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FERTILITY INTENTIONS OF UNIVERSITY GRADUATES

ISABELLA BUBER-ENNSER[1], RALINA PANOVA[2] AND JÜRGEN DORBRITZ[3]

ABSTRACT: *Increasing numbers of young people enter university-level programmes and the share of university graduates among today's young adults is expected to be around 40 per cent in OECD countries. Education-specific studies reveal differences in fertility behaviour. Childlessness is a particularly widespread phenomenon among female university graduates in Western Germany[4] and Austria, and highly educated women are less likely to have larger families with three or more children. Based on the Generations and Gender Survey (GSS), we study fertility intentions of university graduates. We concentrate on university degree holders aged 27 to 40 years in Western Germany and Austria, and compare them with their peers in France and Norway. We aim to find out how different life domains are associated with the intention to have a child within the next three years. We identify determinants of fertility intentions based on the concept of the life course and inspired by the concept of the rush hour of life. We examine associations between employment and relationship on the one hand, and plans to start a family on the other. We analyse the extent to which the current individual situation in the life domains of work and partnership and their durations are related to short-term fertility intentions, taking into consideration possible gender-specific and country-specific differences. The study reveals that in Western Germany and Austria childless highly educated women are less likely to intend to have a child within the next three years. Moreover, gender differences are notable in these two countries, with women less often intending to have a child in the near future than men. Childbearing plans are most prominent among university graduates around the age of thirty. The degree of institutionalisation, the duration of the relationship and the number of working hours are also associated with fertility intentions.*

Keywords: Fertility intentions, university graduates, childlessness, rush hour of life, Generations and Gender Survey

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[4] In this paper Western Germany refers to the *länder* of the former Federal Republic of Germany.

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1. INTRODUCTION

Increasing numbers of young people are awarded a university degree. Based on current patterns of graduation, 60 per cent of young adults in the OECD countries are expected to enter university-level programmes and 40 per cent of young people are expected to complete university-level education at some point during their lives (OECD 2013). The study of the fertility behaviour and intentions of highly educated women and men is therefore of some societal importance. Moreover, the highly educated as a group are not only increasing relative to other educational groups, but are also seen as a vanguard for social change (Lesthaeghe and Surkyn 1988), and this includes fertility behaviour.

Childlessness has increased continuously across Europe over the last decades (Frejka 2008). Although childlessness is not a new phenomenon historically, it has been gaining increasing significance in the demographic literature and in socio-political discussion (Frejka and Sardon 2004; Konietzka and Kreyenfeld 2007). Education-specific studies show that childlessness is a particularly widespread phenomenon among female university graduates (Dorbritz 2011). This applies to women in Western Germany in particular, who in the past frequently found themselves faced with the choice between child(ren) or career, due to the low supply of public childcare facilities. Highly educated women are also less likely to have larger families with three or more children.

Low fertility rates are an important societal issue and earlier research has shown that there is gap between fertility intentions and fertility behaviour (i.e. higher intended family size than actual behaviour) (Bongaarts 2001; Sobotka 2009). If the intentions themselves are absent or low then the situation might be even worse. It is therefore important to know how to support individuals to achieve their fertility intentions and to maintain a certain fertility rate.

Various empirical studies have focused on intentions when studying fertility and childlessness (Dorbritz, Lengerer and Ruckdeschel 2005; Dorbritz and Ruckdeschel 2007). Childlessness is either intended from early adulthood or the consequence of continuous postponement of childbearing and family formation plans; the latter is especially common among the highly educated (Kreyenfeld and Konietzka 2007). Viewed from the life-course perspective, childlessness could be an expression of complex life-course constellations and the result of a succession of biographical decisions related to various areas of life, primarily education, employment and personal approaches to life (Kreyenfeld and Konietzka 2007).

The objective of this study is to analyse fertility intentions among university graduates aged between 27 and 40 in four selected European countries. The study focuses on Western Germany and Austria, countries with high levels of childlessness, especially among the highly educated. It is important to know why this is the case. To obtain a better insight, we study fertility intentions,

because lack of intention is a strong predictor of childlessness. To understand the situation of the highly educated in these two countries better we compare them to women in two other countries. France and Norway are included because they have comparably high fertility rates and different institutional contexts concerning reconciliation of work and family life. We concentrate on short-term fertility intentions, not on the intended number of children. For a discussion of the operationalisation of short-term and long-term fertility intentions we refer to Philipov and Bernardi (2011): "Short-term intentions refer to having a child within a short time period such as 2 or 3 years. Over a short period, the respondent is expected to be familiar with his or her personal situation in life and with the obstacles which might frustrate the intention to have a child. For example, the respondent is aware of her family situation and of her partner's fertility preferences; she is aware of her housing situation, employment situation, income, etc." (Philipov and Bernardi 2011, 512).

Our research focuses on the particularly intense time pressures of the phase of life between the mid-twenties and late thirties. The age starts at 27, the mean age of finishing university-level degrees in OECD countries (OECD 2013). Our aim is to find out how different life domains are associated with the intention to have a child in the near future. Based on the concept of life course and inspired by the concept of "rush hour of life" (Bertram 2007; Bertram and Bujard 2012) we identify determinants of fertility intentions for university graduates. According to the concept of the rush hour of life demands from the apparently conflicting life domains of job/career and family/private life are seen in context with fertility intentions and a possible pathway to childlessness. In particular, we examine associations between employment and relationships and intention to start or expand a family. We analyse the extent to which the current individual situation in the life domains of work and partnership and their durations relate to fertility intentions for the next three years, taking into consideration possible gender-specific and country-specific differences.

2. GENERATIVE BEHAVIOUR, CHILDLESSNESS AND FERTILITY INTENTIONS

Germany and Austria are among the countries with the lowest fertility rates in Europe (Sobotka 2011), while France, the United Kingdom and the Scandinavian countries are known for their comparatively high fertility rates (Total fertility rate (TFR) 2010: Germany: 1.39; Austria: 1.44, 2010: France: 2.00; Norway: 1.95; United Kingdom: 1.98) (VID-IIASA 2012).[5] Over the past four decades Europe has witnessed a rise in the average age at first birth

[5] See Sobotka and Lutz (2011) for a recent critique of the validity of TFR.

(Bongaarts and Sobotka 2011), and increasing levels of educational enrolment account for a substantial part of fertility postponement (Ní Bhrolcháin and Beaujouan 2012). In most European countries the average transition to motherhood currently takes place at age 28–29 (Kreyenfeld et al. 2010; Sobotka 2010). The relationship between postponement of family formation and fertility differs. While in France a high age at first birth is accompanied by a high number of children and low childlessness (Gerlach 2004; Köppen, Mazuy and Toulemon 2013), in Germany the delay in motherhood is associated with an increase in childlessness and this presumably has consequences for final family size (Kreyenfeld 2008).

Childlessness varies substantially between countries and regions (Frejka 2008; Konietzka and Kreyenfeld 2007), amounting to 22 per cent in Western Germany for cohorts born 1964–1968 (Statistisches Bundesamt 2010) and to 18 per cent in Austria for the 1965–66 cohorts (Sobotka 2011). With a share of 13 per cent, France and Norway exhibit low levels of childlessness for the 1960s cohorts (Sobotka 2005; Toulemon, Pailhé and Rossier 2008). Moreover, childlessness is low in former East German regions, with a share of 11 per cent for the 1964–1968 cohorts (Statistisches Bundesamt 2010), indicating considerable regional differences within Germany (Dorbritz 2005; Konietzka and Kreyenfeld 2007).

Throughout the twentieth century lower fertility rates have been associated with the higher education of women (Skirbekk 2008). Nevertheless, education-specific differences in fertility vary substantially within Europe. The negative educational gradient is particularly pronounced in countries where the institutional framework supports a relatively long absence of mothers from the labour force and where women perceive difficulties in reconciling family and work, such as in Germany, Austria and Switzerland (Merz and Liefbroer 2011; Sobotka 2011). By contrast, fertility differences by educational level are relatively small in France and Norway (Davie and Mazuy 2010; Kravdal 2001; Lappegard 2002; Toulemon, Pailhé and Rossier 2008).

A positive correlation between educational level and childlessness is well documented for Germany (Boehnke 2013; Bujard 2012; Statistisches Bundesamt; 2013; Schaeper, Grotheer and Brandt 2013) and in a number of other European countries (Fokkema et al. 2008; Keizer, Dykstra and Jansen 2008; Lappegard 2000). In the birth cohorts cited above, childlessness among women holding a university degree amounts to 33 per cent in Western Germany and 30 per cent in Austria (Köppen, Mazuy and Toulemon 2013; Prskawetz et al. 2008). The share of childless university graduates is lower in France (18 per cent), and Norway (19 per cent) (Köppen, Mazuy and Toulemon 2013). The comparatively low childlessness rate of Norwegian female university graduates is accompanied by high gender equality and high enrolment and employment rates of women, both ensured by family policy guidelines (Rønsen 2004). Cen-

sus data by level of education and parity are scarce. Available data on Austria and Switzerland show that the share of childlessness and the family structure itself differs among educational groups. Larger families with three or more children are rare and two-child families are more frequent than one-child families among tertiary educated women. Among women born in 1960 in Austria the proportion of women with three or more children amounts to 14 per cent in the highest educational group[6] and 30 per cent in the lowest educational group[7] (EURREP 2013, based on census data). In Switzerland the proportion of women with three or more children amounts to 17 per cent in the highest educational group and 35 per cent in the lowest group.

Empirical evidence on childlessness and family size of men differentiated by educational level is also scarcer though the data that is available indicates a different pattern of childlessness among men compared to women. A recent study on Norway noted that by the age of 45 years 22 per cent of men with compulsory education were childless whereas among those with higher degrees 13 per cent had no child by that age (Lappegard, Noack and Rønsen 2013). According to the Swiss census, in the male cohort born in 1960, differences in family size are less pronounced compared to women. For example, childlessness amounts to 28 per cent among tertiary educated men and to 24 per cent in the lowest educational group (EURREP 2013, based on census data). Although large families are more frequent in lower educated groups (28 per cent) than in the higher educated group (21 per cent), educational differences are smaller compared to women. Census data or micro-census data on the number of biological children for men are not available for either Germany or Austria.

Explanations for high childlessness among highly educated women focus mainly on difficulties in reconciling work and family (Dorbritz 2005; Fokkema et al. 2008; Lind 2008), the strong career orientation of female university graduates, high opportunity costs (Liefbroer 2005), as well as the postponement of family formation due to the considerable time spent in education (Fokkema et al. 2008; Liefbroer and Corijn 1999). A stable career increases the likelihood of remaining childless among women, but increases the likelihood of entering fatherhood for men (Keizer, Dykstra and Jansen 2008), thus indicating distinctive pathways into childlessness among men and women. Apart from economic aspects, the private situation is certainly important for family formation. Regarding the specific situation of highly qualified women, the lack of a suitable partner or a stable relationship is a central cause of childlessness in many countries of western and northern Europe (Dorbritz 2011; Keizer 2010; Köppen, Mazuy and Toulemon 2013).

Research on fertility intentions includes individual characteristics as well as macro-level indicators. The GGS has initiated research on different dimensions

[6] ISCED 5 and 6.
[7] ISCED 0, 1 and 2.

of fertility intentions, such as short-term intentions or overall intended number of children (Philipov and Bernardi 2011). But various country-specific or international surveys also include information on childbearing plans, enabling detailed analysis of fertility intentions and behaviour. The Theory of Planned Behaviour, implemented in the GGS, was the theoretical framework for various articles on attitudes and norms (Billari, Philipov and Testa 2009; Dommermuth, Klobas and Lappegard 2011; Mencarini, Vignoli and Gottard 2011; Mitchell and Gray 2007). Gender equality (Mills et al. 2008; Neyer, Lappegard and Vignoli 2011), employment and job characteristics (Bernardi, Klärner and von der Lippe 2008; Berninger, Weiß and Wagner 2011), housing conditions (Vignoli, Rinesi and Mussino 2013), availability of childcare (Rindfuss et al. 2007) and the impact of family policies (Bujard 2013; Drago et al. 2011; Philipov 2009b; Salles, Rossier and Brachet 2010) are suggested as examples of the different aspects associated with fertility intentions. Several countries are frequently included in the analyses to find out country-specific differences (Di Giulio et al. 2012; Pailhé 2009). Moreover, panel data on fertility enables study of the realisation of fertility intentions (Berrington 2004; Gray, Evans and Reimondos 2013; Morgan and Rackin 2010; Philipov 2009a; Régnier-Loilier and Vignoli 2011; Spéder and Kapitány 2009; Toulemon and Testa 2005) or changes in family size intentions (Iacovou and Tavares 2011; Liefbroer 2009).

Selection of the countries was based on the welfare state typology proposed by Gauthier (1996) and availability of comparable data. Gauthier's typology focuses on family policies, which seem to be important for the individual opportunities at the micro level. She defined four country groups: egalitarian family policy (Norway, Denmark and Sweden), characterised by its egalitarian gender policy, an adequate system of public childcare and other family-friendly provisions like generous parental leave. The pro-familial and non-interventionist family policy type (UK, USA) is based on the principles of a self-regulating market and economic independence for families from the state, which results in minor welfare provisions for families. The pronatalist family policy type (France) has the clear goal of a stable population and provides broad universal support for families. Public and private childcare facilities and well-developed maternity leave arrangements aim to remove structural barriers which may influence fertility behaviour negatively. The traditionalist family policy type (Western Germany, Austria and Switzerland) is oriented towards the traditional male breadwinner model. Structural barriers like the lack of well-developed public childcare facilities lead to difficulties reconciling family and work, especially for women. Therefore, Western Germany and Austria, two traditionalist family policy countries are compared with France, of the pronatalist type, and with Norway, an example of the egalitarian family policy type.

3. THE CONCEPT OF LIFE COURSE AND THE 'RUSH HOUR OF LIFE'

Fertility as a "purposive behaviour that is based on intentions integrated into the life course" (Schoen et al. 1999, p. 799), and its realisation, depends on specific framework conditions. Fertility intentions are complex and embedded in the specific social context (Dommermuth, Klobas and Lappegard 2011; Schneider, Limmer and Ruckdeschel 2002). The intention to have a child depends on the time frame (e.g. now, within three years or later) and can change over time according to personal and social context (Schoen et al. 1999). Although the realisation of fertility intentions is influenced by various factors (Spéder and Kapitány 2009), we assume that intentions are predictors of subsequent family formation (W. B. Miller and Pasta 1995; Schoen et al. 1999).

The theoretical framework for analysing fertility intentions in this paper is based on the sociological concept of the life course by Elder and Mayer (Elder 1977; Mayer 1990, 2003). According to the life-course perspective, individuals move through a sequence of age-graded events, situations and social roles (Elder 1977). The timing of life events, such as childbirth, and transitions between different social settings is specified by normative expectations and shaped by institutional constrains (Elder 1977; Mayer 2001, 2003). Individual life courses are closely linked to the dynamics of the social group to which they belong (Mayer 2003). On the one hand, institutional arrangements vary from society to society, creating cross-cultural differences in institutionalised pathways and life-course patterns. On the other hand, life course patterns vary across status groups within a given society (Elder 1977; Mayer 2003).

The transition to adulthood is an important period of the life course. Rindfuss described young adulthood as a time which is "demographically dense" (Rindfuss 1991, 494), meaning that more demographic action occurs then than during any other stage in the life course. Young adulthood – between ages 18 and 30 – represents a period of multiple transitions including leaving school, finishing education, residential mobility, marriage and transition to parenthood. A central aspect of the life-course concept is the multidimensionality of the action patterns. Young adults are involved in "multiple lines of adult activity – of work and civil responsibilities, marriage and parenthood" (Elder 1977, 283). The individual life course develops in different life domains such as work and family, and there are multiple interdependencies between these domains (Mayer 2003). The different life domains imply competing demands for an individual's limited time and resources (Elder 1977).

The concept of competing demands is crucial to the rush hour of life, which we view as a contribution to life-course theory. Referring to a pioneering paper by Bittman and Wajcman (2000), the expression has been coined to describe periods of life when multiple and conflicting demands are felt most pressingly. According to Lothaller (2008) it encompasses the time of life between the mid-

twenties and later thirties and particularly affects more highly educated people who must simultaneously deal with the demands of work/career and family and increased uncertainties related to these domains. Prolonged educational phases and increased employment of women, accompanied by an erosion of traditional tasks, are central to the phenomenon of the rush hour of life. Within a short period of time (five to seven years) entrance into the labour market, career establishment and family formation take place – or have to take place – which makes up for a concentration of biographical events. Different competing demands and events such as labour market entry, career establishment and consolidation, finding a suitable partner, cohabitation, marriage and starting a family concentrate in the rush hour of life (Bertram, Bujard and Rösler 2011; Nimwegen, Esveldt and Beets 2003). Further research has addressed time stress and "time crunch" (Hamermesh and Lee 2007; Hochschild 1997).

The Seventh German Family Report (BMFSFJ 2006) stressed that the rush hour of life is associated with precarious conditions such as lack of time and insecure working conditions. It is speculated that this phenomenon is particularly pronounced in Germany, because the German educational system, especially in academic professions, does not show much differentiation and access to professional life is generally defined by one's highest completed level of education. Other countries, in particular northern European and Anglo-Saxon ones, offer a variety of educational qualifications that can be acquired at various stages of life, thus allowing for flexible arrangement of life plans over the life course (BMFSFJ 2006). German university graduates are also confronted with increased vocational uncertainties (Klammer 2010). Moreover, Peuckert (2008) observed a shrinking time frame for parenthood in Germany, as the duration of the fertile years actually used has decreased significantly. In the Scandinavian countries and France life decisions have also been shifted to higher ages, but they are not as concentrated and as short as in Germany.

The individual situation in the main life domains of work and partnership provides the basis for the subjective interpretation of the current situation of decision making. The decision to have a(another) child is a long-term and high-risk commitment with considerable consequences for the future (Rupp and Blossfeld 2008). The concept of the "rush hour of life" seems to be very useful in analysing the determinants of fertility intentions of university graduates because it refers to highly educated people in advanced societies in the late twentieth century.

4. HYPOTHESES

We assume that biographical events – completion of education, entry to the labour market, the search for a suitable partner and the consolidation of a rela-

tionship – affect fertility intentions. Our central hypothesis is therefore that uncertainties regarding these factors have negative effects on fertility intentions of highly educated people and can be seen as a pathway to childlessness. It takes a certain amount of time before a relationship becomes consolidated, until a couple thinks about having children. In terms of employment, it also takes a certain amount of vocational adjustment and practice before an employee becomes established within an organisation. Since university graduates are confronted with increased vocational uncertainties (Klammer 2010) relevant information from the GGS was used, such as type of contract or satisfaction with job security.

H1: We assume that the lack of a partner, as well as the degree of institutionalisation of a relationship – in particular the lack of a cohabiting partner –, are essential prerequisites to short-term fertility intentions.

H2: The level of consolidation of a relationship – measured by the degree of institutionalisation – is associated with fertility intentions: the higher the consolidation of a relationship, the more often fertility intentions will be mentioned. We assume that the relationship quality (measured via satisfaction with the relationship) is associated with fertility intentions.

H3: Individuals in a less satisfying relationship are less likely to intend to have a child in the near future. We assume an association between employment conditions and fertility intentions and differentiate between childless people and parents.

H4: Highly educated persons, with comparably low as well as extremely high workloads, are less likely to intend to have a child in the near future, indicating economic problems and precarious employment conditions on the one hand, and limited time resources for private life on the other.

As motherhood is often combined with part-time work we assume a different mechanism among parents:

H5: Highly educated parents with extremely high workloads are less likely to intend to have another child in the near future, indicating limited time resources for private life and more children.

