subsequent childbearing. *European Journal of Population*, 25: 525–548.
Régnier-Loilier, A. and D. Vignoli. 2011. Fertility intentions and obstacles to their realization in France and Italy. *Population-E*, 66(2): 361–390.
Reher, David S. 1998. Family ties in Western Europe: Persistent contrasts. *Population and Development Review*, 24(2): 203–234.
Riederer, Bernard and Isabella Buber-Ennser. 2018. Regional context and realization of fertility intentions: Are capitals different? The examples of Austria and Hungary. *Demográfia* (English Edition), 61(5): 29–58.
Riederer, Bernard and Isabella Buber-Ennser. 2019a. Regional context and realization of fertility intentions: The role of urban context. *Regional Studies*, 53(12): 1669–1679.
Riederer, Bernard and Isabella Buber-Ennser. 2019b. Fertility intentions and their realization in couples: How the division of household chores matters. *Journal of Family Issues*, 40(3): 1860–1882.
Rindfuss, Ronald R., Minja K. Choe and Sarah R. Brauner-Otto. 2016. The emergence of two distinct fertility regimes in economically advanced countries. *Population Research and Policy Review,* 35(3): 287–304.
Robson, Karen and David Pevalin. 2016. *Multilevel Modelling in Plain Language*. London: Sage.
Rodin, J. 2011. Fertility intentions and risk management: Exploring the fertility decline in Eastern Europe during transition. *AMBIO,* 40: 221–230.
Rothman, Alexander J., William M. Kelly and Neil D. Weinstein. 1996. Absolute and relative biases in estimations of personal risks. *Journal of Applied Psychology*, 26(14): 1213–1236.
Schoen, R., N.M. Astone, Y.J. Kim, C.A. Nathanson and J.M. Fields. 1999. Do fertility intentions affect fertility behavior? *Journal of Marriage and the Family*, 61(3): 790–799.
Sobotka, Tomas. 2016. The European middle way? Low fertility, family change, and gradual policy adjustment in Austria and the Czech Republic. In: R. Rindfuss and M. Choe (eds), *Low Fertility, Institutions, and their Policies: Variations across countries* (pp. 131–164). Cham: Springer.
Sobotka, Tomas and Wolfgang Lutz. 2011. Misleading policy messages derived from the period TFR: Should we stop using it? *Comparative Population Studies – Zeitschrift für Bevölkerungswissenschaft*, 35(3): 637–664.
Spéder, Zsolt and Balázs Kapitány. 2009. How are time-dependent childbearing intentions realized? Realization, postponement, abandonment, bringing forward. *European Journal of Population,* 25(4): 503–523.
Spéder, Zsolt and Balázs Kapitány. 2014. Failure to realize fertility intentions: A key aspect of the post-communist fertility transition. *Population Research and Policy Review*, 33(3): 393–418.
Spéder, Zsolt, Lívia Murinkó and Lívia Oláh Sz. 2020. Cash support vs. tax incentives: The differential impact of policy interventions on third births in contemporary Hungary. *Population Studies*, 74(1): 39–54.
Testa, Maria Rita and Laurent Toulemon. 2006. Family formation in France: Individual preferences and subsequent outcomes. *Vienna Yearbook of Population Research*, 4(1): 41–75.
Thévenon, Olivier and Anne H. Gauthier. 2011. Family policies in developed countries: A 'fertility-booster' with side effects. *Community, Work & Family*, 14(2): 197–216.
Thornton, Arland – Linda YOUNG-DeMARCO, 2001. Four Decades of Trends in Attitudes. Toward Family Issues in the United States: The 1960s through the 1990s. *Journal of Marriage and Family*, 63, November, 1009-1037.
Thornton, Arland – Dimiter Philipov, 2009. Sweeping changes in marriage, cohabitation and childbearing in Central and Eastern Europe: New insights from the developmental idealism framework. *European Journal of Population*, 25 (2), 123–156.
Toulemon, Laurent and Maria Rita Testa. 2005. Fertility intentions and actual fertility: A complex relationship, *Population & Societies*, 415: 1–4.
van De Kaa, Dirk. 1987. Europe's second demographic transition. *Population Bulletin*, 42(1): 1–57.
Vikat, A., Zs. Spéder, G. Beets, F.C. Billari, C. Bühler, A. Désesquelles, T. Fokkema, J.M. Hoem, A. MacDonald, G. Neyer, A. Pailhé, A. Pinnelli and A. Solaz. 2007. Generations and Gender Survey (GGS): Towards a better understanding of relationships and processes in the life course. *Demographic Research*, 17(14): 389–440.
Zapf, Wolfgang. 1996. Die Modernisierungstheorie und die unterschiedlichen Pfade der gesellschaftlichen Entwicklung. *Leviathan*, 24(1): 63–77.

Table 1.
Selected economic, social and demographic indicators of countries, 2005

	GDP per capita (PPP)	TFR	Mean age at first birth	Proportion of births outside marriage	Religiosity (in %)
Austria (WE)	35013.7	1.408	27.26	36.5	63.9
Bulgaria (EE)	10275.0	1.314	24.64	49.0	63.6
Czech Republic(EE)	21956.4	1.275	26.62	31.7	43.3
France (WE)	30603.5	1.920	29.90	48.4	46.9
Georgia (EE)	4364.8	1.390	24.00	49.7	96.6
Germany (WE)	31968.5	1.364	27.90	29.2	42.9
Hungary (EE)	17081.8	1.307	26.63	35.0	47.7
Lithuania (EE)	14526.1	1.294	24.80	28.0	64.3
Poland (EE)	13895.9	1.232	25.73	18.5	94.6
Russia (EE)	11822.4	1.294	24.11	30.0	73.6
Sweden (WE)	33967.2	1.787	28.66	55.4	33.4

Sources: World Bank (GDP), Human Fertility Database: TFR and MAFB, TransMonEE: births outside marriage, European Value Survey - World Value Survey Longitudinal File 1981–2014 (Religiosity) (AT: 2008; BG: 2005; CZ: 1998; FR: 2006; GE: 2009; DE: 2006; HU: 2009; LT: 1996; PL: 2005; RU: 2006; SE: 2006).

Table 2.
Correlation coefficients (Pearson's) among the country-level variables

Unemployment rate at 1st wave	1							
Youth unemployment rate at 1st wave	.829**	1						
Swing in youth unemployment rate as ratio of average	.051	-.209	1					
Inflation at the time of the 1st wave	.159	.133	.189	1				
Social expenditure as % of GDP, 2005	-.347	-.280	-.570	-.746**	1			
Family expenditure as % of GDP, around 2005	-.071	.107	-.644*	-.462	.621*	1		
Marriage is outdated (% agreeing)	-.281	-.357	-.338	-.391	.661*	.191	1	
People should decide for themselves to have children (% strongly agreeing)	-.264	-.125	-.815**	-.383	.827**	.786**	.580	1
Women need children to be fulfilled (% strongly agreeing)	.372	.286	.217	.790**	-.687*	-.376	-.298	-.439

sign: **0.01, *0.05

Table 3.
Odds ratios of realizing short-term fertility intentions, effects of individual characteristics (results of multilevel random intercept model without macro covariates, M1 model)

Intercept	0.400	***
Micro-level variables		
Sex		
Female	1.035	
Age group, women		
–24	1.129	
25–28	1.138	.
34–	0.465	***
Partnership status		
Cohabiting partner	2.511	***
Number of children		
1	1.133	
2+	0.709	***
Labour market status of women		
Employed	0.821	.
Maternity	1.117	
Inactive	0.656	**
Subjective norm		
	0.942	***
Subjective income position		
Very difficult	0.803	*
Difficult	0.848	*
Statistics		
Between-country variance	0.281	
Inter-class correlation (ICC)	0.079	
Akaike Information Criterion (AIC)	7166	

Reference: male, aged 29–34, no partner, childless, female unemployed, easily making ends meet.
Significance level: ***=0.001; **=0.01; *=0.05; .=0.1

Table 4.
Odds ratios of realizing short-term fertility intentions, parameters of macro-level characteristics (results of multilevel random intercept models, individual-level variables controlled for)

	Parameters of macro effects		Statistics		
			Between-country variance	ICC	AIC
Reference ML models					
Empty model (Model 0)	-		0.222	0.063	7530
Only individual factors (Model 1)	-		0.281	0.079	7166
ML models with 1 macro variable					
Unemployment rate at 1st wave (Model 2)	1.008	ns	0.281	0.079	7168
Youth unemployment rate at 1st wave (Model 3)	1.004	ns	0.280	0.078	7168
Swings in youth unemployment (Model 4)	0.279	**	0.162	0.047	7163
Inflation rate at 1st wave (Model 5)	0.881	***	0.123	0.036	7160
Total social protection as a percentage of GDP (Model 6)	1.067	***	0.084	0.025	7156
Public spending on children as a percentage of GDP (Model 7)	1.508	**	0.157	0.045	7162
Marriage outdated (Model 8)	1.028	ns	0.236	0.069	7166
Having a child is a private matter (Model 9)	1.027	***	0.115	0.034	7159
Child gives meaning to a woman's life (Model 10)	0.988	*	0.189	0.054	7164
ML model with 2 macro variables (Model 11)					
Inflation rate at 1st wave and	0.914	***			
the view that having a child is a private matter	1.019	***	0.051	0.015	7153