H6: Short current job duration indicates the need for job consolidation, and is negatively associated with fertility intentions.

H7: Fertility intentions for the next three years are less often mentioned in cases of uncertain employment conditions, such as temporary work contracts and self-employment.

At the societal level we formulate the following two hypotheses:

H8: Fertility intentions of female university graduates are less pronounced in countries with traditional gender role models and a low degree of institutionalisation of childcare.

H9: Highly educated women intend to have children less often than highly educated men in countries with traditional gender role models.

5. DATA AND METHODS

The study is based on the first wave of the GGS in Western Germany, Austria, France and Norway. Differences in fertility rates persist between former East and West Germany (Goldstein and Kreyenfeld 2011; Goldstein et al. 2010). Due to the small sample size, we excluded former East Germany. We focus on highly educated persons, whom we define as persons holding ISCED 5a/ISCED 6 degrees, i.e. having studied at a university or at a university of applied sciences. We refer to these persons also as "university graduates" or "the highly educated", using the terms synonymously. We do not include persons with tertiary education with a vocation-specific qualification (ISCED 5B), since this group's vocational biography (e.g. apprenticeship, trade examination, master craftsman's examination) usually differs from those who complete higher secondary education and then study at university.[8]

As mentioned, this study focuses on Western Germany and Austria, two countries with high childlessness among highly educated persons, and with very similar social, political and economic structures. France and Norway were included as countries with both higher fertility rates and different family policies, thus allowing European comparison. Data were pooled and analyses conducted for the entire sample as well as separately for women and for men, in order to identify possible gender-specific differences (Widmer and Ritschard 2009).

In addition to fertility intentions and birth and partner histories, the GGS includes detailed information on the current employment situation and on education. This dataset therefore enables analysis of fertility intentions in a multivariate context, taking into consideration various dimensions of the rush hour of life. We were unable to take persons with same-sex partners into consideration because questions on fertility were not asked. Moreover, we excluded those who were unable to have biological children, who had missing data on fertility intentions or who were expecting a child at the time of the interview. The final sample comprises 1,759 highly educated women and men aged 27 to 40 years, holding ISCED 5a or ISCED 6 degree and with valid responses to the question whether they intended to have a child within the next three years (Table 1). Parity matters (Bulatao 1981; Yamaguchi and Ferguson 1995), the first child marks the transition to parenthood, and it is therefore different to the transition to a second child or a child of higher parity. Accordingly, we distinguish between those who are childless and parents.

[8] They typically entered the labour market earlier and attained higher education through advanced vocational training.

Table 1
Sample by country/region and gender

	Men	Women	Total
Western Germany	113	206	319
Austria	133	269	402
France	241	370	611
Norway	230	197	427
Total	717	1,042	1,759

Source: GGS Wave 1.

The central variable of this study is the intention to have a child within the next three years, coded as a dichotomous variable that distinguishes between "yes" and "no". The small group of respondents who answered "don't know" to the question on childbearing intentions within the next three years were classified into "no childbearing intentions" (total 13 respondents, i.e. 1 per cent). We restrict ourselves to a few descriptive results and focus on multivariate analyses in order to handle problems in the representativeness of the data – in particular of the German dataset (Kreyenfeld et al. 2011; Sauer, Ruckdeschel and Naderi 2012). Of the 1,759 university graduates, 59 per cent are female and 41 per cent male. The average age of respondents is 34, Germans are somewhat older (35) and French somewhat younger (33). The proportion of highly educated persons wishing to have a child within the next three years ranges from 39 per cent in Western Germany and Norway to 51 per cent in Austria. Childless persons and parents of one child more often plan to have a child in the near future (59 and 62 per cent respectively) than parents of two or more children (20 and 8 per cent).

To our knowledge this is the first study that attempts to use the concept of the rush hour of life to identify determinants of fertility intentions. Therefore, indicators for relationship and employment are related to fertility intentions. Moreover, we add a time component, since the central idea of the rush hour of life is the temporal aspect and the concentration of decisions and biographical events within a short time span. For combining partner status and duration of partnership various classifications and sub-groups are modelled, taking into consideration size of the subgroups and the significance of results. For the final model presented in this paper the cutting point is three years for cohabitation and marriage and two years for living-apart-together (LAT) partnerships.

Probit regressions were carried out in a multivariate framework. The dichotomous dependent variable is the intention to have a child within the next three years. Apart from age, country, gender and parity, type of partnership

combined with duration of partnership, relationship quality[9], duration of current job and the current workload (measured in hours worked) were taken into consideration. We furthermore accounted for type of contract and satisfaction with job security.

Regression analyses were calculated for the total sample, as well as for men and women separately so as to identify possible gender-specific differences. As mentioned above, we estimated models for childless people and parents. Analyses for all university graduates regardless of their parity are provided in the Appendix (A2).

6. RESULTS

As expected, age is significantly associated with fertility intentions. Intentions are highest among university graduates in their early thirties, whereas those aged between 35 and 40 and childless people under the age of 30 are less likely to intend to have a child within the next three years (Table 2). Differences by age groups are more pronounced among women than men.

The lack of a partner and the degree of institutionalisation of a relationship is related to fertility intentions, confirming H1. Married and cohabiting persons intend to have a child more often than persons living apart together or without a partner.

Contrary to H2 (referring to the consolidation of a partnership), there is a negative correlation between duration of cohabitation and fertility intentions. Hence, highly qualified persons who have been cohabitating for less than three years intend to have a child more often than those who have already been cohabitating with their current partner for three years or longer. This finding contradicts the hypothesis concerning the degree of partnership consolidation, and might be explained by a selection process. Highly educated persons cohabiting for a longer period of time, who are still childless and have not married, might constitute a select group that is less family orientated. Duration of marriage is positively associated with fertility intentions among newly married women with children. It is particularly interesting that in the female sample the estimated coefficient for short LAT is not significantly different to those without a partner (results not shown here), whereas in the childless male sample we find statistically significant results. We might conclude that in terms of fertility intentions highly qualified childless women in short LAT are more similar to those without a partner than to those in a longer LAT. By contrast, men's fertility intentions among the childless are already more pronounced in the presence of a short LAT partnership.

[9] Relationship quality is captured by the question "How satisfied are you with your relationship with your partner/spouse?" Possible answers range from zero to ten on a satisfaction scale, with zero being not satisfied at all and ten being completely satisfied.

Table 2

Estimated regression coefficients for intention to have a child within the next three years

	Childless university graduates			University graduates with children		
	All	Women	Men	All	Women	Men
Age						
27–29	-0.32**	-0.35*	-0.29	0.27	0.27	0.41
30–34 [a]	0.00	0.00	0.00	0.00	0.00	0.00
35–40	-0.28*	-0.40*	-0.18	-0.61***	-0.77***	-0.42*
Country/Region						
Western Germany [a]	0.00	0.00	0.00	0.00	0.00	0.00
Austria	0.17	0.21	0.36	0.15	0.05	0.38
France	0.51***	0.80***	0.29	0.20	0.15	0.40
Norway	0.17	0.74**	-0.26	0.16	0.13	0.33
Gender						
Male [a]	0.00			0.00		
Female	0.03			-0.26*		
Parity						
1 child				0.00	0.00	0.00
2 children				-1.11***	-1.17***	-1.13***
3+ children				-1.65***	-1.70***	-1.76***
Partner status						
Married less than 3 years	0.90+	.	0.88	0.34	1.24+	-0.04
Married 3 years and longer	0.20	0.16	0.38	0.22	0.23	0.19
Cohabiting less than 3 years	0.38+	0.22	0.62+	0.11	0.30	-0.04
Cohabiting 3 years and longer [a]	0.00	0.00	0.00	0.00	0.00	0.00
LAT less than 2 years	-0.55**	-0.68**	-0.37	-0.19	0.23	.
LAT 2 years and longer	-0.43*	-0.55*	-0.33	-0.25	.	0.62
No partner	-0.93***	-1.06***	-0.76**	-0.23	0.02	-1.29+
Relationship quality						
(Relatively) poor quality	-0.21	-0.22	-0.20	-0.07	0.01	-0.16
(Very) good quality [a]	0.00	0	0.00	0.00	0.00	0.00
Working hours						
Less than 30 hours	-0.60**	-0.53*	-0.64+	-0.01	0.07	-0.07
30–34 hours	0.10	0.13	0.64	-0.21	0.05	-0.99
35–40 hours [a]	0.00	0.00	0.00	0.00	0.00	0.00
41–50 hours	0.08	0.15	0.03	-0.01	0.29	-0.13
More than 50 hours	0.09	-0.26	0.39	-0.23	-0.86	-0.20
Not employed	0.10	0.13	0.32	0.46**	0.62**	-0.19
Duration of current job						
Less than 1 year	-0.09	-0.01	-0.12	-0.24	0.02	-0.59*
1-3 years	-0.00	0.07	0.01	-0.00	0.01	0.03
4 years and longer [a]	0,00	0.00	0.00	0.00	0.00	0.00
Constant	0.58**	0.51+	0.51+	0.46*	0.17	0.40
Pseudo R^2	0.13	0.16	0.14	0.10	0.11	0.16
N	772	416	349	940	578	351

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.

[a] Reference category.

Remark: See Table A1 in the Appendix for the distribution of the variables.

Source: GGS Wave 1.

The estimated coefficient for those reporting relatively poor relationship quality is negative, indicating that those who are dissatisfied with their relationship are less likely to intend to have a child in the near future. Nevertheless, the estimated coefficients fail to reach statistical significance and therefore our results do not support H3.[10]

We took into consideration the hours actually worked in order to better examine the vocational time burden during the rush hour of life. According to our calculations, full-time employment in the range of 35 to 40 hours, full-time employment with a modest amount of overtime (i.e. between 41 and 50 hours) and part-time employment in the range of 30 to 34 hours are associated with fertility intentions in a more or less similar way. Part-time work comprising less than 30 hours per week is significantly negatively related to the fertility intentions of highly educated childless men and women. Childless university graduates who have a part-time job with less than 30 hours per week are presumably not yet established on the labour market and face possible financial restrictions, meaning they do not favour family formation in the near future. Our results on part-time work support H4, in that relatively few working hours are associated with low fertility intentions, conveying a still precarious position in the labour market and possible economic difficulties. Among mothers we do not find a negative association between part-time work and fertility intentions. Their reduced working hours are most probably due to the combination of childrearing and work.

Extensive working hours (i.e. more than 50 hours per week) are associated with a lower likelihood of intending to have a child in the near future among childless women. By contrast, high workload is associated with increased risk of intending to have a child among childless men, though results are not statistically significant. Our results indicate that for childless female university graduates who work 50 or more hours per week, family and work are particularly difficult to combine, whereas childless men with such high workloads coversely see economic advantages in extended workloads as this makes family formation easier to finance. The estimated coefficients among parents are negative and suggest that parents with extensive working hours less often intend to have a child in the near future. Thus H5, which assumes a negative association between extended workload and fertility intentions due to restricted time resources, is supported only for highly educated parents and childless women and not for childless men. Finally, non-employment is associated

[10] We started with all possible values - ranging from zero to ten - for being satisfied with the relationship, and collapsed various later values into groups if the estimated coefficient were similar in size and not statistically significantly different. The final specification distinguished between "(Very) good quality", comprising those with answers nine or ten on the satisfaction scale, and "(Relatively) poor quality", comprising those with answers ranging from zero to eight.

with a higher chance of intending to have another child among parents. Further analyses revealed that this is mainly due to homemakers and women on parental leave.

The estimated coefficient for short duration of the current job is not significantly associated with fertility intentions. Assuming that a short duration of the current job indicates the need for job consolidation and is negatively associated with fertility intentions, H6 is not confirmed.

Country-specific differences vary by gender. Taking Western Germany as the reference group, family plans among childless men and women do not significantly differ between Western Germany and Austria, but are significantly more often mentioned among French and Norwegian childless women. France and Norway represent countries with less traditional gender role models and a higher degree of institutionalisation of childcare. Therefore, our results support H8, which assumes that in countries with traditional gender role models and a low degree of institutionalisation of childcare the fertility intentions of female university graduates are less pronounced. Among childless men, Western Germans lie in the middle range, childbearing plans being lowest among Norwegians, although not statistically significant. The gender differences in Norway (comparably high among women and comparably low among men) are in line with research by Kravdal and Rindfuss (2008) and a recent study by Lappegard and colleagues (2013), which found a higher level of childlessness among highly educated men in Norway. In the sample of highly educated parents we find no significant differences. Once university graduates have at least one child, the intention to have another child is comparable in these countries.

Among childless people we find no gender difference in childbearing intentions. But country-specific analyses reveal that this is due to effects of opposite size. In Western Germany and Austria childless highly educated women intend to have a child considerably less often than highly qualified men (Table 3). The situation is the opposite in Norway, supporting previous research (as mentioned above). In Western Germany and Austria traditional gender role models still prevail. Thus our results support H9, anticipating that in countries with traditional gender role models highly educated women less often intend to have children compared to highly educated men. For parents, the estimated coefficient for women is negative, showing that mothers less often intend another child compared to fathers. Highly educated mothers in Germany and Austria are particularly less likely to intend to have another child than fathers (Table 3). Further analysis by parity (results available on request) reveals that men and women do not differ when intending a second child, but when intending a third or fourth child. As expected, parity is relevant, with parents with two or more children less often expressing the intention to have another child compared to those with one child. Analyses comprising university graduates with all parities

indicate that highly educated respondents plan to have a first and a second child but do not intend to have three or more children (Appendix Table A2).

Table 3
Estimated coefficients for gender differences for the intention to have a child within the next three years, by country/region

	Childless university graduates	University graduated with children
All 4 countries/region	0.03	-0.26*
Western Germany	-0.34+	-0.53
Austria	-0.44+	-0.62+
France	0.14	-0.24
Norway	0.90***	-0.04

Remark: Reference category is men. Controlled for age, parity, partner status, relationship quality, working hours and duration of current job, see Table 2.

Detailed job-related GGS data allow analysis by type of contract, distinguishing between permanent, temporary or limited employment contracts for employees on the one hand, and self-employment on the other. A model including childless people in all four countries indicates a lower risk of intending to have a child when holding a temporary contract, as compared to holding a permanent position. Country-specific analyses reveal negative coefficients for those holding a temporary contract in Western Germany and Norway, but results are not statistically significant (Table 4). Moreover, self-employed people less often intend to have a child within the next three years in Western Germany and Austria, and more often in France and Norway, but results are statistically significant only for France. Among parents, we do not find a negative association between fertility intentions for the near future or temporary contracts. Therefore, our results do not allow us to come to conclusions regarding the association between type of contract and fertility intentions. H7, which assumes that uncertain employment conditions like temporary work contracts and self-employment are associated with low fertility intentions, has to be rejected for failing to reach statistical significance. Further analyses reveal that satisfaction with job security tends to increase fertility intentions, but results are statistically significant only for Western Germany (results not shown here). Gender-specific analyses reveal no further insights, mainly due to the small sample sizes.

Table 4
Estimated coefficient for type of contract, by country/region

	Childless university graduates		
	Permanent contract	Temporary Contract	Self-employed
All 4 countries/region	0	-0.14	-0.01
Western Germany	0	-0.51	-0.44
Austria	0	0.07	-0.38
France	0	0.10	0.75+
Norway	0	-0.54	0.31

Remark: Controlled for age, gender, country, partner status, relationship quality, working hours and duration of current job, see Table 2.

DISCUSSION

The objective of this research was to study fertility intentions among university graduates in Western Germany and Austria, and extended through comparison to France and Norway. The central thesis was that uncertainties in partnership and employment have a negative effect on fertility intentions and constitute a pathway to childlessness. In this study we attempted to relate different life domains (private, work) and their temporal dimension to family formation plans in the near future. At the individual level, the multidimensional aspect of the rush hour of life was operationalised by including demographic characteristics such as age and partner status, and employment situation, combined with temporal aspects like duration of relationship and current job. Age was significantly associated with fertility intentions. According to our results, intentions were most pronounced among university graduates around the age of thirty, whereas both younger and older highly educated persons were less likely to intend to have a child in the near future. The steep decrease in intentions for the 35–40 age-group might also indicate a selection process or an adaptation to a childless personal lifestyle.

The results suggest an exceptional situation in Germany and Austria, where childless highly educated women intend to have a child in the near future significantly less often than in France and Norway. In addition, we find considerable gender-specific differences in the two German-speaking countries, with highly qualified women less often planning to have children compared to their male peers. This might be due to family policy concepts pursued in the past, when monetary child support schemes were accompanied by a lack of structural

policy for expanding public childcare, enforcing the widespread and strongly normative "homemaker/breadwinner" model (Esping-Anderson 1990).

Apart from availability and affordability, cultural norms regarding childcare and maternal employment also influence actual use of childcare services. In a comparison between French and German women, Fagnani (2002) concluded that differences between state policies should not be overestimated in explaining the persistent fertility gap between the two countries. She underlined the strong differences in women's attitudes towards childcare outside of the home. While childcare services seem to be generally accepted in France, the attitude in Western Germany is that children should not attend childcare facilities until they are at least two or even three years old (Fagnani 2002). In Norway, where use of childcare facilities for children above one year is generally accepted, there seems to be an informal norm that children should not spend too many hours in childcare (Plantenga and Remery 2009). From the life-course perspective, the labour market participation of Norwegian women may be "as natural" as child raising (Lappegard 2000, 16).

The relationship situation and presence of a suitable partner are crucial for fertility intentions. Married and cohabitating persons intend a child more often than those in a LAT relationship or persons without a partner. The degree of institutionalisation and the duration of a relationship are associated with childbearing plans, but with gender-specific differences. We found that in terms of fertility intentions, highly qualified women in short LAT are more similar to those without a partner than to those in a longer LAT. By contrast, fertility intentions among childless men are already more pronounced in the presence of a short LAT partnership. This result is relevant for future studies on highly educated men and women, in view of the increasing prevalence of LAT partnerships among highly educated people in times of high job mobility (Schneider, Limmer and Ruckdeschel 2002) .

In the rush hour of life the number of working hours is related to childbearing plans. Part-time employment of less than 30 hours is negatively associated with family formation plans of childless persons, which presumably indicates economic restrictions and an as-yet unsuccessful integration into the labour market. The association between heavy time burden and family formation plans among the childless is gender specific. The fact that intentions are less often mentioned among childless women working more than 50 hours per week indicates difficulties in reconciling family and time-intensive work. However, it might also point to strong work orientation and even reduced family orientation. Among childless men extensive overtime tends to be related to family formation plans. After a recent job change family formation tends to be of a lower priority for men, who might wish to consolidate themselves in their new vocational position, i.e. to gain a foothold in the new workplace and adapt to their new responsibilities before starting or enlarging a family.

According to our country-specific analyses, temporary contracts are related to an absence of fertility intentions for the near future among the childless in Western Germany and Norway. Furthermore, self-employed persons in Western Germany and Austria are less likely to plan to have children in the near future than employees with permanent contracts – in contrast to France, where self-employed people intend to have children significantly more often. We cannot explain if this is due to country-specific economic and legal situations of the self-employed, to persons with certain characteristics being more likely to start or take over a company, or to other reasons. Our results on temporary contracts and job security confirm that a stable and long-term vocational perspective is especially important for family formation plans in Western Germany. Further research suggests that being a parent has a strong negative earnings effect on women in Germany (Trappe and Rosenfeld 2000). The relevance of insecure employment conditions among young adults in Germany corresponds to the dominant idea of a "sequential life plan'' (Peuckert 2008, 126), according to which the family phase should only begin after completion of education, a few years of work experience and establishment of a steady and financially secure career. Based on the German Socio-Economic Panel, Kreyenfeld (2010) investigated whether uncertainties in female employment careers resulted in postponement of family formation and found differences by educational levels. Thus, more highly educated women postpone parenthood when subject to employment uncertainties, whereas those with lower levels of education often become mothers. Due to sample size we are not able to study the group of highly educated unemployed persons.