Note: Individual (Level 1) variables in the multilevel (ML) models: sex, age group of the women, partnership form, number of children, women's labour market status, women's education, perceived social norms, subjective income position of the household.
Significance level: ***=0.001; **=0.01; *=0.05; .=0.1

Appendix

Table A1.
Timing of the fieldwork of the GGS 1 wave, countries included in the analysis

	Time of the fieldwork at wave 1
Austria	2008
Bulgaria	2004
Czech Republic	2005
France	2005
Georgia	2006
Germany	2005
Hungary	2004
Lithuania	2006
Poland	2010
Russia	2004
Sweden	2012

Table A2.
Individual variables and their categories

Sex	Male (reference)
	Female
Age groups, women	Under 24
	25–28
	29–33 (reference)
	34–45
Partnership status	Cohabiting with husband or partner
	Living alone and LAT (reference)
Number of children	Childless
	One child (reference)
	Two or more children
Labour market status of women	Employed, wage-earner
	Unemployed (reference)
	On maternity leave, or housekeeping
	Other inactive status, etc.
How making ends meet (Subjective income position)	With great difficulty With minor difficulties Easily (reference)
Subjective norm	Lower value denotes stronger feeling of normative expectation (continuous)

Table A3.
Country values of macro-level variables

	AT	BG	CZ	FR	GE	DE	HU	LT	PL	RU	SE
Unemployment rate at 1st wave (%)	4.10	12.00	7.90	8.90	13.60	11.20	5.80	5.80	9.60	7.80	8.00
Youth unemployment rate at 1st wave (%)	8.50	24.70	19.30	21.00	29.00	15.50	14.30	10.00	23.60	17.20	22.80
Swing in youth unemployment rate as ratio of the average	0.49	0.88	0.63	0.15	0.62	0.68	0.61	1.18	0.79	0.54	0.26
Inflation at the time of the 1st wave (%)	3.20	6.30	1.80	1.70	8.20	1.50	6.80	3.70	2.70	10.90	0.90
Social expenditure as % of GDP, 2005	25.90	14.70	18.10	28.70	7.20	26.30	21.90	13.20	20.90	11.80	27.40
Family expenditure as % of GDP, around 2005	2.60	1.90	2.20	2.90	2.30	2.20	3.00	1.10	1.20	0.60	3.60
Marriage is outdated (% agree)	28.41	26.71	21.96	34.70	4.02	25.59	19.20	15.92	16.53	19.87	17.08
People should decide for themselves whether to have children (% strongly agree)	66.03	49.17	46.62	80.14	38.59	61.77	67.80	33.91	39.25	49.06	78.94
Women need children to be fulfilled (% strongly agree)	32.27	70.27	58.44	59.13	95.32	44.92	83.60	48.98	52.62	83.03	6.88

Table A4.
Ratio of realization of short-term fertility intentions, selected parameters of distributions, different samples, 11 European countries

Countries	Respondents intending to have a child at wave 1				Sample of ML	
	Ratio (%) having a child			(N=)	Ratio (%) having a child	(N=)
	ALL	Intend a(nother) child				
		definitely yes	probably yes			
Austria	20.1	32.2	12.1	940	26.1	779
Bulgaria	15.8	22.4	13.5	1151	19.9	789
Czech Republic	22.5	36.1	13.7	277	26.7	202
France	39.3	54.3	23.8	769	47.5	522
Georgia	21.6	33.6	15.8	1241	22.7	856
Germany	40.6	44.9	36.6	200	45.7	162
Hungary	22.0	--	--	1574	26.6	1164
Lithuania	23.8	(42.1)	18.3	196	23.7	173
Poland	30.2	41.4	21.8	869	29.9	809
Russia	17.0	25.3	13.9	636	18.3	518
Sweden	39.6	55.9	24.4	1033	46.6	524
Cases (=100%)	8886	--	--	8886	6498	6498

() = No. below 80 cases
Sources: Own calculations, Generations and Gender Survey, using 1st and 2nd survey data.

Table A5.
Ratio of realization of short-term fertility intentions, selected parameters of distributions, different samples, 11 European countries

Countries	Subsamples of those aged 21–44			ALL
	All living in a cohabiting partnership at wave 1	Childless at wave 1	Parity 1 at wave 1	
Austria	29.5	14.8	32.1	20.1
Bulgaria	23.1	12.5	20.5	15.8
Czech Republic	28.2	18.6	31.1	22.5
France	49.7	38.4	48.9	39.3
Germany	45.7	(30.8)	(54.1)	21.6
Georgia	27.7	19.4	33.8	40.6
Hungary	29.1	19.4	30.8	22.0
Lithuania	25.6	(28.6)	21.2	23.8
Poland	33.1	29.4	31.1	30.2
Russia	18.9	16.9	20.1	17.0
Sweden	49.4	29.7	62.5	39.6
Cases (=100%)	5283	3112	2703	8886

() = No. below 80.
Sources: Own calculations, Generations and Gender Survey, using 1st and 2nd survey data.