Another possibility is that people in our sample were faced with caring for elderly parents (Schlesinger and Raphael 1993; Spillman and Pezzin 2000). The concept of the 'sandwich generation' (D. A. Miller 1981), a generation caring for children and the elderly, refers mainly to middle adulthood and is not further addressed in the current study.

The central variable of this study is the intention to have a child within the next three years. Preliminary analyses (results not shown here) reveal that the current relationship and vocational situation are to a greater extent associated with fertility intentions in the near future than with overall fertility intentions, i.e. the intention to have children either within the next three years or thereafter. Moreover, from a theoretical point of view the shorter time span of three years is better suited to the concept of the rush hour and conflicting demands.

Apart from treating each variable individually in the model, we generated a composite variable which included all the variables that are associated with the rush hour of life. A scale indicating the number of predisposing factors was unfortunately not significantly associated with fertility intentions. Instead, it turned out that the inclusion of the different variables had more explanatory power.

Our study has several limitations. First, data collection of the first wave of the GGS took place between 2005 and 2008 (France and Germany: 2005, Norway: 2007/8; Austria 2008/9), and although data are comparable across countries, the different periods of data collection are related to different economic contexts. In addition, the current study does not address the political context in which the surveys were taken. For the link between economic recession and fertility we refer to other recent studies (Neels, Theunynck and Wood 2012; Örsal and Goldstein 2010; Sobotka, Skirbekk and Philipov 2011). Second, we do not have any information concerning whether individuals in our sample actually feel "rushed". Surveys like the 2002 German Socioeconomic Panel (SOEP) and the US Panel Study of Income Dynamics (PSID) do address the feeling of being rushed (Hamermesh and Lee 2007), but these data do not allow profound analyses of family formation because of lack of detailed information on fertility intentions. Third, the samples for single countries are rather small and with the inclusion of numerous variables the results fail statistical significance. Fourth, the couple perspective is important for fertility decisions (Jansen and Liefbroer 2006; Testa 2012; Testa, Cavalli and Rosina 2012; Thomson and Hoem 1998). Although the data include information on partners, relevant aspects such as partner's working hours are not captured. Moreover, questions remain as to whether the rush hour of life is a choice or a constraint, and whether less educated persons also encounter this phenomenon, possibly at different ages. In addition, the definition of the rush hour needs further elaboration, and the perception of feeling rushed presumably varies due to personal traits and might be perceived subjectively in different ways. Nevertheless, the rush hour of life could be a new approach in life-course analysis to study family formation in modern societies.

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APPENDIX

Table A1
Distribution of the variables (in per cent)

	Childless university graduates			University graduates with children		
	All	Women	Men	All	Women	Men
Age						
27–29	31	32	29	5	6	4
30–34	43	44	42	34	34	32
35–40	26	24	29	61	59	64
Country/Region						
Western Germany	29	14	17	19	22	19
Austria	15	35	22	19	20	19
France	34	34	35	35	37	35
Norway	21	17	26	27	21	27
Gender						
Male	45			38		
Female	55			62		
Partner status						
Married less than 3 years	3	2	4	2	1	4
Married 3 years and longer	12	12	11	73	72	75
Cohabitating less than 3 years	11	13	9	4	4	14
Cohabitating 3 years and longer	15	16	15	14	14	14
LAT less than 2 years	12	12	13	2	2	1
LAT 2 years and longer	12	11	13	1	1	1
No partner	35	34	36	5	6	2
Relationship quality						
(Very) good quality	81	83	83	68	68	69
(Relatively) poor quality	19	17	17	32	32	31
Working hours						
Less than 30 hours	7	9	5	16	25	3
30–34 hours	3	5	1	6	8	3
35–40 hours	41	47	35	33	29	39
41–50 hours	29	21	39	21	9	42
More than 50 hours	11	8	11	6	3	12
Not employed	9	8	8	18	27	3
Duration in the current job						
Less than 1 year	20	22	17	10	8	12
1 year and longer	71	68	74	73	65	85
Not employed	10	11	8	18	27	3
N abs. (unweighted)	772	423	349	947	589	358

Source: GGS Wave 1.

Table A2

Estimated coefficients from probit regressions for the intention to have a child within the next three years and sample distribution; model including all parities

	All	Women	Men	All	Women	Men
Age						
27–29	-0.26**	-0.27*	-0.24	17	17	16
30–34 [a]	0.00	0.00	0.00	38	39	37
35–40	-0.49**	-0.63***	-0.35**	45	44	47
Country/Region						
Western Germany [a]	0.00	0.00	0.00	17	19	16
Austria	0.14	0.06	0.32+	23	26	19
France	0.31**	0.38**	0.33*	35	36	33
Norway	0.13	0.34*	0.03	25	19	32
Gender						
Male [a]	0.00			41		
Female	-0.04			59		
Parity						
0 children	0.00	0.00	0.00	45	42	49
1 child	-0.31**	-0.26+	-0.42*	19	20	17
2 children	-1.46***	-1.50***	-1.51***	26	28	27
3 and more children	-1.98***	-2.05***	-2.04***	9	10	8
Partner status						
Married less than 3 years	0.57*	1.41*	0.29	2	1	4
Married 3 years and longer	0.22+	0.16	0.31+	46	47	43
Cohabiting less than 3 years	0.32*	0.29	0.38	7	8	7
Cohabiting 3 years and longer	0.00	0.00	0.00	15	15	14
LAT less than 2 years	-0.58***	-0.47**	-0.53*	6	6	7
LAT 2 years and longer	-0.38*	-0.41+	-0.31	6	5	7
No partner [a]	-0.80***	-0.74***	-0.87***	18	18	19
Partner quality						
(Relatively) poor quality	-0.13	-0.10	-0.13	74	73	76
(Very) good quality [a]	0,.00	0.00	0.00	26	27	24
Working hours						
Less than 30 hours	-0.26**	-0.19	-0.47+	12	18	4
30–34 hours	-0.13	0.03	-0.38	5	7	2
35–40 hours [a]	0.00	0.00	0.00	37	36	37
41–50 hours	-0.05	0.17	-0.06	25	14	40
More than 50 hours	-0.04	-0.31	0.05	8	5	12
Not employed	0.28*	0.47**	0.13	14	20	5
Duration of current job						
Less than 1 year	-0.17	-0.01	-0.32+	14	14	15
1–3 years	-0.01	0.05	-0.00	72	66	80
4 years and longer [a]	0.00	0.00	0.00	14	20	5
Constant	0.68***	0.54***	0.69**			
Pseudo R^2	0.22	0.25	0.20			
N	1,872	1,168	704	1,719	1,012	707

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.

[a] Reference category.

Source: GGS Wave 1.

COUNTING HOW MANY CHILDREN PEOPLE WANT: THE INFLUENCE OF QUESTION FILTERS AND PRE-CODES

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ABSTRACT: *The Generation and Gender Surveys (GSS) are now widely used to study family, notably fertility, partnerships and fertility intentions, as evidenced by the number of recent papers using the data. The quality of the fertility and partnership histories has been evaluated and found reasonable in a majority of European countries. However, the quality and cross-country comparability of fertility intentions across all GGS countries has not yet been assessed. In the context of a broader piece of work on aggregate intended family size in Europe, we present the general structure of questions on intentions in the original questionnaire template, and a cross-national comparison of actual setups. Using two examples, we assess how pre-filters and response categories can affect (a) the proportion of persons declaring that they wish to remain childless, and (b) the mean number of children intended. We provide advice on dealing with intention questions in current studies and recommendations for future surveys. Overall, we propose simplification of the questions concerning the intended number of children, and to dissociate the questions on short-term and life-long intentions.*

Keywords: Generation and Gender Surveys, data quality, fertility intentions, family size, Europe

1. INTRODUCTION

As a result of a recent attempt to describe life-long fertility intentions at the macro level across European countries (Beaujouan, Sobotka, et al. 2013), we discovered several shortcomings in the comparability of data on life-long fertility intentions across countries and over time. It appeared that the method by which respondents were asked about the total number of children intended was not comparable across surveys, for instance the Fertility and Family Surveys (FFS) and Generation and Gender Surveys (GGS), but more importantly across GGS country surveys. One of the reasons appeared to be the variety of the questions used as filters and asked prior to the question on additional number of intended children. Another reason appeared to be a result of differences in the

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pre-codes used for these questions. Here, we explore variations in the pre-filters and response categories across surveys and their consequences in terms of comparability when dealing with intended family size and other questions on intentions.

Studies on intentions generally cover two perspectives: the short term, related to the realisation of intentions within a certain time frame, and the long term, related to life-long intentions, their change over the life course and the overall fit of completed fertility with the number of children intended earlier on in life. Analysis of intentions and the number of children a respondent wishes to have is a challenging endeavour. High levels of uncertainty (Bernardi, Cavalli and Mynarska 2010; Morgan 1982; Ní Bhrolcháin and Beaujouan 2011) and frequent individual changes in the answers given to these questions (Iacovou and Patricio Tavares 2011) make results unstable and highly sensitive to the way questions are asked. Sensitivity to question wording is heightened by the diversity of concepts related to family preferences, for instance (societal) ideal family size, but also desires, intentions and expectations regarding the future number of children. Translating the questions into other languages adds an additional layer of ambiguity (Harkness and Schoua-Glusberg 1998; Weinreb and Sana 2008).

Previous studies have shown that in general the questionnaire design and the order and formulation of the questions influence the results obtained (Iarossi 2006; Mathews et al. 2012; Schwarz and Strack 1991; Tourangeau and Smith 1996). In addition, results also depend on filters and on category labels (or pre-codes) (Poe et al. 1988; Schaeffer and Presser 2003; Young 2012). Questions on intentions certainly do not depart from these observations, and (for instance) the proportion planning to remain childless or the intended family size could depend on the filters and pre-codes of the survey questions. In looking at a repeated British survey (Centre for Population Change GHS database 1979–2009), Ní Bhrolcháin and Beaujouan (2011) observed that introducing the possibility of uncertain answers ("Probably yes", "Probably not") into a question on intentions (coded yes/no) greatly reduced the number of people answering "Don't know". In addition, it is possible that the proportions giving positive or negative answers and also the intended family size were affected. It is therefore incumbent on researchers to try and understand if and how the filters and pre-codes affect the answers to the questions on intentions. This is important because diversity in the ways questions on intentions are posed in GGS surveys could raise concerns about the comparability of results. Moreover, researchers' perceptions of societal phenomenon across countries, such as number of intended children and voluntary childlessness, etc., could be biased as a result of survey design.

In order to understand possible issues of comparability across the GGS surveys, we need to measure the direct incidence of questionnaire design on the

distribution and average number of children intended. We start by describing the variety of ways that questions on fertility intentions have been asked in the GGS questionnaires so far. We then check whether a pattern in the frequency of missing and "Don't know" (DK) answers emerges, depending on the response categories in the intention question in the FFS and GGS. We then use the CPC GHS data series to (1) estimate how the proportion of women who say they do not intend to have any child varies with the change in the response categories available to a question on long-term intentions, and (2) calculate the range in the number of children a woman says she intends to have depending on the pre-codes of the previous filter variable. We finally comment on which set of questions appears most suited to asking questions on fertility intentions in order to simplify the questionnaires and increase survey comparability.

2. THE CASE OF THE GGS SURVEYS

2.1 Concepts

GGS questionnaires originate from the Generation and Gender Project, an ambitious and successful project which aims to develop and exploit a series of standard panel surveys around the world, accompanied by a contextual database furnishing a series of economic and population indicators. The researchers involved in the project proposed a standard questionnaire that – if adopted uniformly by all countries – would ensure international comparability of results (Vikat et al. 2007). "The GGS aims at international comparability by providing the survey design, common definitions, a standard questionnaire, and common instructions that each participating country should follow" (Vikat et al. 2007). Harmonisation involves the colossal task of several researchers producing a uniform set of variables across countries (Kveder and Galico 2008).[2] Overall, apart from some country-specific concerns (Kreyenfeld et al. 2013), the data appear to ensure a good level of comparability regarding family events (Neels et al. 2011) and GGS is now widely used.

However, the complexity of the questionnaire and country specificities (resulting from harmonisation with previously existing surveys for inclusion in time series, etc.) have resulted in considerable heterogeneity in the way some questions are posed. In this paper we focus on the section concerning fertility intentions. Questions on intentions were conceived in the GGS according to three main ideas (Vikat et al. 2007). The first was using the "Prospective focus" of the survey (three-year interval up to the next wave) to implement the Theory

[2] Information on filters and routing applied during the harmonisation process for specific variables are available on request by emailing ggp@nidi.nl. In this paper we use the original intention variables before harmonisation.

of Planned Behaviour (behaviour reflects individuals' informed decisions) in Miller and Pasta's framework (Miller and Pasta 1995). The panel was used to ask questions at the first wave on intentions in a reference time window, and then in the following wave about the events that could have happened regarding these intentions. The second idea was to introduce degrees of certainty into the questions, as a result of research suggesting that intentions are subject to uncertainty (Schaeffer and Thomson 1992; Thomson and Brandreth 1995). Finally, regarding intended family size, the team decided to adopt a parity-specific measure by asking for the additional number of intended children.

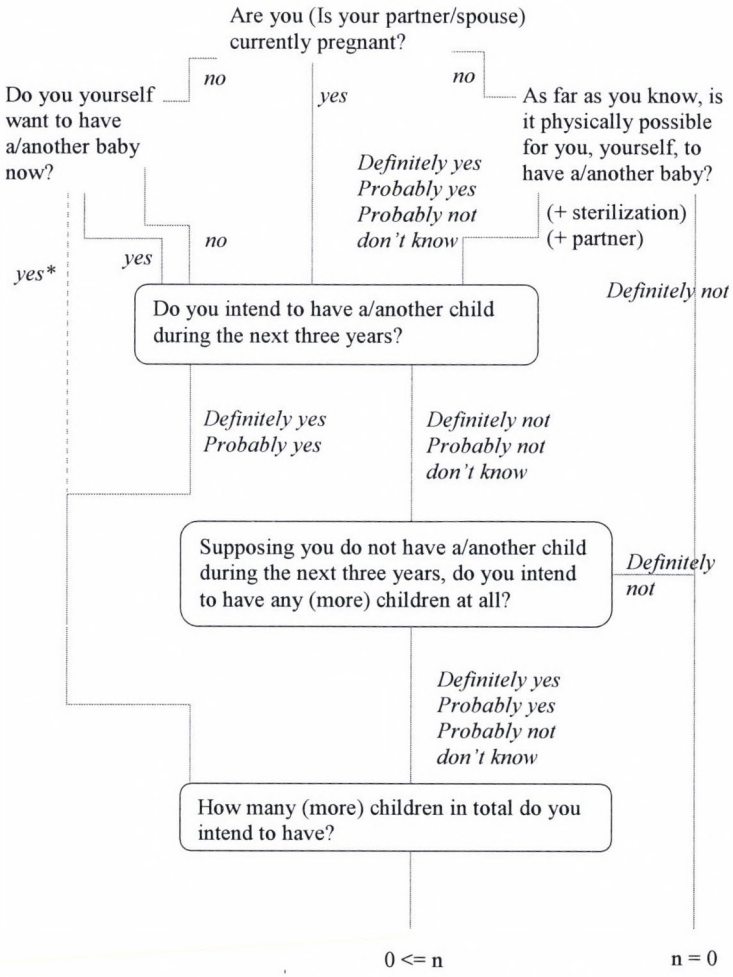
2.2 The questions and filters

Figure I provides the suggested layout in the standard questionnaire for questions on fertility intentions; the actual sequence of questions is available in the Appendix. The questions that relate directly to intentions are circled. The others are those used as a pre-filter in at least one country. We will return to them in the next section.

Short-term intentions were asked with the question: "*Do you intend to have a/another child during the next three years?*" and possible responses were "Definitely yes", "Probably yes", "Probably not", "Definitely not" and "Don't know". Long-term intentions were asked with the question: "*Supposing you do not have a/another child during the next three years, do you intend to have any (more) children at all?*" and the pre-codes for the answers were the same as for the short-term question. The third question, concerning the additional number of children intended, was only asked if the respondent gave a positive or uncertain answer to the first or second question. The remaining "Definitely not" responses were filtered out and attributed a value of zero.

The first two questions can be combined to obtain life-long fertility intentions. However, combining the answers to these questions is complex, and the second question is a *conditional* one: it is perfectly possible that people adjust their answers depending on the answer they have already given to the first question (Schaeffer and Presser 2003), and it is quite likely that a combination of short- and conditional long-term questions does not equal one overall long-term question on intentions.

An additional layer of complexity is added by asking about the number of *additional* children intended (in the standard questionnaire), and not the *total* number. The *total* number of children intended is strongly dependent on the quality of the declarations concerning the number of own children in the survey and the quality of the responses on own children varies from country to country (Neels et al. 2011).



Note: The circled questions are in the fertility intentions part of the survey, while the other questions are all potential filter questions from the preceding fertility block. Questions on intentions were asked of men and women except for Estonia.

* In theory, "*Do you yourself want to have a/another baby now*" should not be used as a filter, but because it was present in one country's survey design it is included here. The question on intention to adopt is not presented, because it is generally not accounted for in the calculation of mean intended family size (as a result of it not being available in other surveys).

Figure I

Simplified diagram of the questions on childbearing intentions, as suggested in the GGS standard questionnaire

2.3 Consequences of complexity

Overall, the set of questions used to ascertain intentions is long and includes many filters. Filters are good because they avoid asking respondents unnecessary questions. However, repeated filtering on interrelated questions could pose a threat to the quality of the survey. It is important that all the GGS country questionnaires are implemented in the same way for reasons of comparability, and that there is as little space as possible for error. Nevertheless, as we shall see the original questionnaire has been implemented quite inconsistently across countries. In addition, each country translated the questionnaire into its own language. This creates additional ambiguity that we also explore here via one of the filter questions.

2.3.1 Country exceptions and pre-codes for the main questions on intentions

The exceptions to the standard questionnaire in the 'intentions block' are numerous (Table 1). In most countries answers to the short-/long-term intentions questions include uncertainty: "Definitely not", "Probably not", "Probably yes", "Definitely yes" (four-category coding). In France and Germany an additional explicit "Don't know" pre-code was added. However, in Hungary, the Netherlands and Norway intention questions were coded "Yes", "No", "Don't know", and in Australia the question was not asked at all. In the first three countries the time dimension also disappeared, i.e. short- and long-term intentions were not differentiated.

The cause of this heterogeneity is the incorporation of the GGS into pre-existing survey series or in a survey planned beforehand. In the case of Hungary, the national survey that would become the first wave of the GGS was carried out in 2001, before completion of the model questionnaire: it was used for improving the questionnaire together with two pilot surveys in the Russian Federation and the United Kingdom. In the Netherlands, the survey was adapted from the Fertility and Family Survey series (OGV). In Australia the GGS corresponded with the fifth wave of HILDA, and in Norway it was integrated into the Life course, Generation and Gender study (LOGG). In Italy the Family and Social Subjects (FSS) survey was also adapted to fit the GGS, and some questions remain closer to the national survey: there are no pre-filters for intention questions and the total number of children is asked instead of the additional number.[3]

Additionally, in the countries where pre-codes allow uncertainty, the question "*How many (more) children in total do you intend to have?*" was asked if

[3] Country-specific documentation concerning harmonisation is available upon request directly from the country harmonisation teams.

the respondent answered "Probably not", "Probably yes" and "Definitely yes" to the previous questions, except in France and Poland where it was not asked if the answer was "Probably not" (Sebille and Régnier-Loilier 2007). For the remaining categories the number of (additional) children wanted was set to zero.

The variation in the pre-codes from one survey to another could have several consequences. First, when allowing explicitly a "Don't know" answer the proportion of "Don't knows" is generally higher than when allowing only a substantive response (Poe et al. 1988). Second, allowing declaration of positive or negative uncertainty allows respondents to express ambivalent feelings (Schaeffer and Thomson 1992), and this could change the overall distribution of positive and negative responses. Since it is a priming question for the number intended, it could also change the numbers declared in this last question: the preceding question and the answer given to it seem to shape attitudes towards the following question (Schaeffer and Presser 2003).

Countries where the question was framed exactly as it was in the original survey have the highest response rates, with the proportion of missing and "Don't know" responses ranging from between 2 and 5.5 per cent for the two first questions on intentions (Table 1).[4] We could not distinguish between missing and "Don't know", because they were not coded separately or distinctively in most countries.[5]

Regarding the *intended family size* variable, we notice that Belgium, Estonia, Romania and Australia have very high levels of missing or "Don't know" (up to 44 per cent). These appear highly age dependent, and we cannot explain them by simply looking at the regular pre-filters. It is possible that a non-identifiable filter has been applied, or that a high proportion of people did not give an answer on the number of intended children, though these proportions appear too high to support this second possibility.

Again, in countries providing uncertain response categories in four pre-codes to the preceding questions, the proportion of missing or "Don't know" on the *intended family size* variable ranged from 0.2–3.2 per cent (omitting the countries with very high levels of missing data). In the Netherlands, Hungary and Norway this proportion ranged from 5.2 to 17.3 per cent.

Overall, the response rates to the intention questions were somewhat lower in all the countries clearly allowing a "Don't know" answer (which includes France and Germany).

[4] With the exception of Belgium (7.5 per cent) and Estonia (10.5 per cent).

[5] In the countries studied here the code sometimes differed for missing and "Don't know". However, this is true in only a few countries and these detailed variables are currently not available in the harmonised database. The raw version of the intention variables is available on request by emailing ggp@nidi.nl.

Table 1

Characteristics of the questions on intentions and intended family size: Age range, pre-codes, time window for first question, percentage of missing values and "Don't know" answers, and other comments

	Age U = 18–50	Pre-codes "Do you intend..."	Time window?	% miss/DK "Do you intend..." *	% miss/DK number intended *	Other comments
Australia	18–45	–	*No*	–	**27.7**	Starts directly with number intended
Austria	18–45	4-cat	Yes	5.0	0.9	
Belgium	U	4-cat	Yes	7.5	**44.1**	
Bulgaria	U	4-cat	Yes	3.6	1.8	
Estonia	21–45	4-cat	*No*	10.5	**31.6**	Women only; asked a range; not precise whether additional or total
France	U	4-cat + DK	Yes	*11.0*	3.2	Additional number not asked of PN
Georgia	U	4-cat	Yes	4.5	0.4	
Germany	U	4-cat + DK	Yes	*10.0*	12.5	Problem with fertility histories
Hungary	21–45	*Yes, No, DK*	*No*	***4.6***	***5.2***	
Italy	U	4-cat	Yes	3.2	3.2	Ask total and not additional number intended
Lithuania	U	4-cat	Yes	5.4	2.8	
Netherlands	18–45	*Yes, No, DK*	*No*	***16.6***	***17.3***	
Norway	U	*Yes, No, (DK)*	*No*	***7.5***	***5.4***	No DK category in the questionnaire
Poland	U	4-cat	Yes	2.0	2.3	Additional number not asked of PN
Romania	U	4-cat	Yes	2.6	**41.1**	
Russia	U	4-cat	Yes	4.21	1.05	

Source: Generation and Gender Surveys (V4.1), variable of additional number of children intended before harmonisation.

Abbreviations: DK stands for "Don't know", miss for missing. 4-cat stands for the standard four-category coding (DN, PN, PY, DY) with DN="Definitely not", PN="Probably not", PY="Probably yes", DY="Definitely yes". In two countries the DK option was proposed explicitly together with the 4-category pre-codes.

* Proportions are given for eligible women aged 20–44, equivalent proportions for men are available on request. The proportion of missing and "Don't know" in the fourth column are calculated by combining the answers to the first two questions on intentions (see Figure I for details of the questions). The proportion in the fifth column, the variable of number intended, may be lower or higher depending on whether the people answering "Don't know" to the preceding question have been asked or not for their intended number.

2.3.2 A variety of pre-filters before the main questions on intentions

Questions asked before the intentions section were used to select who would be asked the questions on intentions. There was a basic filter based on the age of the respondent (and of the partner if relevant), as well as on the sex of the partner in some countries. A question on *very short-term expectations* was asked in the fecundity section: "*Do you yourself want to have a/another baby now?*" ("Yes", "No", "Not sure"). It was used as a positive filter only in France (all persons stating "Yes" were added to the "Definitely yes" category of the short-term intention question). Questions on the perceived ability of the respondent (and of his/her partner) to have children were also used as filter questions, and finally on whether the respondent (and his/her partner) had been sterilised. Pregnancy was used to try and adapt the questions to the state of the woman, though in Germany pregnant women were not asked about their intentions.

Table 2

Answers to the question "Do you yourself want to have a/another baby now?" (women 20–44) and observations on country specificities regarding this question

	Childless women			Comment on wording	Used as a filter?
	Yes	No	Not sure		
Australia				*Question not asked*	N/a
Austria	16	84	0	*Now* underlined, DK instead of not sure, not coded (99)	No
Belgium	20	76	5	As in main questionnaire	No
Bulgaria	52	37	10	"Personally" instead of "yourself"	No
Estonia				*Question not asked*	N/a
France	12	85	3	Are you currently trying to have a child?	Yes
Georgia	–	–	–	As in main questionnaire, but filter issue	No
Germany	42	58	0	"Don't know" instead of "Not sure", not coded (-8)	No
Hungary				*Question not asked*	N/a
Italy				*Question not asked*	N/a
Lithuania	25	59	16	As in main questionnaire	No
Netherlands				*Question not asked*	N/a
Norway	21	76	3	Currently ("Don't know" instead of "Not sure", but coded 3)	No
Poland	26	64	10	As in main questionnaire	No
Romania	36	55	9	Questionnaire not available (as in main questionnaire)	N/a
Russia	51	38	12	Do you yourself would like to have a (another) child?	No

An interesting observation arises regarding the question on "*Do you want to have a baby now*" (Table 2): this question seems to have been interpreted in a variety of different ways. For instance, in France it appeared to ask whether the respondent was currently trying to become pregnant. There, the proportion of persons responding "Yes" is very low, like in Austria where the *now* had been underlined. In other countries the time reference was emphasised less, and in Russia there was notably no time reference at all. In Russia the proportion answering "Yes" is very high, and the question had certainly been perceived as a life-long intentions question. We cannot interpret exactly what the question sounded like in these different languages, but the fact that the re-translation into English saw a word change suggests that the meaning was not always exactly the same in all countries.

Questions concerning fecundity and sterilisation were other important prefilters of the section on intentions. Here again, we observe a wide variety of ways of posing questions, of options available to respondents and whether the answers were used as a filter for the intentions section (Table 3). In some surveys those who responded that they were infecund were not asked about their childbearing intentions. This can be problematic when calculating the average number of children intended. Indeed, considering that infecund people intend no child assumes that they have renounced having any child, which is not necessarily true (as persons aged 20–39 who know that they cannot have a child are mostly those who have already tried and thus originally wanted to have children). On the other hand, considering that their intentions are the same as the intentions of the others (by ignoring infecund persons in the calculations, for instance,) would not take account of the fact that they have probably corrected their intentions downwards. Still, it might seem inappropriate to ask persons who know they cannot have babies whether they want one or not. By contrast, taking a partner's infecundity or sterilisation as a filter appears at least partly irrelevant as the possibility of medical treatment or finding a new "fertile" partner cannot be ruled out.

Table 3

Answers to the question "Some people are not physically able to have children. As far as you know, is it physically possible for you, yourself, to have a/another baby?" (idem for partner), and "Have you been sterilised or have you had an operation that makes it impossible for you to have a child/more children?" (idem for partner) and a note on whether each question was used as a filter for the intentions section

	Fecund	Partner fecund	Sterilised	Partner sterilised	% definitely not fecund	Same % 35–44
Australia	not asked	not asked	filter	filter		
Austria	not a filter	not a filter	not a filter	not a filter	5.5	9.9
Belgium	not a filter	not a filter	not a filter	not a filter	5.1	10.2
Bulgaria	not a filter	not a filter	not a filter	not a filter	2.8	5.1
Estonia	transformed	not asked	not asked directly	not asked	4.8	5.0
France	transformed, filter	filter	filter	filter	3.8	7.8
Georgia	not a filter	not a filter	not a filter	not a filter	10.3	17.1
Germany	filter	not a filter	filter	not a filter	8.0	11.8
Hungary	not asked directly	not asked	not asked	not asked	2.6	4.4
Italy	not asked	not asked	not asked	not asked		
Lithuania	not a filter	not a filter	not a filter	not a filter	3.0	5.8
Netherlands	not asked	not asked	not asked	not asked		
Norway	transformed	transformed	not asked	not asked	7.6	13.4
Poland	not a filter	not a filter	not a filter	not a filter	0.6	0.9
Romania	n/a	n/a	n/a	n/a	5.6	9.0
Russia	not a filter	not a filter	not a filter	not a filter	6.0	11.4

Source: Generation and Gender Survey V4.1 + crude variable of additional number of children intended.

Overall, the complexity of the questionnaire about intentions seems to open a door to a series of problems of comparability and error. As we have seen, some countries exhibit elevated levels of missing values and/or unusable answers; this could stem from mistakes when implementing the filters in the country questionnaire and this is more likely to occur in a complex setting. Harmonising the data is also difficult in these conditions, and errors can occur when deriving the harmonised variables, as it requires applying the right country-specific filters and attributing zero to people who have been filtered out because they cannot have children (for the additional number of children intended), etc. Overall, in a comparative context a questionnaire design that does not leave a margin for error seems preferable, because leaving these margins of error could result in an accumulation of small inaccuracies that threaten the overall quality of the data.

3. INSIGHTS FROM OTHER SURVEYS

Exploration of the GGS section on fertility intentions reveals important heterogeneity between questionnaires. However, we have not explored the effect of the variety of coding on actual measurements. If this effect is not significant, then the heterogeneity across surveys could pass for simple survey variability. If it is significant, however, then we should be careful to use only countries with equivalent sets of questions in international comparisons.

We take as a first example the calculation of the proportion of childless women saying they intend to remain childless in the FFS and GGS surveys. We do this to provide a sense of how taking into account "Don't know" responses can affect results. We then take a more substantive example that directly demonstrates the impact of the introduction of uncertain coding for the intention questions on, for example, the proportion intending to remain childless and the mean intended family size.

3.1 The FFS and GGS

In the FFS pre-codes were restricted to "Yes", "No" and "Don't know" for the question "*Do you want to have another child/children of your own some time?*" The frequency of "Don't know" answers ranges from 7–19 per cent in 16 out of 22 FFS countries (results not shown here). Overall, the proportions of missing and "Don't know" responses are higher than in the GGS surveys, with uncertain response categories (Table 1). However, they are in the same range as the GGS exceptions, which coded their answers in the same way as the FFS. Unlike the GGS, we can differentiate the missing values and the "Don't know" responses in the FFS, and can see that in some countries a large majority of the values not indicated are "Don't know", while in others they are missing. Whether "Don't know" responses are used or not by the respondent might be a country-specific reaction to that type of question, but it is much more likely that the choice comes down to interviewer instruction: whether or not the interviewer has been asked to explicitly propose "Don't know" as an option. As previously mentioned, when people are allowed to choose a "middle of the road" answer they are much more likely to choose this option (G. Bishop, Oldendick and Tuchfarber 1983). Conversely, not having this option sometimes forces people to answer purely hypothetical or fictitious events (see G. F. Bishop, Tuchfarber and Oldendick 1986). A pre-code that includes "Don't know" increases the proportion of "Don't know" responses compared with when this option is not available. The overall distribution of answers is therefore modified artificially by the availability of choice, and notably affects the proportion of

women intending to remain childless. Evidence concerning interviewer instructions should shed light on differences between countries.

So, can we interpret the trends from FFS to GGS on the proportion of childless women who want a child (Table 4, columns 2 and 6)? We notice that there are fewer "Don't know" responses in countries where "Don't know" was not proposed, i.e. in most countries introducing uncertainty ("Certainly yes" and "Certainly not"). As a result, if one considers that the introduction of uncertain codes does not change the balance between positive and negative answers, then the proportion of all women not intending a child should be larger in GGS-type surveys than in FFS-type surveys. Indeed, on the whole the share of negative answers is reduced where there are more "Don't know" responses. On the other hand, missing data are included in the denominator in the GGS because we cannot differentiate them from the "Don't know" responses, which leads to under-evaluating the proportion. Overall however, the proportions of "Don't know" responses in the FFS were higher than the proportion of missing and "Don't know" in GGS. This leads us to conclude that the first bias might be stronger, and that decreasing trends between the surveys in calculated intended childlessness would thus accurately be negative though under-estimated, while positive trends might be fictitious due to the change in the question.

In comparing proportions in the FFS and GGS (columns 2 and 6), we can see that while the proportion of childless women wanting to have no more children was lower in the second period in most countries, the trend increased in France, Germany and Italy. We cannot say whether this positive trend is real or fictitious using the information we have available. Overall, the changes do not look particularly consistent from one dataset to another. For instance, it does not appear plausible that in Lithuania and Estonia the percentage intending to remain childless dropped between the 1990s and the 2000s from levels higher than nine to levels ranging from one to five. The strong decrease also appears somewhat surprising in other eastern European countries, though we can propose two reasons for this: first, recovery from a period of high political uncertainty, and second, with the delay in age at first birth more childless women still expect to have children. Finally, it is surprising to see that France has higher levels of childlessness intentions than Austria in the latest period, despite it having a much lower level of childlessness. The jump between the 1990s and the 2000s in France seems to confirm that this country has problematic intention data in the GGS, at least for childless women.

Overall it appears theoretically and empirically difficult to draw conclusions on expected childlessness and their trends using these data. In the GGS we can only give a range of expectations, and in both sets the high variation in the proportion coded "Don't know" is an alarming feature.

Table 4

Proportion of childless women aged 20–39 who do not intend to have a child, in %, calculated including or excluding the "Don't know"/missing data in the denominator, in FFS (1990s) and in GGS (2000s)

	FFS		GGS			
	No		Definitely not (no)		Definitely + Probably not	
	Excluding DK	Whole sample	Excluding missing/DK	Whole sample	Excluding missing/DK	Whole sample
Austria	15.8	15.8	5.6	5.2	13.8	13.0
Belgium	23.2	22.9	14.5	13.3	23.1	21.1
Bulgaria	10.6	10.0	5.2	4.9	6.8	6.4
Estonia	9.4	9.4	1.8	1.7	2.2	2.0
France	9.2	8.7	16.1	14.0	17.4	15.2
Germany	21.9	15.1	18.2	15.6	24.3	20.9
Hungary	*4.1*	*3.8*	*7.5*	*6.9*		
Italy	4.8	4.5	5.1	4.9	9.8	9.4
Lithuania	12.0	9.3	1.4	1.4	4.6	4.3
Norway	*6.6*	*6.0*	*14.7*	*13.5*		
Poland	39.3	29.9	4.8	4.6	12.9	12.6

Source: Fertility and Family Survey (1990s); Generation and Gender Survey V4.1.

Reading note: In the Belgian FFS the percentage of women who answered "No" to the question on intentions, when excluding the "Don't know" responses from the denominator (i.e. keeping only 'substantive' answers) is 23.2 per cent. Among all women, including those who answered "Don't know", the proportion is a little smaller (22.9 per cent).

3.2 Trend disruption in Great Britain: Do numbers depend on the preceding question?

Given these observations, we need to assess the impact of a change in the filtering questions on the calculated number of intended children. We assume that knowing or not knowing the numbers intended by the "Don't know" responses could already play a role in this, since including or excluding them already had an impact on the proportion intending no child in Table 4. The introduction of additional uncertain pre-codes could also have an impact. We will verify these two assumptions using the General Household Survey ESRC CPC series (Beaujouan, Berrington et al. 2013; Beaujouan, Brown and Ní Bhrolcháin 2011). In this data series, intentions questions changed between 1990 and 1991.

Up to 1990:

"*Do you want to have (another) child sometime?*" ("Yes", "No" or "Don't know")

If "Yes" or "Don't know", How many (more) children do you want?

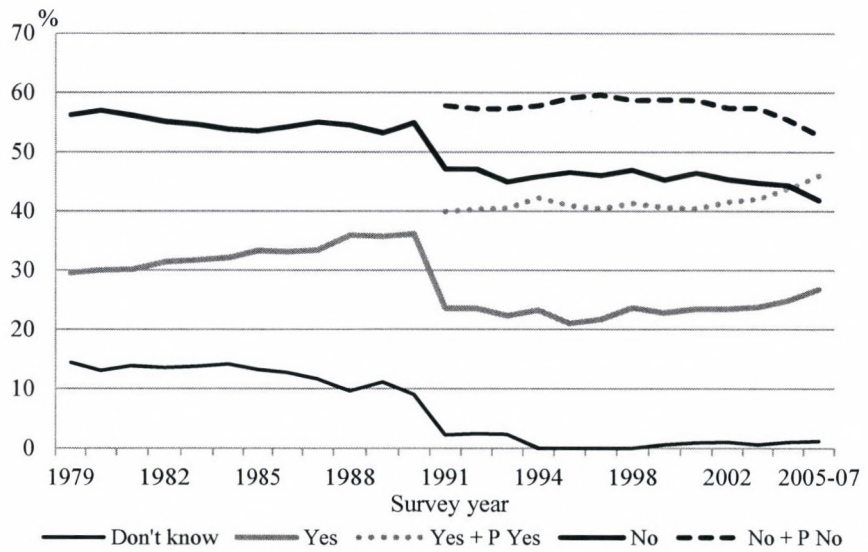
From 1991:

"*Do you want to have (another) child sometime?*" ("No", "Probably not", "Probably yes", "Yes")

If "Probably yes" or "Yes", How many (more) children do you want?

Figure II shows the proportions relating to these response categories. We already see that the introduction of uncertain pre-codes reshuffles the answers.

In order to estimate the impact we group the two years before and the two years after the change. Though we can see a general positive trend for the "Yes" and a negative trend for "Don't know", there is no clear trend for "No". For "Yes" there is no trend in the additional number of children intended (curve not shown here), so we can assume that there would be no significant difference between the two years before and the two years after the change if no change took place. We will discuss the possible implications of this assumption afterwards. First, we calculate the proportion of women aged 18–44 intending no further children, and as in the GGS, the proportion of childless women (aged 18–34) that seem to intend to remain childless according to the pre-codes for the first question. As a second step, we calculate the additional number of children intended in these two groups, and estimate to what extend the result is influenced by the same pre-codes.



Source: General Household Survey ESRC CPC series (Beaujouan, Berrington et al. 2013). See also: Ní Bhrolcháin, M. and Beaujouan, É. (2011).