Table A6.

Odds ratios for realizing short-term fertility intentions, parameters of individual- and macro-level characteristics (results of multilevel random intercept models)

		Model 0	Only individual (M1)	Unemp. (M2)	Youth unempl. (M3)	Unemp. swings (M4)	Inflation (M5)	Social expend. (M6)	Family expend. (M7)	Attitude to marriage (M8)	Public vs private matter (M9)	Child important (M10)	Two macro var. (M11)
Intercept		0.417 ***	0.400 ***	0.373 *	0.368 *	0.877	0.052 *	0.112 ***	0.163 ***	0.225 ***	0.093 ***	0.835 ns	0.208 **
Micro-level variables													
Sex (ref. male)	female		1.035	1.035	1.035	1.035	1.033	1.032	1.034	1.034	1.034	1.034	1.032
Age group, female (r. 29–34)	–24		1.129	1.129	1.129	1.128	1.135	1.136	1.130	1.130	1.129	1.132	1.138
	25–28		1.138 .	1.138 .	1.138 .	1.137 .	1.140 .	1.140 .	1.137 .	1.138 .	1.137 -	1.139 .	1.140 .
	35–		0.466 ***	0.466 ***	0.466 ***	0.465 ***	0.467 ***	0.466 ***	0.465 ***	0.466 ***	0.465 ***	0.466 ***	0.466 ***
Partnership (r. alone)	cohabiting		2.511 ***	2.511 ***	2.511 ***	2.522 ***	2.506 ***	2.496 ***	2.513 ***	2.507 ***	2.505 ***	2.507 ***	2.494 ***
Number of children (r.1)	0		1.134	1.133	1.133	1.134	1.136 ..	1.140 ·	1.140 ·	1.133	1.137 ·	1.135	1.143 .
	2+		0.709 ***	0.708 ***	0.708 ***	0.706 ***	0.713 ***	0.716 **	0.710 ***	0.709 ***	0.710 ***	0.711 ***	0.718 **
Labour market position, female (r. unemployed)	emp.		0.821 .	0.821 .	0.821 .	0.821 .	0.820 .	0.814 ·	0.823 ·	0.819 .	0.817 .	0.819 .	0.814 *
	maternity		1.117	1.118	1.118	1.117	1.113	1.111	1.115	1.117	1.115	1.115	1.108
	inactive		0.656 **	0.656 **	0.656 **	0.656 **	0.654 **	0.651 **	0.655 **	0.656 **	0.653 **	0.653 **	0.648 **
Subjective norm			0.942 ***	0.942 ***	0.942 ***	0.942 ***	0.943 ***	0.941 ***	0.942 ***	0.942 ***	0.942 ***	0.942 ***	0.941 ***
Subjective income (r. easy)	very difficult		0.803 *	0.802 *	0.802 *	0.799 *	0.811 *	0.815 *	0.804 *	0.802 *	0.803 *	0.810 *	0.817 *
	difficult		0.848 *	0.848 *	0.848 *	0.845 *	0.855 *	0.855 *	0.848 *	0.847 *	0.846 *	0.853 *	0.857 *
Macro-level variables													
Unemployment rate at 1st wave				1.008 ns									
Youth unemployment rate at 1st wave					1.004 ns								
Swings in youth unemployment						0.279 **							
Inflation rate at 1st wave							0.881 ***						0.914 ***
Total social protection as ratio of GDP								1.067 ***					

	Model 0	Only individual (M1)	Unemp. (M2)	Youth unempl. (M3)	Unemp. swings (M4)	Inflation (M5)	Social expend. (M6)	Family expend. (M7)	Attitude to marriage (M8)	Public vs private matter (M9)	Child important (M10)	Two macro var. (M11)
Public spending on children as ratio of GDP								1.508 **				
Marriage outdated									1.028 ns			
Having a child is a private matter										1.027 ***		1.019 ***
Child gives meaning to a woman's life											0.988 *	
Statistics												
Between-country variance	0.222	0.281	0.280	0.280	0.162	0.123	0.084	0.157	0.236	0.115	0.189	0.051
Inter-class correlation (ICC)	0.063	0.078	0.079	0.078	0.047	0.036	0.025	0.045	0.067	0.034	0.054	0.015
AIC	7530	7166	7168	7168	7163	7160	7155	7162	7166	7159	7164	7153
No. of obs.	6454	6498	6498	6498	6498	6498	6498	6498	6498	6498	6498	6498

Sign: Significance level: ***=0.001; **=0.01; *=0.05; .=0.1