Figure II

Distribution of the responses to the question on intention to have a child in a British survey series, 1979–2005/7, women 18–44

As in GGS there is a direct effect of adjusting for "Don't know" responses on the *proportion intending no (more) children* when pre-codes are "Yes", "No" and "Don't know" (Table 5): the proportion jumps from 54 to 60 per cent among all women and from 13 to 15 per cent among childless women. There are several options available for comparing the proportion before and after the change depending on the research question.

If we try to isolate who is really certain to not want a/another child – i.e. including "Don't know" in denominators, and leaving 'probables' out of the numerator in the second period – then the proportion not wishing to have (more) children at all decreases drastically among all women (54 to 47 per cent) and childless women (13 to 7 per cent). This confirms that the "No" code in the three-category option certainly does not correspond to the "No" code in the four-category option in the General Household Surveys (GHS). As a consequence, the "Definitely not" in the four-category option of the GGS certainly does not correspond with the "No" category of the FFS and of the GGS exceptions (and maybe even less than in the GHS given the "definite" aspect of the GGS primary option).

Alternatively, if we relax the definition of not wanting a/another child to a simple negative intention then we can group all the negative responses and reduce the observation to those giving a substantive answer (thus excluding "Don't know"). Under these conditions we don't see a strict change depending on the response categories: 60/59 for all women, 15/16 for the childless ones (Table 5). Any other choice before and after the change gives large differences in intentions, and having the "probably" option modifies the proportion intending to remain childless. This again confirms the lack of clarity of the concept and highlights the importance of paying attention to implementation of these options in surveys. Moving on to the additional number of children intended, it is interesting to see that in the GHS those who responded with "Probably not" have not been asked for a number. In other words, they are considered as having responded with a definite "No", and are attributed zero. We also do not have the number intended among those responding "Don't know" after the change, but given their proportion this should have only minor impact on the results.

The number of intended children drops from 0.81 to 0.77 between the two periods among all women when "Don't know" responses are included (Table 6). It similarly drops from 1.92 to 1.85 among the childless. When excluding "Don't know" responses from the calculations before the change (i.e. assuming that those who answered "Don't know" generally behave like other respondents) the number of intended children appears to be stable over the change among all women, but it is clear that this assumption does not make sense in this group, as "Don't know" responses expect 1.43 children while the average

of the others is 0.77. Among childless women the drop remains about the same, regardless of whether we include "Don't know".

Table 5

Intentions not to have (other) children just before and just after the change, for (a) women aged 18–44, (b) childless women aged 18–34

All women 18–44	Before (1989–90)	After (1991–92)	
Yes	36	24	40
Probably yes		17	
Probably not		10	**58**
No	**54**	**47**	
Don't know	10	2	2
% no more child	(no)	(no)	(no + Pnot)
ignoring DK	**60**	**48**	**59**

Childless age 18–34	Before (1989–90)	After (1991–92)	
Yes	73	50	82
Probably yes		32	
Probably not		9	**16**
No	**13**	7	
Don't know	15	2	2
% no more child	(no)	(no)	(no + Pnot)
ignoring DK	**15**	7	**16**

Source: General Household Survey ESRC CPC series.

Note: among all women aged 18–44, 36 per cent answered they wanted more children, 54 per cent no more children, and ten per cent didn't know before the change in the pre-codes of the intention question. So 54 per cent wanted no more children on the whole sample, but this rises to 60 per cent when we count only those who provided a "substantive" answer.

As expected, among those who respond that they want to have a child, those who are more uncertain express a desire to have fewer children. When they state a number, those responding "Don't know" desire even fewer, as they consist of a mix of positively and negatively unsure people. Additionally, those who answer "Probably yes" seem to give a lower number than if they had answered "Yes": there seems to be a priming effect. Indeed, to maintain the same number intended among all the "Yes" responses, persons with "Probably yes" responses should have declared that they want 1.86 children (instead of 1.72) for all women and 2.2 (instead of 2.04) for childless women.[6] It is possible that

[6] The entry of a part of "Don't know" (before the change) into the "Probably yes" category reinforces the results. We take the example of women aged 18-44: the positive and the

women who have been pushed into a category (e.g. said "Yes" despite not being sure) provide an answer that does not correspond with their intentions, but instead to what they see around them or to a societal ideal. When given the opportunity to express their uncertainty, they reflect it in the number they give.

Table 6

Additional number of children intended just before and just after the change, (a) women aged 18–44, (b) childless women aged 18–34

All women 18–44	Before (1989–90)		After (1991–92)
Yes	1.97	1.97	2.05
Probably yes			1.72
Probably not			0
No	0	0	0
Don't know	1.43		
All	**0.81**	**0.77***	**0.77**
Confidence interval	(0.78 – 0.84)	(0.73 – 0.8)	(0.73 – 0.8)

Childless age 18–34	Before (1989–90)		After (1991–92)
Yes	2.28	2.28	2.34
Probably yes			2.04
Probably not			0
No	0	0	0
Don't know	1.82		
All	**1.92**	**1.93***	**1.85**
Confidence interval	(1.85 – 1.98)	(1.85 – 1.98)	(1.78 – 1.91)

Source: General Household Survey ESRC CPC series.

Note: among all women aged 18–44, those answering "Yes" wanted on average 1.97 more children, the ones answering "No" zero, and the ones answering "don't know" 1.43 before the change in the pre-codes of the intention question. This represents an overall average of 0.81 more children wanted. If we do not take into account those answering "Don't know", then it represents an average of 0.77 more children.

* Excl. DK.

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negative category each get four per cent from "Don't know" after the change, and two per cent remain in "Don't Know". Four out of ten are thus supposed to have said zero before the change (because they went to "No" after), and to compensate and get the average 1.43 for all "Don't know", the future "Yes" respondents would have had to declare to want 2.6 children. To maintain this number the new "Probably yes" group would have had to declare even higher intentions. The 2.6 also does not seem rational, and there already seems to be an influence on the category of the number declared.

To conclude, different methods of filtering questions on intended family size do have an effect on calculations, and filters sometimes diminish the ability of the researcher to test various hypotheses by lack of availability (for instance numbers for the "Probably not" and "Don't know").

4. CONCLUSIONS AND DISCUSSION

How far can we go in cross-country comparisons using the GGS? Even if we cannot assume that the results of the British data series can be replicated elsewhere, there is a strong possibility that the distribution of intentions, as well as number of children intended, cannot be compared when the response categories of the question on short-/long-term intentions are coded differently. Hungary, the Netherlands and Norway coded them "Yes", "No" and "Don't know", and this cannot be compared *a priori* with the other countries that show uncertain pre-codes, and neither can Australia where the question was not even asked. However, the impact on the intended number of 'certain' versus 'uncertain' pre-codes for this question can be considered reasonable (0.1 to 5 per cent in the British data series). Additionally, in the GGS the "Probably not" respondents were asked for their intended number in most countries (apart from France and Poland), unlike in the British survey. This could diminish the gap somewhat. By contrast, changes in the pre-codes from 'certain' to 'uncertain' have a much more substantial effect on the proportion intending to remain childless (a 40 per cent decrease to 25 per cent increase, depending on the basis for calculation).

In addition to the variation in pre-codes, we have described the considerable heterogeneity in the way questions and filters have been implemented in each country, and this type of issue cannot be solved with mere imputations. This adds a layer of ambivalence concerning the use of the intention section for comparative purposes. However, comparisons remain possible by selecting sets of countries that do not show uncommon pre-filters, or a particularly high level of missing and "Don't know" responses – i.e. around ten countries. Moreover, depending on the research question, and by carefully selecting the pre-categories used in the calculation of mean intended family size, some general numbers should still be comparable despite this heterogeneity. The sensitivity analysis based on the British General Household Survey could be very helpful in justifying such choices.

A simplified questionnaire design would avoid filter errors and heterogeneity in responses seen between countries. Of course, and as we have seen, national data producers have their own constraints and reasons for introducing heterogeneity, as evidenced by French adaptation of the survey (Sebille and Régnier-Loilier 2007). In this case budgetary and legal constraints limited the possibility of adhering to the format of the standard questionnaire. In addition,

the desire to keep the length of responding to the survey to less than one hour was an important factor in deciding about whether to suppress questions and add filters.

The choice of the questions and categories depends on the research objectives. Assuming that the two main research questions are: "*Do people realise their short term intentions?*", and "*How many children do people intend to have across countries?*", I would recommend a two-stage question to improve the chances of cross-country comparability.

First, I would suggest keeping the same pre-codes that allow uncertainty for the short-term question, which would (1) maintain the time perspective in the framework of a panel, and (2) be well-suited for short-term studies because we know that opinions expressed more clearly are more likely to be realised (Cavalli and Klobas 2013).

In life-long perspective, however, it would be better to remove the conditional question on intentions after the short-term question. Instead, one unique question could be kept in by asking about the total number of children the person intends to have, for instance: "*To conclude, (in addition to the children you already have and the one you are expecting) how many (more) children do you intend to have, (including adopted children)?*" This question could be asked without a filter on short-term intentions. It could also be asked for the total number instead of the additional number, so as to keep it independent of errors in the fertility section.

As noted, it would be inappropriate to ask a woman who has said she cannot have children whether she wants them. One way to handle this would be to add adoptions to biological children (as suggested in the tentative question shown above), and we could therefore also ask infertile women this question. If this solution were not adopted then I would not recommend filtering on the ability of the partner to have children and the age and sex of the partner, as this seems quite out of date. This would considerably simplify the setting up of the questionnaire, so that it would no longer rely on prior information about the partner and thus diminish chance of error. The intentions of couples could be asked independently if they remain a research question *per se*.

It is also important to ascertain the purpose behind the question in the fecundity section: "*Do you want to have a baby now?*" It does not seem to have been interpreted the same way in every country, and often seems to have been considered a simple fertility intention question. However, being the first question of the fecundity section, and otherwise constituting a duplicate of the intention questions, it might have been a question about whether the respondent (or the partner) was currently trying to become pregnant.

The importance of being clear on the pre-codes and (remaining) filters is the last important conclusion. It could be a good idea to write the instructions for interviewers at the same time as the standard questionnaire so as to harmonise

the way questions are asked in all countries. In particular, it seems important to carefully consider how "Don't know" responses are dealt with, for example whether they are listed in pre-codes or as options for the interviewer if the respondent doesn't know. "Don't know", missing and not concerned answers should also be easily differentiated in the post-coding. Currently, country-level information is necessary for reconstituting the whole series of filters and to construct the variables used for analysis accurately. For instance, in this study people filtered out because they had been sterilised had to be recovered (by the researcher) into the "No" category. The overall reconstitution is somewhat difficult when dealing with 15 GGS countries.

Further research ideas also emerge from this exploration regarding measurement of fertility preferences. We know that responses to intention questions cannot always be taken for granted (Ní Bhrolcháin and Beaujouan 2011). A question that measures uncertainty could be added after the main questions, so as to try and assess whether the person has ever thought about the topic before, and how realistic she thinks her intention is. Such a type of query has been made in the Austrian GGS, where people are asked to assess how much their intentions depend on how ready they feel. To deepen exploration of change over the life course, we could imagine questions on whether the person is waiting for a specific event before having a child, how easily the person might change her mind, or which changes in circumstance might make her change her mind (an example of this type is given by the French Fertility intentions Survey, 1998). For people working on voluntary childlessness the best solution would be to ask a question directly on the issue. For instance, in the Netherlands respondents were asked about whether they really wanted to remain voluntarily childless.

Finally, monitoring of fertility behaviours remains an important objective for demographers, and intentions are clearly part of this. Continuity in the asking of questions on intentions is necessary for studying trends, but they could also be coupled with other questions. For instance, personal ideals appear to be an important counterpart to intentions, and they are in some way 'constraint-free' intentions. So studying them alongside intentions would improve our understanding of individual-level coherence and the assimilation of constraints. In the context of contemporary low fertility, it could also be a useful complementary factor for understanding countries' fertility orientations. Alternatively, the "situated ideal" (ideal family size for a person of the same milieu, with the same resources, and asked in almost all French fertility surveys) is another interesting feature, because it seems to accurately reflect the aggregate final cohort fertility, at least in France (Beaujouan and Toulemon 2013). Other topics and international research regarding fertility preferences are emerging, and the first rounds of the GGS provide fertile ground for the constitution of innovative research questions in future surveys.

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APPENDIX: *selected questions from the standard GGS questionnaire*

Preliminary filter questions

Note: The scheme below is designed to skip questions on current pregnancy and fecundity for female Rs 50 or older and male Rs with partners 50 or older and for Rs who have never had sexual intercourse with a person of the opposite sex.

Ask from women:

6.02 I now would like to continue with some questions on pregnancies and having children. Are you currently pregnant?

Ask from men who have a female partner, either co-resident, see Household Grid, or nonresident, see 3.10:

6.02. I now would like to continue with some questions on pregnancies and having children. Is your partner/spouse currently pregnant?

Ask from men without a partner:

6.02. I now would like to continue with some questions on pregnancies and having children. Do you know of any woman who is currently pregnant by you?

Interviewer Instruction:
If the answer "yes" is obtained from a man without a partner, use "she" instead of "partner" or "spouse" in the questions on current pregnancy.

1 – yes..... →□continue with 6.03
2 – no..... →□***go to 6.11***
3 – maybe, do not know yet..... →□***go to 6.11***

(Asked non-pregnant women/men whose partner is not pregnant)

6.11 Do you yourself want to have a/another baby now?

1 – yes
2 – no
3 – not sure

6.12 Some people are not physically able to have children. As far as you know, is it physically possible for you, yourself, to have a/another baby?

1 – definitely not ..... →□continue with 6.13
2 – probably not..... →□continue with 6.13
3 – probably yes..... →□***go to Interviewer Check before 6.15***
4 – definitely yes..... →□***go to Interviewer Check before 6.15***
97– do not know..... →□***go to Interviewer Check before 6.15***

6.13 a. Have you been sterilised or have you had an operation that makes it impossible for you to have

a child/ more children?
1 – yes 2 – no → go to 6.14

b. In what month and year did this operation occur?
month |___|___| year |___|___|

Interviewer Check: Does R currently have either a co-resident partner (see Household Grid) or a non-resident partner (see 3.10)?
yes → continue
no → go to 6.22

6.16 Do you think it would be physically possible for your current partner/spouse to have a child of his/her own if he/she wanted to?
1 – definitely not.....→ continue with 6.17
2 – probably not.....→ continue with 6.17
3 – probably yes.....→ go to 6.18
4 – definitely yes.....→ go to 6.18
97 – do not know.....→ go to 6.18

6.17 a. Has your partner/spouse ever been sterilised or had an operation that makes it impossible for

him/her to have a child/ more children?
1 – yes ↓ 2 – no → go to 6.18

b. In what month and year did this operation occur?
month |___|___| year |___|___|

Interviewer Check: Look at answers to 6.12 and 6.16.
Answer to either 6.12 or 6.16 is* '1 – definitely not' ..→ *go to 6.23
No such answer given.....→ continue with 6.20

Questions on intentions

Asked if answer to 6.12 is not 1

6.22 Do you intend to have a/another child during the next three years?
1 – definitely not
2 – probably not
3 – probably yes
4 – definitely yes

Asked if answer to 6.12 is 1 or to same question about partner (6.16) is 1

6.23 Do you intend to adopt a child or apply for adoption or take a foster child during the next three years?

1 – definitely not
2 – probably not
3 – probably yes
4 – definitely yes

Interviewer check: Did R answer 3 or 4 to either of the previous two questions?

yes.....→□go to 6.25
no .....→□continue

6.24 Supposing you do not have a/another child during the next three years, do you intend to have any (more) children at all?

1 – definitely not ..... →□***go to 6.27***
2 – probably not ..... →□***go to 6.26***
3 – probably yes..... →□continue with 6.25
4 – definitely yes ..... → continue with 6.25

6.25 Would you prefer your first/next child to be a boy or a girl?

1 – boy
2 – girl
3 – it does not matter

6.26 How many (more) children in total do you intend to have?

_____ children

TEMPORARY DESTANDARDISATION OF PARTNERSHIP FORMATION AND CONTINUOUS STANDARDISATION OF FERTILITY IN THREE GGS COUNTRIES

OKKA ZIMMERMANN[1]

ABSTRACT: *The hypothesis of destandardisation, which was popular in the 1980s and 1990s, has been revised and modified since the turn of the millennium because it has not been supported by empirical research (Kohli 2007). Destandardisation is still assumed to affect family formation more than other areas of the life course, though fertility and partnership appear to be developing differently and there are indications that a new phase of restandardisation has commenced.*

Comparative analysis of the life course using sequence analysis is scarce, despite this methodology often being regarded as superior to event history analysis when analysing social change (Elder 1985, Aisenbrey and Fasang 2010). To close this gap in research, this paper tests the hypothesis of destandardisation suggested by prior research in different European countries using sequence analysis. Family formation in three countries from different European regions (except for Eastern Europe) is evaluated using data from the first wave of the Generations and Gender Survey and simple versions of Optimal Matching Analysis to calculate average dissimilarities.

The main conclusion of this study is that destandardisation affected partnership formation, not family formation, and was only a temporary phenomenon. Because of the limited range of the available data, this research should be considered a starting point for further analysis on more countries, in order to assess generalisability, as country differences are apparent and the applicability of hypotheses potentially varies in different institutional contexts.

Keywords: Destandardisation, standardisation, life course research, family formation, fertility, partnership, sequence analysis, Optimal Matching Analysis, Generations and Gender Survey

INTRODUCTION

In the debate about changing European societies it is often hypothesised that living arrangements pluralise and life courses destandardise (Kohli 1985). De-

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standardisation in its most abstract form is defined as increasing dissimilarity between life courses (Elzinga and Liefbroer 2007). It is related to differentiation and pluralisation, and possibly – though not necessarily – developing parallel or dependent to these processes.[2] Empirical research proves that destandardisation is not the dominating and long-lasting process that it was initially believed to be (Kohli 2007). It is now thought to have been a temporary phenomenon affecting some life-course dimensions, followed by a new period of restandardisation.

Life-course research has up till now mainly focused on single transitions or a combination of them (Aisenbrey and Fasang 2012). The theoretical preference for the holistic concept of the 'trajectory' (Elder 1985) led to use of sequence analysis as a supplement to event history analysis. However, the number of studies published using sequence analysis on destandardisation of life courses remains small and, as a result, the advantages and disadvantages of the methodology and its different implementations are still being discussed amongst researchers. The main debate concerns the arbitrary decision in defining the costs and the clustering of respondents. Sequence analysis methodology is still assumed to be the preferred tool for holistic investigation of life courses, especially for processes of social change affecting the more abstract structure of life courses such as (de)standardisation. Periods need to be chosen carefully in order to enable comparison of the life courses of several different cohorts including younger respondents. Normally, a period starting from the age of 15 or 18 and ending at the age of 30 or 35 is chosen. Family formation is a particularly interesting field of research, because more changes are reported to take place than in other life-course dimensions (Kohli 2007), and previous research has proven the existence of destandardisation of life courses with regards to family formation in Europe (Hofäcker and Chaloupková 2011; Elzinga and Liefbroer 2007). Research suggests that this is being followed by a period of restandardisation (Fasang 2012 for Germany, Robette 2007 for French women). In addition, the dimensions of fertility and partnership appear to be developing differently (Robette 2010 for France). The main questions which remain open for a comparative analysis of European countries are (a) whether further support for the restandardisation hypothesis can be found for more cohorts and in other countries, (b) whether differences between the dimensions belonging to the area of family life courses (e.g. cohabitation, marriage and fertility) can be seen and what they mean for overall developments, (c) how these dimensions interact with each other and how they can be interpreted in the context of other research results, and (d) to what extent developments within different dimensions (and

[2] Differentiation is defined as increasing complexity of life courses, e.g. through a greater variety of the occurrence or duration of states or stages, and pluralisation as an increasing number of life-course states occurring in the life course as a whole or at a certain age of a cohort (Brückner and Mayer, 2005; see also Elzinga and Liefbroer 2007).

their combinations) differ between men and women. In order to answer these questions I will use the first wave of the Generations and Gender Survey (GGS) data from France, Norway and Italy to analyse standardisation and destandardisation of family formation.

First, I describe the meaning and the state of research on destandardisation of life courses, with a focus on family formation, and hypotheses relating to the questions above. Following this, I introduce sequence analysis, and explain the selection of measures for analysing (de)standardisation. Then I describe the data and the preparations for conducting the analysis, as well as the reasons for selecting the three countries. Finally, and after evaluating the hypotheses, I conclude with a revised hypothesis concerning (de)standardisation of family formation in Europe.

BACKGROUND AND PRIOR RESEARCH

Life-course theory in the 1980s hypothesised that life courses continuously destandardise as a result of on-going individualisation (Kohli 1985). In effect, individuals continue to free themselves from traditional embeddings (e.g. family and neighbours) and traditional norms. In addition, autonomous life-course decisions become more important, which can be interpreted as a second stage of individualisation (Beck 1986), whereby individuals more actively plan and then reflect upon their biographical life courses (Kohli 1985). Destandardisation is conceptualised as a universal development, consistent in various dimensions and experienced by all societies after passing through the first stage of individualisation. The first stage of individualisation is marked by rather anonymous, autonomous and standardised integration into society through emerging social institutions with nation-wide coverage, of which the welfare state and the labour market are the most important. It is accompanied by standardised consumption of industrial goods and information supplied by mass media, dominated first by radio and later by television. It replaces a less standardised, less institutionalised and more direct form of integration through personal contact in everyday life activities with the family, relatives, neighbourhood or local levels of political administration, in which goods are less often mass produced and there are a variety of printed sources of information available at the local level.

The theory of the Second Demographic Transition (SDT) (Lesthaeghe 2010) emphasises that the increasing importance of post-materialistic values, including self-autonomy and self-fulfilment, leads to postponement and a decline in rates of marriage and fertility, and an increasing pluralisation of family forms. A period of population decline therefore follows a phase of growth, in which the European population grows rapidly and spreads all over the world (van de Kaa 2010). It has been suggested that destandardisation is followed by

reported to be higher than the differences between cohorts (Diewald 2010), highlighting the dependence of developments on country-specific institutions. The theory of path dependency stresses that different institutions are likely to prevail and preserve differences between countries (Zapf 1996; Mills and Blossfeld 2005; Pfau-Effinger 2000; Spéder 2007), with cultural and religious traditions appearing to have particularly prevailing and long-term effects (Mayer 2001; Bujard 2012).

Destandardisation, as regards family formation, has progressed furthest in northern and north-western Europe, while it is barely seen in southern Europe (Buchmann and Kriesi 2011, 488). Comparative research is often based on data from different sources and arising from differing methodologies, making comparison difficult. It often focuses on single transitions instead of holistically analysing life-course trajectories. The trend towards destandardisation of family formation is much clearer than in other areas of the life course (Buchmann and Kriesi 2011; Kohli 2007). The incidence and acceptance of new family forms is increasing, but the variability is limited and children are still mainly born to couples in a stable relationship (Kiernan 2001; Diewald 2010).

A limited number of studies are available that make use of sequence analysis to holistically examine the destandardisation of life courses. The results of the four most relevant studies are summarised, as follows:

1. Hofäcker and Chaloupková (2011) reported an increase of the average distance to the "traditional family trajectory" for men and women born between 1941 and 1972 in 24 European countries using data from the European Social Survey (Wave 3, ages 18–35). The speed of developments differed across European regions. Norway and France showed a similar pattern of development, with high distances to the traditional trajectory. Italy was not analysed.
2. Robette (2010) analysed single and multi-dimensional life courses (ages 18–35) of transitions to adulthood for French men and women born between 1954 and 1969 using data from *Familles et employeurs* (2004–2005). He found that fertility-related life courses standardised, while partnership-related life courses destandardised. Multi-dimensional life courses (including residential and occupational aspects) mainly destandardised. Among younger women, life courses restandardised, while the level of dissimilarity was stable among younger men. Female life courses were more destandardised with regards to fertility (higher difference) and to partnership (slight differences) though women of the oldest cohort had more standardised life courses.
3. Elzinga and Liefbroer (2007) compared family formation for women born between 1945 and 1964 using data from Family and Fertility Surveys (FFS) for ages 18–30. Traditional family-oriented life courses lost importance, while the increasing average dissimilarity of life courses, as

a period of restandardisation (Fasang 2012; Mills 2004). If initially only certai parts of the population change their partnership and fertility behaviour, even ii rather different ways in an attempt to find the best way to adapt their life courses to new circumstances, then life courses destandardise. Once there is higher acceptance of a new-life course pattern, life courses restandardise. This interpretation neglects the fact that Lesthaeghe initially conceptualised pluralisation as an integral part – and not a transitory phenomenon – of the SDT. Accordingly, destandardisation should stabilise at a somewhat higher level of dissimilarity instead of being reversed by another phase of standardisation. The idea of alternating phases of destandardisation and standardisation is still a valuable concept for empirical analysis, even if no reference to the SDT is made.

A hypothesis similar to the SDT, though based on different reasoning, stems from family sociologists, who interpret destandardisation as a return to historic normality (Peuckert 2008; Kohli 2007; Huinink and Konietzka 2007). Modernisation brought standardised life courses (at least to western Europe) through new social institutions, e.g. the welfare state, the school system and the labour market, which provide the same incentives and restrictions to all members of society. In the course of modernisation, the picture of the ideal family was transformed in many ways; extensive family solidarity was replaced by greater individualism, arranged marriage vanished and monogamy and gender equality spread (Thornton 2010). These standardising effects are now vanishing as a result of different processes of change that have taken place since the 1970s, such as mass unemployment and the decreasing influence of the concept of the core family (parents and children in one household) as the ideal way of life, resulting in a pluralisation of family forms and a differentiation and destandardisation of related life courses.

Empirical research suggests that destandardisation was not as influential in European societies towards the end of the twentieth century as originally hypothesised. Instead, the level of standardisation remained fairly high, while destandardisation was only gradual and depended on the type or sequence of events as well as the region examined (Mayer 1990; Kohli 2007; Buchmann and Kriesi 2011). The destandardisation hypothesis has been criticised for neglecting the connection between the micro- and the macro-level of change, and it cannot satisfactorily explain the processes and dynamics of change (Mayer 1990). The lack of empirical support for destandardisation and the persistence of standardisation in life courses surprised even its proponents. Kohli (2007: 259) revised his own hypothesis and diagnosed "institutional continuity coupled with some destandardisation" for the past decades. This implies that life courses at the end of the twentieth century were still rather similar to each other, and that changes in the 1950s and 60s were gradual. The influence of changes since the 1970s (i.e. values, mass unemployment and the women's movement) have been comparatively small. Differences between countries are

well as the increasing entropy of the distribution of life courses between life-course groups indicated destandardisation of family formation. France and Norway were among the most destandardised countries, while respondents from Italy and Spain had the most similar life courses. The results were significant for most countries (except some eastern European countries, in which differences between cohorts were considerably smaller than in western European countries) based on 90 per cent bootstrap confidence intervals.

4. Schizzerotto and Lucchini (2002) found considerable differences in transitions to adulthood (including non-family related events between ages 15 and 35) between Italy, Sweden and the United Kingdom, with the lowest dissimilarity in Italy and highest in Sweden. They concluded that there was no clear evidence of a continuous process of destandardisation in Europe, because the heterogeneity index and the proportion of typical sequences developed differently between different cohorts and within respondent groups. In Italy, female life courses were more dissimilar than those of men, though evidence was less clear in other countries. The authors emphasised that transitions to adulthood were postponed more in Italy than in the other countries because material constraints hindered reconciliation of family and career, causing a low level of dissimilarity. In Italy, female life courses were mainly destandardised, while male development fluctuated, with a tendency towards standardisation of life courses.

Concerning fertility, Robette (2010) distinguished between respondents having none, one, two or three or more children; in the other studies respondents were distinguished between respondents with or without children. The results suggest that with regards to family formation France resembles the Scandinavian countries, while southern European countries are developing differently. In France and the Nordic countries family policy is an important and lively policy field (Lappegård 2011). The decline in marriage and the increase in unmarried cohabitation are most prominent in the Nordic countries and France (Kiernan 2001), and the "tie between marriage and childbearing" loosened earlier in the Nordic countries than in southern, central and eastern Europe (Sobotka and Touleman 2008). In the Nordic countries and France this appears to have led to more stable fertility rates (Sobotka and Touleman 2008), while fertility has decreased in southern European countries, where family life still mainly follows traditional norms (Hofäcker and Chaloupková 2011).

The results described above leave much unresolved, particularly concerning general trends of (de)standardisation of family formation in Europe. Based on some theoretical arguments and the results presented by Fasang (2012) and Robette (2010), I expect destandardisation to have been a temporary phenomenon, followed by a period of restandardisation. Trends towards postponement

of fertility and partnership, as well as of cohabitation starting before marriage, are expected to have caused destandardisation in the 70s and 80s when some couples initiated the trend. After it had been accepted by the majority of a cohort it became a new standard, leading to restandardisation. Therefore the following hypotheses are established, referring to life courses between the ages of 15 and 35:

(1) Destandardisation of family formation among older cohorts is followed by a period of restandardisation among younger ones.

Robette (2010) proved that partnership-related life courses destandardised in France, while they standardised in the dimension of fertility. Considering the postponement of fertility in Europe, which causes the life courses of young people to be less differentiated (i.e. to consist of fewer events), it is expected that this effect can also be found in other countries.

The second hypothesis for this research is therefore that:

(2) Fertility-related life courses standardise in Europe.

Because family formation is destandardising, the standardisation of fertility-related dimensions needs to be balanced by a destandardisation of partnership-related life courses. One should consider that the connection between marriage and cohabitation loosens and that it is often marriage that is postponed and not partnership formation (Kiernan 2001). It is therefore important to distinguish between cohabitation (indicating partnership formation) and marriage, and to investigate the connection between the two. It is expected that two-dimensional partnership-related life courses are mainly caused by the connection of cohabitation and marriage. Hypothesis (3) summarises these assumptions:

(3) Partnership-related life courses destandardise due to the loosening connection between cohabitation and marriage.

As a result of the loosening connection between the different steps of institutionalising partnerships (start of cohabitation and marriage) and postponed childbearing (Kiernan 2001), an increase in the dissimilarity of sequences combining marriage or cohabitation with fertility is expected for younger respondents.

(4) Two-dimensional life courses combining marriage or cohabitation with fertility destandardise.

Women start partnerships and family formation at younger ages than men, and therefore experience more events earlier on in life. It is expected that female life courses are more destandardised than those of men in the age range covered by this study (15–35), a fact suggested in previous research (Schizzerotto and Lucchini 2002; Robette 2010). It has not been analysed in

more detail for one- and two-dimensional life courses in international comparisons, for example by focussing on the dimensions where gender differences are most pronounced. Women have their first child earlier than men, often with partners older than themselves. The men might have lived together with other women of their age prior to meeting younger women, with whom they decided to form a family. The differences with regards to fertility should therefore be more pronounced among young men and women than differences with regards to partnership, as described in the following hypothesis:

(5) The life courses of women are more destandardised than those of men, especially as regards fertility, and to a lesser extend with regards to partnership.

SEQUENCE ANALYSIS

Sequence analysis is used to investigate the average dissimilarity between respondents' family formation, which emphasises family formation as a holistic set of events or transitions. Life courses are represented as strings of symbols, each referring to a state for a specific time interval. It is a rather descriptive tool, allowing identification of phenomena or developments, and has to be supplemented with other methodologies to test hypotheses on causes or influences. The state is usually defined for either a month or a quarter of a year. In order to avoid splitting up events which belong together (e.g. moving together three weeks after marriage), quarters will be used in this study. Pure description of sequences has previously proven to be unsatisfactory, because of the variety of differences between the sequences in the samples (Anyadike-Danes and McVicar 2010). Life courses are therefore often clustered to ease description, and this requires calculating the pair-wise degree of dissimilarity. The first method to calculate dissimilarity between life courses and represent this dissimilarity as sequences of symbols was suggested by Abbott (1990, 1992, 1995), who implemented Optimal Matching Analysis (OMA), a method arising out of information theory (Levenshtein-distance, Levenshtein 1965) and often used in biotechnology in order to cluster DNA (Lesnard 2006, 2008). OMA compares sequences by counting the number of transformations (substitutions, insertions and deletions) needed to change one life course into another; it is therefore based on algorithmic modelling without making assumptions about the processes that generate the data (Aisenbrey and Fasang 2010). This differs considerably from stochastic modelling, which is used in regression analysis and related methodologies to model relationships between variables, and (in most cases) interpret them as stochastic influences on the generation of the dependent variable. The outcome of OMA (clusters, or dissimilarity to a pre-defined sequence) could also be used to model relationships between variables, but such an approach would be beyond the scope of this study.

Clustering life courses can be difficult, because life courses can be described as a continuum rather than as falling into distinct groups (e.g. Halpin 2010). This has resulted in some researchers grouping life courses into a large number of clusters (e.g. Anyadike-Danes and McVicar 2010). Describing the large number of cluster types is not only time consuming but potentially quite confusing, particularly when comparing the results of different cohorts with different prevailing life-course structures. Instead, it seems preferable to calculate the average dissimilarity of life courses per cohort and compare the results (Aisenbrey and Fasang 2010; Elzinga and Liefbroer 2007; Robette 2010; Fasang 2012). This approach has the advantage of providing clear and interpretable results, though the disadvantage is a high level of abstraction that does not allow identification of specific changes of states and events as their sequences are part of the overall process. For example, a possible result is that fertility destandardises, but it will not be clear whether this has been caused by an increase in the number of childless respondents or a reduction in the actual number of children.

Strong criticism concerning the use of OMA in the social sciences indicates that there is a need to carefully reflect on whether OMA is a suitable methodology for the current research question, and to select the exact specifications to be applied. For example, OMA in the social sciences has often been criticised for the lack of analogy between life courses and the sequencing of DNA – the main application of the methodology (see Aisenbrey and Fasang, 2010). However, OMA was originally developed in information theory to identify similarities and dissimilarities between strings of symbols, without making any assumptions about their meanings. Its suitability for analysing life courses should therefore not depend on analogies made between life courses and DNA. It is instead advisable to discuss whether the dissimilarity measured by OMA is measuring destandardisation in the way it is usually defined in the social sciences. I will base my analysis on the commonly used definition of Brückner and Mayer (2005: 31f.), who state that "destandardization would mean that life states, events and their sequences can become experiences which either characterize an increasingly smaller part of a population or occur at more dispersed ages and with more dispersed durations". This definition covers three aspects of destandardisation: (1) the occurrence, (2) the timing of states, and (3) the duration of episodes (i.e. the time between events). The duration of episodes is strongly linked to the timing of the events surrounding it; aspects (2) and (3) can thus be seen as one aspect representing timing.

The two aspects – occurrence and timing – are sometimes connected with the three central operations used in sequence analysis: deletions, insertions and substitutions (Lesnard 2006, 2008). OMA uses these operations to define the dissimilarity of two sequences, by counting the number of operations needed to transform one sequence into the other and, when required, weighting them with

a cost scheme. The relative costs of the different operations are of particular interest in this context: they represent the relative importance of the differences overcome by the operation. An example may help to explain this connection: the cost of deleting element A is set to one, while the cost of deleting element B is set to two. Life course X (without A and B) is now considered to be more dissimilar to life course Y (including B but not A) than to life course Z (including A but not B). Element B 'adds' more to dissimilarity of the life courses than the element A; therefore differences with regards to B are considered to be more important than differences with regards to element A. Insertions may be disregarded, as an insertion in one sequence corresponds to a deletion in the comparator sequence. Deletion of element X in the life course causes all elements which follow X to 'move back in time', i.e. occur at an earlier stage in the life-course sequence representation. Lesnard (2006, 2008) emphasised that deletions overcome dissimilarity in the timing of states and events, i.e. 'alter timing', but preserve the occurrence of states and events. This is true, so long as only parts of episodes are deleted and the events are preserved, for example when finding the longest common subsequence of AAABBC and ABBCCC, which is ABBC. On the other hand, it is impossible to avoid deleting total episodes: the longest common subsequence of AAAAAABB and ACCCCAAA is AAAA, where the episodes B and C are no longer considered. Thus, timing and occurrence can both be affected by deletions. Substituting one element of a sequence for another is said to preserve timing but alter the events (Lesnard 2006, 2008) as it leads to the disappearance of states and events but preserves their timing. This is correct if total episodes are substituted (for example when transforming ABBBBDDD into ACCCCDDD). It is, however, incorrect if AAABBC is transformed into ABBCCC, as in this case the timing of events is altered by using substitutions. The concept of pseudo-substitutions (Hollister 2009) illustrates the connection between the two operations: two deletions may be used instead of one substitution to transform one life course into another, e.g. ABC and ADC. Distinguishing between types of difference that are overcome by these operations is therefore highly questionable. To summarise, the connection between the dimensions of destandardisation and the elementary operations of OMA is not clear cut; timing and the occurrence of states are altered by both operations. This means that both operations represent both aspects (occurrence and timing) of destandardisation to possibly different extents.

Another criticism is the arbitrariness of the assignment of the (relative) costs to the operations, particularly with regards to the relative size of costs for substitutions and deletions, which favour the use of either substitutions or deletions. I have therefore decided to use the two operations separately from each other to examine the resulting differences. The difficulty of assigning (relative) costs to the substitution or deletion of different elements still remains. With regard to substitutions, attempts have been made to define the costs based on

theory, which from a methodological point of view requires quantitative data. Most life-course states are qualitative in nature and substitution costs therefore cannot be defined on a theoretical basis (Lesnard 2006, 2008). The number of children a respondent has or lives with is an exception, as it is of a quantitative nature; the city block distance could be calculated using the difference in the number of children the respondents has. The city block distance between state A (with one child) and state B (with three children) for example is two, e.g. the difference between the number of children of the respondent define the costs. This approach seems questionable, as it means treating the difference between no child and one child as equivalent to the difference between three and four children. I assume that the influence of the first child on the life of the respondent is higher than the influence of subsequent children. In a life course with three children, family plays an important role, which is expected to only slightly increase in importance with the addition of a fourth child. Respondents with one child, however, have considerably more constraints in their life as regards potential working hours than childless respondents. Because of this, I decided not to use the city block distance to calculate dissimilarity between fertility-related life courses, but to treat the number of children as qualitative information.

Other authors have suggested defining substitution costs based on transformation rates. This may be criticised for mixing synchronic and diachronic life-course perspectives (Halpin 2010). It is also often intuitively regarded as unreasonable, for example, when using the transformation rate from education to employment. A large proportion of the population in contemporary societies (if not all its members) leave education to enter the labour market at some point in their life course, the transformation rate is therefore high and the substitution costs low. However, the two states compared or substituted are still very different from each other. Furthermore, substitution costs have to be symmetrical (substituting element A with element B has to have the same cost as substituting element B with element A) in order to make the direction of comparison between life courses irrelevant. The transformation rates between education and employment in current societies differ considerably between the two directions; transformation-based substitution costs are therefore calculated on the basis of the average of the two (Rohwer and Pötter 1999, and applied in Widmer and Ritschard 2009). This implies mixing the two directions, which is questionable from a theoretical point of view in modern societies, in which most transitions are directional, i.e. individuals move through stages of their life courses in a specific sequence, and where the recurrence of earlier stages is uncommon (e.g. from full-time employment into full-time education) or even impossible (e.g. with regards to fertility or marriage). Indel costs are mostly kept stable in application of OMA in the social sciences, and different attempts to vary costs are dependent on (a) the type of state, (b) the length of the episode (Halpin 2010;

Rohwer and Pötter 1999) and (c) the surrounding elements ('localised indels', Hollister 2009, 247). To my knowledge, these suggestions have not been discussed in the research community, probably due to the fact that most caveats about varying substitution costs also apply to varying indel costs. They are therefore rarely considered in research and I have excluded them from analysis here. For this reason I use only use two dissimilarity measures based on simple versions of OMA:

1) Hamming distance: only substitutions are allowed and the cost of each substitution is one. Therefore, the Hamming distance counts the number of unequal positions in a sequence. The proportion of unequal positions shows the proportion of time during which respondents lived in different states (Hamming 1950, 1980).
2) Longest common subsequence: only deletions and insertions are allowed. The longest common subsequence of two life courses is identified by deleting all non-matching parts of two compared sequences.

Because of their simplicity, the measures are independent of the type of data to which they are applied. Despite trying to make as few assumptions as possible, the following can still not be avoided: by treating any substitution, deletion or insertion as equal by assigning similar costs, the dissimilarity of all states is considered equal. One may doubt that the difference between respondents is equal, when a person without children is compared to a person with one child, or to a person with eight children, or when a person living alone (not married, not cohabiting and with no children) is compared to a person without children and marriage but cohabiting or to a person married and cohabiting with children. The abstract analysis only measures the proportion of time in which life courses are dissimilar in any way, independent of the degree of dissimilarity during these periods. The proportion of times identifies the share of age-related quarters (e.g. first quarter at the age of 20), in which respondents experience dissimilar states (Hamming distance), and the share of time in which their life courses do not follow a similar pattern (longest common subsequence).

To be able to comparatively analyse the two measures, the costs for each deletion or insertion is set to half of the cost (0.5) of a substitution as applied in calculating the Hamming distance. The measures are normalised to 1 by dividing them through the length of the sequences (80). In this way an alignment using deletions and insertions only as pseudo-substitutions result in the same dissimilarity as the Hamming distance. This is, for example, the case in any two sequences with only one change in state at a different time, e.g. ABBBB and AAAAB. The greater the differences between the two measures, the more deletions are used for time-shift operations instead of pseudo-substitutions. More time-shift operations are likely to be applied if life courses are more complex, e.g. consist of more than two episodes with different start and end points but with a similar episode order. For example, using deletions or insertions at dif-

ferent points in AAABBBBA and ABBBBAAA or AAABBBC and ABBBCCC results in lower dissimilarity than when using them as pseudo-substitutions at the same time points of the sequence.

Analysis will be performed for each dimension separately, as well as for the combination of two and three dimensions. There are various ways of combining dimensions in sequence analysis, though a theoretically deepened discourse on their advantages and disadvantages is still pending. Generally, it may be distinguished by combining dimensions before, during or after comparison of sequences and calculating their dissimilarity based on OMA. Combining dimensions before analysis means incorporating multi-dimensionality into the definition of states and afterwards treating the combined states as similar to one-dimensional states. In this study the combination of fertility, cohabitation and marriage is represented by states composed of three elements: the first element indicates the number of (biologically own) children living in the household of the respondent, the second element represents the cohabitational situation (C = cohabiting, N = not cohabiting), while the third element specifies the marriage status (M = married, N = not married). If the status of the respondent is, for example, coded with "3CN" then this means that he or she has three children, is cohabiting with but not married to his or her partner. If only two dimensions are combined the status has only two elements. The advantage of this approach is that it implies treating the three life-course dimensions as interdependent. The disadvantage is that similarity of statuses can (when using the selected OMA specifications) only be described as a binary phenomenon (similar or not similar) and no gradation of dissimilarity can be determined.

Combining the dimensions during comparison means that dissimilarity for each age stage is defined as the number of dimensions in which differences occur (for a similar approach see Robette 2010). The total dissimilarity in the life course is the average dissimilarity of all life stages examined; this approach is therefore implemented as a type of OMA using substitutions. The results are in most cases similar to those of the third approach, if the dimensions are combined after the dissimilarity is identified for the whole life course in each dimension. The most important advantage of the second and third approach is that a gradual degree of dissimilarity can be defined, even for qualitative data, by identifying the share of different dimensions. A criticism of this approach is that different parts of the life course are not treated as interdependent, but as parallel developments. The third approach (calculating and combining two dissimilarity matrices) has the additional advantage that deletions may also be used as transformational operations, and it is therefore preferred over the second approach.

The first and the third approach are selected for analysis here, and life-course dimensions shall be treated as interdependent by using joint states for calculating one dissimilarity matrix, independently calculating separate dissimi-

larity matrices for each dimension, and then combining them afterwards. Combination will be achieved by adding the matrices (without weighting), and by treating dissimilarity in all of the three of the interpreted dimensions as equally important. The resulting average dissimilarity will be equal to the average of the dissimilarity measures of the one-dimensional sequences. It will therefore only be apparent for the three-dimensional sequences, as it can be estimated relatively easily for two-dimensional sequences. The comparison of the two selected approaches to combining life-course dimensions should reveal important insights into whether dissimilarity occurs within or between dimensions, i.e. different ways of combining dimensions. Because of the nature of the measures used (differences between life courses calculated pairwise), bootstrapping confidence intervals of 90 per cent will be used to assess the reliability of the data. They will be calculated from 1000 randomly selected samples, taking into account the sizes of respective cohorts (Efron and Tibshirani 1993; Carpenter and Bithell 2000).

DATA AND PREPARATION FOR ANALYSIS

The methodology (comparison of gender, dimensions and modes of combination) requires examination of developments in each country, which restricts the number of countries that may be properly analysed due to the sheer amount of data that would have to be described. Most countries for which data of the first wave of the GGS are available are from eastern Europe. Differences as regards dissimilarity of family formation are less pronounced in eastern Europe than in western Europe (Elzinga and Liefbroer 2007). Analysis of eastern European countries is therefore less likely to reveal interesting insights, and the influence of short-term variations or differences in the distribution of the respondents randomly selected for participation in each cohort would have hindered interpretation of results. All eastern European countries are therefore excluded from the analysis. Germany is excluded from the analysis because of doubts concerning the reliability of the retrospective data (Sauer et al. 2012; Kreyenfeld et al. 2013). Belgium is excluded because it resembles France in many aspects of family formation. As a result, data of the first wave of the GGS from Norway, France and Italy are selected for analysis. Some of the hypotheses have been partly investigated in previous research (mainly Elzinga and Liefbroer 2007; Robette 2010), but different methodological approaches were used and not all hypotheses can be evaluated based on their results. The hypotheses are therefore evaluated again using the methodological setup described above, while prior research results will support the analysis.

Respondents are categorised into cohorts of five years to ensure that each is of a sufficient size, as well as to smooth out short-term fluctuations and enable

focus on relevant long-term developments. Family formation is analysed for ages 15 to 35 for cohorts born between 1935 and 1969. Older cohorts are excluded, because the size of the cohorts is too small to generate meaningful results. It would have been interesting to include a longer period (e.g. up to age 40), but this would have meant excluding more of the younger respondents. As change between cohorts is of particular interest, it was decided to restrict the length of the life-course period rather than the cohorts examined.

I have included three dimensions - fertility, cohabitation and partnership - so as to enable focus on family formation. In the first dimension, only (biologically) own children (e.g. no step or foster children), are incorporated, as they are most relevant and important for the respondent. As the focus of the analysis is on the first years of the family life only, it is expected that step and foster children are of minor importance. Children are only considered if they live in the household of the respondent and it is assumed that children living in the household of the respondent have the greatest impact on their life (course). The differences based on the number of biological children independent of living arrangements are small; supplemental analyses revealed that in all cohorts in the countries examined most children lived together with both parents up to their 35th birthday. In analysing fertility I distinguished between 0,1,2,3 ... (biologically) own children living in the household of the respondent. In the second dimension, cohabitation, I distinguish between single people and couples living together regardless of marriage. Singles and couples living apart together (LAT) are not distinguished, as it is hard to find a commonly accepted definition of LAT relationships and therefore hard to identify their exact start and end. The third dimension covers marriage. This dimension distinguishes between respondents formally married or not, regardless of their cohabitational status. In order to ease comparison between countries, other forms of official partnerships (e.g. PACS in France) are not considered. In any case, their effect would have been small because only few of the younger respondents opted for this type of partnership.

Some data were missing and had to be inserted to enable realistic comparison. In Italy, the birth of the child was taken as the starting point of the respondent living together with the child. In other countries the start of the episode, in which the respondent lived together with the child, was reported separately. As most children in Italy are born to cohabiting and married partners, children are most likely to live together with both parents from the beginning. Divorces were not reported explicitly in Norway, and the missing data were replaced by information about the end of the relationship; the two events are expected to be closely connected in most cases and divorce is not very common before respondents' 35th birthdays. In Italy, the month of the divorce was not reported for any respondent, and it is therefore replaced by the dummy entry 'June'. In the examined age period (15–35), only a few respondents divorced

and the influence of the missing information on the overall results is therefore expected to be small. In Norway, and to a lesser extent France, the months or even years of birth or leaving home of children and the months of the beginning or end of cohabitation or marriage were missing among older respondents. The month of the end of a relationship was sometimes missing in Italy. The data would have been biased if all of these events had been ignored; life courses in the older cohorts would appear less differentiated than they actually were in reality because respondents with many children or relationships are more likely to have forgotten the exact dates of their events and therefore be excluded. This would hamper realistic estimation of the differences between younger and older cohorts, a reason for replacing seasonal information by the middle month of the season and missing months by the dummy month of June.

Table 1
Sample size by cohort, number and share of respondents excluded from analysis

Country, birth cohort		Men				Women			
		Sample Total	Excluded (nr)	Excluded (%)	Sample analysed	Sample Total	Excluded (nr)	Excluded (%)	Sample analysed
France	1935–39	287	3	1.05	284	371	1	0.27	370
	1940–44	315	5	1.59	310	364	3	0.82	361
	1945–49	437	12	2.75	425	512	8	1.56	504
	1950–54	409	9	2.20	400	549	5	0.91	544
	1955–59	403	6	1.49	397	543	10	1.84	533
	1960–64	417	14	3.36	403	517	9	1.74	508
	1965–69	467	7	1.50	460	574	5	0.87	569
Norway	1935–39	415	11	2.65	404	410	9	2.20	401
	1940–44	568	10	1.76	558	535	16	2.99	519
	1945–49	688	16	2.33	672	647	9	1.39	638
	1950–54	657	8	1.22	649	709	10	1.41	699
	1955–59	678	13	1.92	665	711	10	1.41	701
	1960–64	669	10	1.49	659	742	16	2.16	726
	1965–69	797	12	1.51	785	842	15	1.78	827
Italy	1935–39	126	5	3.97	121	193	6	3.11	187
	1940–44	422	7	1.66	415	673	20	2.97	653
	1945–49	493	17	3.45	476	597	15	2.51	582
	1950–54	446	14	3.14	432	494	19	3.85	475
	1955–59	549	13	2.37	536	545	22	4.04	523
	1960–64	576	13	2.26	563	619	19	3.07	600
	1965–69	524	4	0.76	520	649	17	2.62	632

Source: GGS, own calculations.

For a number of children, particularly in the older cohorts, it was not possible to determine the date of leaving the parental home. In all cohorts the majority of children leave the parental home long after the 35th birthday of their par-

ents. Therefore the missing events were replaced by the median age of the respondents at the time of the children leaving home, which was in all cohorts above the age of 35 and therefore does not affect the examined period. The remaining cases, in which information on children or relationships was missing or contradictory (e.g. the child leaving home before its birth) were excluded. The total share of respondents excluded did not exceed four per cent in any of the cohorts; it was not systematically higher in older than in younger cohorts (see Table 1). The exclusions therefore do not distort comparison between cohorts. Men and women are analysed separately, because their family-related life courses are expected to be considerably different. Men tend to start relationships and fertility later than women, while children are more likely to remain with their mother if the parents separate.

RESULTS

The dissimilarity indicated by the Hamming distance is usually higher (though in certain cases equal) than dissimilarity measured by the longest common subsequence. This is due to the fact that two deletions may be used as pseudo-substitutions, and the transformation of one sequence into another can be optimised by deleting the respective elements in only one of the sequences. Both measures reveal a similar pattern of change in phases and relative sizes. This supports the assumption that both operations overcome both kinds of possible dissimilarities between life courses (timing and occurrence of states), and that the attribution of any of the two to a specific kind of similarity or dissimilarity could be misleading. Because of the similar interpretations of the results of both measures, Tables 2 and 3 display only the Hamming distance. The dissimilarity measures indicate the share of age-related quarters, in which respondents experienced the same state with regards to the relevant dimension. For example: two French women born between 1935 and 1939 spent on average 63 per cent of their time in different states and 37 per cent in similar states (Table 3, row 3, column 3) when dimensions are combined before the analysis. They spent 30 per cent of their time in dissimilar states in the dimension cohabitation (Table 2, row 3, column 3), 32 per cent of their time in the dimension marriage (row 11) and 53 per cent in the dimension fertility (row 19), resulting in an average of 0.38 if dimensions are combined after analysis (Table 3, row 11, column 3). Average dissimilarities of three-dimensional sequences, in which the dimensions are combined a) in the definition of states (before comparing sequences), and b) after the calculation of an independent dissimilarity matrix for each dimension, are shown in Table 3 for three-dimensional life courses. The latter are not shown for two-dimensional life courses, as these values are easily estimated based on the one-dimensional life courses and are

not needed for evaluating the hypotheses. Dissimilarities based on independent dimensions are lower, because similarity in one dimension is considered even if the respective sequences are dissimilar in any of the other dimensions. Significant changes are marked in grey, the direction is indicated by "+" (increase of dissimilarity = destandardisation) or "-" (decrease of dissimilarity = standardisation).

Interpretation of the three-dimensional life courses (Table 3, to evaluate Hypothesis 1 and part of Hypothesis 5) is easier, based on the knowledge about the one- and two-dimensional life courses (Table 2). I therefore start by evaluating hypotheses 2 to 5.

As suggested by the results of Robette (2007), Hypothesis 2 is verified, indicating an almost continuous decrease of dissimilarity of fertility-related life courses, presumably due to the postponement of fertility and leading to fewer events in the period of the life course examined (age 15 to 35). Standardisation is strongest among French and Italian women (reduction of 0.11 from 0.53 to 0.42 for French and from 0.46 to 0.35 for Italian), and least strong among French men (reduction of 0.06 from 0.39 to 0.33). Among some of the older cohorts slight (though insignificant) tendencies to destandardise are reported (French men, Italian women, Norwegian women). Among younger cohorts the differences (decreasing dissimilarity) are higher and significant (based on 90 per cent bootstrap confidence intervals) between a number of cohorts. The small level and temporary destandardisation therefore does not justify a rejection of Hypothesis 2.

Table 2

Average dissimilarities by country, cohort and gender for one- and two-dimensional life courses of fertility, cohabitation and marriage

	Type of sequence		One-dimensional sequence "cohabitation"							Two-dimensional sequence "cohabitation and fertility"						
	Cohort (born 19..–19..)		35–39	40–44	45–49	50–54	55–59	60–64	65–69	35–39	40–44	45–49	50–54	55–59	60–64	65–69
Hamming distance	France	Women	0.30	0.31	0.32	0.33	0.35	0.34	0.34	0.62	0.62	0.62	0.62	0.61	0.60	0.58
		Men	0.26	0.28	0.28	0.30	0.33+	0.32	0.32	0.49	0.52+	0.52	0.54	0.52	0.48-	0.50
	Italy	Women	0.27	0.27	0.29	0.32-	0.32	0.32	0.31	0.54	0.54	0.55	0.56	0.54	0.51-	0.46-
		Men	0.26	0.25	0.27+	0.27	0.27	0.27	0.27	0.42	0.40	0.42	0.38-	0.39	0.35-	0.35
	Norway	Women	0.34	0.33	0.30	0.31	0.33	0.33	0.34	0.61	0.61	0.59-	0.61+	0.61	0.60	0.59
		Men	0.30	0.28	0.28	0.31+	0.31	0.32	0.32	0.51	0.50	0.51	0.51	0.52	0.50	0.50
	Type of sequence		One-dimensional sequence "marriage"							Two-dimensional sequence "marriage and fertility"						
	Cohort (born 19..–19..)		35–39	40–44	45–49	50–54	55–59	60–64	65–69	35–39	40–44	45–49	50–54	55–59	60–64	65–69
Hamming distance	France	Women	0.32	0.32	0.34	0.35	0.37	0.36	0.33-	0.62	0.62	0.62	0.62	0.59-	0.56	0.52-
		Men	0.26	0.28	0.29	0.32	0.33+	0.28	0.27	0.49	0.51+	0.52	0.52	0.48-	0.40-	0.41
	Italy	Women	0.27	0.27	0.29	0.32	0.32	0.32	0.30	0.53	0.54	0.55	0.55	0.53	0.50-	0.45-
		Men	0.26	0.24	0.26+	0.27	0.26	0.26	0.25	0.42	0.40	0.41	0.37-	0.37	0.34-	0.33
	Norway	Women	0.34	0.33	0.32	0.34	0.36+	0.34-	0.31-	0.60	0.60	0.57-	0.58	0.58	0.56-	0.52-
		Men	0.30	0.29	0.29	0.32+	0.31	0.27-	0.24-	0.50	0.50	0.50	0.49	0.47	0.42-	0.41
	Type of sequence		One-dimensional sequence "fertility"							Two-dimensional sequence "marriage and cohabitation"						
	Cohort (born 19..–19..)		35–39	40–44	45–49	50–54	55–59	60–64	65–69	35–39	40–44	45–49	50–54	55–59	60–64	65–69
Hamming distance	France	Women	0.53	0.53	0.52	0.51	0.48-	0.45	0.42-	0.34	0.35	0.38	0.41	0.47+	0.49	0.50
		Men	0.39	0.42	0.43	0.42	0.37-	0.31-	0.33	0.28	0.31	0.33	0.38+	0.43+	0.44	0.45
	Italy	Women	0.46	0.47	0.47	0.46-	0.43-	0.39	0.35	0.28	0.28	0.31	0.34+	0.35	0.35	0.33
		Men	0.33	0.32	0.33	0.28-	0.28	0.24-	0.23	0.32	0.28-	0.29	0.29	0.29	0.28	0.30
	Norway	Women	0.51	0.52	0.50	0.51	0.48-	0.46	0.44-	0.36	0.36	0.34	0.39+	0.46+	0.48	0.50
		Men	0.42	0.42	0.43	0.40-	0.38	0.34-	0.34	0.31	0.32	0.33	0.39+	0.42+	0.44	0.44

Source: GGS Wave 1, own calculations.

Different developments are found with regards to *one-dimensional life courses of cohabitation and marriage*: moderate destandardisation among French and Italian women (increase of 0.05 with regards to cohabitation and marriage until the cohort born between 1955 and 1959), followed by restandardisation with regards to marriage (decrease of 0.04 in France and 0.02 in Italy). The development is similar among French men. Among Italian men the level of dissimilarity is fairly stable, with temporary fluctuations between 0.24 and 0.27. Stronger fluctuations are found in Norway (between 0.31 and 0.36), but no clear mid- or long-term trend can be identified. French and Norwegian men and women show a consistent and strong destandardising trend for *two-dimensional partnership life courses* (marriage and cohabitation treated as dependent dimensions, combined before analysis). However, changes are only significant for cohorts born between 1945 and 1959, and small between other cohorts. In Italy, only moderate destandardisation is found among women. Hypothesis 3, which assumes destandardisation of partnership based on the combination of cohabitation and marriage, is therefore only partly supported. Its main assumption, that the existence of destandardisation mainly stems from the combination of cohabitation and marriage, is verified for France and Norway. For France, destandardisation in cohabitation and the combination of de- and restandardisation in marriage falsifies the assumption that the increasing variety of combinations of the two dimensions are the *only* source of destandardisation. Standardisation with regards to marriage between the three youngest Norwegian and French cohorts was not expected, but does not contradict Hypothesis 3. The latter is, however, clearly not supported by the Italian results, where moderate changes can be seen (destandardisation among women, stability among men except for the youngest and oldest cohorts). In fact, the latter result is reasonable considering the fact that marriage and cohabitation are still strongly connected in the more traditional culture of family formation in southern Europe. Destandardisation as regards partnership is strongest among respondents born between 1945 and 1959, i.e. appeared between 1960 (oldest respondents reached the age of 15) and 1994 (youngest respondents reached the age of 35). The changes presumably took place mainly in the 1970s and 1980s, during which the majority of respondents lived through their twenties.

Hypothesis 4 expects destandardisation of *two-dimensional life courses combining cohabitation or marriage with fertility*, but it is not supported by the results. Life courses standardise in most groups and are stable in some groups (French men and Norwegian men and women), especially in the younger cohorts due to the dominating influence of fertility standardising and the at most moderate changes with regards to any of the two partnership dimensions. Hypothesis 5 is supported: women have more destandardised life courses than men in all of the (combination of) dimensions considered, differences are significant based on 90 per cent bootstrap confidence intervals in almost all co-

horts analysed. The differences are smaller with regards to partnership than fertility. The three-dimensional life courses reflect gender differences in fertility and are also high (dependent dimensions) or moderate (independent dimensions); destandardisation of partnership dimensions more strongly influence the results.

Table 3

Average dissimilarities (Hamming distance) by country, cohort and gender for the combination of three dimensions (fertility, cohabitation and marriage)

Type of calculation		a) Three-dimensional states, dimensions combined before analysis (dimensions interdependent)						
Cohort (born 19..–19..)		35–39	40–44	45–49	50–54	55–59	60–64	65–69
France	Women	0.63	0.63	0.63	0.64	0.65	0.65	0.64
	Men	0.50	0.53+	0.55	0.56	0.55	0.52	0.55
Italy	Women	0.54	0.54	0.56	0.56	0.54	0.51-	0.47-
	Men	0.44	0.41	0.42	0.39-	0.40	0.36-	0.36
Norway	Women	0.61	0.62	0.60-	0.63+	0.64	0.65	0.64
	Men	0.51	0.51	0.53	0.54	0.55	0.53	0.54
Type of calculation		b) Dissimilarity calculated by dimension, combined after analysis (dimensions independent)						
Cohort (born 19..–19..)		35–39	40–44	45–49	50–54	55–59	60–64	65–69
France	Women	0.38	0.38	0.39	0.40	0.40	0.39	0.36-
	Men	0.30	0.33+	0.34	0.35	0.34	0.30-	0.31
Italy	Women	0.33	0.34	0.35	0.37	0.36	0.34	0.32-
	Men	0.28	0.27	0.29	0.28	0.27	0.26	0.25
Norway	Women	0.40	0.39	0.37-	0.39	0.39	0.38-	0.36-
	Men	0.34	0.33	0.33	0.34	0.33	0.31-	0.30

Source: GGS Wave 1, own calculations.

The patterns of reported change are similar between countries and gender for three-dimensional life courses and mainly support Hypothesis 1: after a phase of destandardisation, a period of restandardisation is indicated among the youngest two cohorts in France and youngest three cohorts in Norway. Initial destandardisation is only seen among Italian women, while standardisation is found for the majority of male cohorts, with some not significant short-term fluctuations indicating destandardisation. Combined after analysis, the changes among the younger cohorts are significant for most respondent groups for independent dimensions in France and Norway, but not for dependent dimensions combined before the analysis. This is due to the fact that standardisation of fertility is more directly reflected in the measures based on independent dimensions than in the measures based on dependent dimensions, and that destandardisation of the increasingly varying combinations of cohabitation and marriage prevent stronger restandardisation of the measures based on dependent dimensions. Only in Italy are significant changes between cohorts for dissimi-

larity found (based on dependent dimensions), reflecting the fact the partnership life courses do not destandardise as strongly there as in the other countries.

My results therefore differ somewhat from those found in other research. When one considers differences in the methodology this is reasonable. Restandardisation did not, for example, appear in the analysis of Elzinga and Liefbroer (2007), presumably because the youngest cohort in this study was not part of the analysis and the design of the states was different (only distinguishing between respondents with or without children, regardless of number). On the other hand, Robette (2010) also analysed respondents born between 1966 and 1969, and distinguished between four fertility-related states (no child, one, two, and three or more children) and found restandardisation of conjugal and multi-dimensional (including non-family-related) life courses among the youngest female French cohort, but stability among the youngest French male cohort. My results reflect his findings, also in terms of standardisation of fertility.

Despite Hypothesis 1 being supported by the results of the multi-dimensional analysis, the results of the one- and two-dimensional analysis suggest that the interpretation of alternating phases of destandardisation and restandardisation is not a good description of the processes of change. This is due to the fact that the phases result from a combination of different unidirectional developments within the areas of partnership (destandardisation) and fertility (standardisation), of which each dominates the other in specific cohorts. It would therefore seem advisable to describe both trends separately. The broad description of family formation experiencing a phase of destandardisation and restandardisation could be misleading, as it suggests that earlier developments are reversed later on, which is actually not the case.

SUMMARY AND CONCLUSIONS

Family formation in Italy, Norway and France was compared based on data of the first wave of the GGS. The main aim was to examine the suggested modifications of the hypothesis of destandardisation, by comparing countries, and to find out whether the findings can be generalised. The modifications referred mainly to hypotheses on restandardisation of life courses as well as differences between life-course dimensions and their combinations within the area of family formation. Simple versions of OMA (Hamming distance and longest common subsequence) were used to calculate average dissimilarities between cohorts, and 90 per cent bootstrap confidence intervals were applied to assess the reliability of the changes between cohorts and differences between genders.

The most general hypothesis assumed restandardisation of family formation following a period of destandardisation. France and Norway followed a similar pattern of destandardisation and restandardisation as regards three-dimensional

family-related life courses (including cohabitation, marriage and fertility). In Italy, only female life courses initially destandardised. Destandardisation was mainly moderate and not significant, supporting prior research that standardising effects remain dominant (Kohli 2007). In the light of this research, the hypothesis concerning alternating phases of destandardisation and restandardisation is not plausible, because the phases are a result of the combination of two dimensions in which unidirectional developments are identified. Significant destandardisation was found only for the two-dimensional partnership-related life courses of respondents born between 1945 and 1959, who mainly formed relationships in the 70s and 80s. Destandardisation therefore seems to have been a temporal phenomenon, mainly caused by the loosening of connections between marriage and cohabitation. The data showed no restandardisation, but a stabilisation of dissimilarity with regards to partnership formation and the connection between marriage and cohabitation remained loose. Young men still have more standardised life courses than young women in terms of family formation, presumably due to some events occurring at later stages of their lives. The consistent standardisation of fertility (alone or in combination with marriage or cohabitation), as well as the restandardisation of one-dimensional life courses of marriage and cohabitation suggest specifying the destandardisation hypothesis as follows: *the standardising effects of fertility reductions remain highly influential with regards to family formation in Europe, interrupted by a phase of destandardisation due to loosening connections between marriage and cohabitation in the 70s and 80s. In southern Europe, only women are affected by temporary destandardisation, while male family-related life courses continuously standardise.*

Conclusions are only based on analysis of three countries for which reliable data of the first wave of the GGS are available. Because these countries represent different European regions and therefore a variety of contexts, they might represent general European trends. However, analysis of more countries is needed to test whether the conclusions are generalisable or whether they are specific to France, Norway or Italy. Developments in Italy appear to be particularly different from those in Norway and France, highlighting the fact that institutional contexts can play an important role in the processes related to family formation, and further investigation of the influence of specific institutional surroundings are needed.

The results of this research contradict some of the conclusions of previous research. However, these results are based on different definitions of life-course states, different measures of life-course dissimilarity and partly different ages of the life course (starting at age 15 or 18 and ending at age 30 or 35). Destandardisation in this analysis was sometimes found to be more influential (for example Elzinga and Liefbroer 2007), though other researchers have found differing developments with no clear support for either the destandardisation or the

standardisation hypotheses (Schizzoretto and Lucchini 2002). I assume that these different findings mainly result from different ways of incorporating fertility into analysis. In this paper I used the total number of own children living in the household of the respondent, therefore distinguishing up to ten different fertility states. Other researchers have only distinguished between respondents with or without children (Elzinga and Liefbroer 2007), or between four states (without, with one, with two, with three or more children; Robette 2007). The latter research, which more closely resembles the approach taken here, also reported standardisation of fertility-related life courses for French men and women. In my analysis, older cohorts were found to be even more destandardised with regards to fertility than in previous research, because differences between families (with more than three children) were also considered. Greater destandardisation is sometimes a result of analysing different life-course stages; for example Elzinga and Liefbroer (2007) analysed life courses up till the age of 30 and destandardisation of partnership formation was therefore assumed to be more influential. Overall, the influence of standardising fertility was therefore more influential in this paper than in previous research. This is important, because the postponement and reduction of fertility is reflected better. The conclusions are in line with summaries of previous research (notably Kohli 2007) but add value in terms of sources of standardisation, restandardisation and temporal destandardisation within the field of family formation, as well as by analysing the phenomenon holistically with different configurations of sequence analysis and using comparative international data.

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REVIEWS

BOHLE, DOROTHEE and GRESKOVITS, BÉLA (2012): *Capitalist Diversity on Europe's Periphery.* Cornell Studies in Political Economy. Ithaca-London: Cornell University Press, 304 pages.

This book on the political economy of "resource-poor small states" (268) of post-socialist East Central Europe, by the virtue of its very title, puts the problems of post-socialist societies both into a global context as well as into the framework of mainstream scholarship. This helps overcome the idiosyncrasies of both post-Sovietology and transitology by subjecting these transformations to fully-fledged comparative analysis. Hence, it was well-deserved that this title received the 2013 Stein Rokkan Prize for Comparative Social Science Research, awarded for the irrevocable scholarly transformation of transition studies.

With the benefit of 20 years of hindsight, and the illuminating light cast on capitalism by the contemporary world economic crisis, the authors developed a set of Karl Polányi-inspired ideal types and used them as yardsticks to study capitalist diversity on the (new) European periphery.

This exercise is Weberian ideal type building at its best. (So much so that one is tempted to use it in a Max Weber BA course to demonstrate the applicability of Weber's methodology to his theory of capitalism in the contemporary world.) The four models, the neoliberal regime (the Baltic states of Estonia, Latvia and Lithuania), embedded neoliberalism (the Visegrád countries of Hungary, Slovakia, the Czech Republic and Poland), the neocorporatist regime (Slovenia) and the weak state model (Croatia, Romania and Bulgaria) are developed along six dimensions that the authors deem the crucial structural and formative forces at play. Three of these dimensions are directly adapted from Polányi's Great Transformation (1944): politics, protection and market, where the issues at stake are government accountability vs. state capture, welfare state protection vs. pauperisation and market efficiency vs. commodification. The original triad is extended into a hexagonal "diamond" where the factors democracy (representation vs. ungovernability), corporatism (interest mediation vs. rent seeking) and macro-economic co-ordination (stability vs. straightjacket) are added. The four ideal types are designed by attributing certain qualities along these six dimensions to produce a heuristic device that is "utopic" in the sense that it does not exist in reality but serves the purpose of enabling "logical" comparison with reality, thereby avoiding the passing of judgements from the perspective of some "paragon" (to use Weber's own formulations).

The authors do not extrapolate from empirical evidence when designing their research tools – the data used throughout the book are secondary, with a modicum of added calculations by the authors. The most important quantitative

contribution, six-dimensional indexing (23), however, is not transparent: the scales, the scale values for each case and the calculation methods are not disclosed. The only thing that is communicated is the visualisation of empirical results: the four images convey the extent to which the hexagonal shapes, "capitalism at its best", are filled in (or not) by the Baltic states' average scores for the neoliberal diamond, the Visegrád countries' average scores for the embedded neoliberal diamond, South-east Europe's average scores for the weak state diamond, and Slovenia's scores for the neocorporatist diamond – the latter practically covers it all, revealing a hint of bias after all. The fact that the authors do not disclose the numbers here is certain to disappoint empirically minded readers. By contrast, the authors do a wonderful job when it comes to narrative analysis of actors (the main thrust of the book): the events, dynamic processes and explanations of outcomes in the course of the empirical substantiation of arguments. Eloquently written, the text is full of memorable formulations, witty remarks and a light-hearted, even playful use of language in spite of the serious subject matter being discussed. In short, the book is a pleasure to read.

The structure is straightforward: the Introduction, along with Chapters 1 and 2 are devoted to designing the analytical framework of Weberian ideal types. Chapter 3 empirically sketches out the logic of the "marriage between nationalism and neoliberalism" in the neoliberal regimes of the Baltic states. A strong devotion to market reforms, fiscal stability (with harsh austerity when necessary) and meagre compensation for the social costs of transformation characterises this regime type. Chapter 4 substantiates empirically the dynamics of how welfare embeds neoliberalism in the Visegrád countries: while fundamentally pro-market, with its capitalism essentially based on foreign direct investment (FDI) by transnational companies (TNCs), this regime also features an extensive welfare state that redistributes wealth according to varied policy ideals. Chapter 5 is devoted to analysis of neocorporatist Slovenia, where labour, domestic business and other organised interests co-decide on the very industrial and economic policies that are non-negotiable in the previous two regimes – resulting in more welfare- than market-oriented measures. Chapter 5 also contains a discussion of the weak states of Croatia, Romania and Bulgaria of the South-east European region: after an initial period of economic and political disorder during the 1990s, characterised chiefly by the weakness of state institutions, Croatia moved towards embedded neoliberalism, while Romania and Bulgaria more or less assumed the regime posture of neoliberalism. Chapter 6 highlights regime characteristics and regime transformations in light of the current economic crisis, while the concluding chapter draws out the approach's implications for the study of contemporary global capitalism writ large.

The six dimensions are stitched together into something of a patchwork, instead of a solid, theory-driven analytic framework: each dimension essentially rests on adapting a recent interpretive framework from a relevant disciple. In

this sense the book is fundamentally multidisciplinary. Given, however, that it has been ultimately conceived as an accomplishment in the field of political economy, it comes as no surprise that the theoretical, conceptual and empirical apparatus of the book is strongest on these edges of the diamond. Most of the secondary data and thus most of the tables carry information about market processes, most importantly on FDI trends, macro-economic co-ordination, corporatism and related issues such as location competition. What is missing is an evaluation of the role of EU funds, which amounted to some 3-4 per cent of GDP in the countries of this region between 2007 and 2013. .

As far as discussions about welfare regimes are concerned, the social implications of the pension revolutions are nicely pulled out. We might add, though, that pensions also act as a form of family support via intergenerational household financial transfers – a point overlooked in the detailed analysis juxtaposing young vs. old cohorts, pointing to the pressing need for policy responses to the demographic dynamic of ageing.

Although the analysis of the labour market is not as robust as that of the realm of capital, the authors do prepare the ground for social structure research by establishing the "structural constraints of society" that mainstream occupational class analysis is predicated upon, including the EGP scheme as well as the European Social-economic Classification. Most importantly, the book is a major point of reference in describing the structural constraints of society as transnational these factors play themselves out in important ways primarily in the European realm, both in terms of capital and labour, but capital and labour processes also need to be understood on the global level. In addition, the authors make a vital contribution to understanding the structural position of labour: beyond the low-skill, high-skill divide, they offer evidence of the fact that labour markets are segmented by sectors with strong regional demarcations where the borders are drawn by a league of TNCs, not the League of Nations (or its successors). Along this line, one of the most important empirical results that emerges from the book is the formation of an economic powerhouse extending from south-west Poland, over much of the Czech Republic to the north-west of Slovakia and Hungary, based on complex manufacturing and services propelled by sturdy FDI inflows that exploited socialist legacies of manufacturing industries and a trained work force.

Arguably the central empirical result for social structure analysis purposes, the identification of a regional economic powerhouse, is not brought to full consequences for understanding the dynamics of regional inequalities within the various types of capitalisms identified – e.g. how welfare policies have responded, if at all, to the vast differences resulting from the emergence of this powerhouse and the miserable fate of "poor houses" tucked away e.g. in north-east and south-west Hungary, east Slovakia, etc. Turning the issue into one of social structure analysis *per se*, the fundamental positions of capital and labour

are to be complemented by another fundamental stance – that of social exclusion. As varied as the positions within the other two fields are, the defining structural characteristic of socially excluded positions is that they are located outside the labour market.

It is in this context that the painfully missing issue of migration is to be noted. Only when discussing the current crisis does it come up at all (231, 244), and even then only as an option of "mass exit" for those hit hardest by the economic crisis. I would submit that the radical social restructuring resulting from domestic and regional migration and the "free" movement of labour in the European realm calls for the most complex and well-funded policy responses – an issue that should certainly interest the authors of the book.

Related to the issue of regional inequalities, the role of EU funds is to be recalled again. In those regions of the Visegrád countries that have been largely unaffected by FDI or domestic capital investments, EU funds constitute the largest source of financial resources both for the private and the public sector. Connected to this, another implication for occupational social structure analysis is the related issue of the emergence of an increasingly important group of actors, the project class. These professionals play a mediating role in the transfer of EU funds (and other public monies distributed in a projectified manner) to beneficiaries, while at the same time coming to share the power of traditional political and economic elites (Kovách and Kucerova 2009).

In closing, we would like to point out a possible extension for a second and enlarged edition of the book. The authors go to great lengths to demonstrate the formative role of political agency in initial regime-defining choices and in the course of adaptation to the challenges posed by crises and transnationalisation. However, readers would have been further enlightened by a succinct rendering of the political systematic background of domestic political agency in the new democracies. What is (largely) missing from the book is an "introduction to political science 101" type of summary of how single member district vs. party list electoral systems typically produce two party vs. multiparty parliaments that typically have single party vs. coalition governments, and most importantly, what the role of prime ministers is against this background (of mixed regimes, if that is the case, as in Hungary). The examples of processes of party formation and political competition during the "return to hard times" of the world economic crisis (235–255) would have been more comprehensible when put into the context of a "democratic diversity" analytical framework.

It would also have been helpful to provide an explanation for the hyper agency detectable around centres of political power occupied in many parliamentary democracies by quasi-presidential prime ministers, exemplified by Tony Blair (Körösényi and Paulski 2012). Such a transformation has allowed for novel modes of political agency, as quasi-presidential prime ministers do not have to seek compromise with legislative bodies and fear deadlock like in

pure presidential regimes based on dual democratic legitimacy: quasi-presidential prime ministers run the same term of office as the legislature(s), above whom they are elevated by the electoral machinery in the course of a personalised political campaign, and above whom they govern in direct personal contact with the electorate via mass media (and increasingly the social media). That leaves ample room to manœuvre around objective weaknesses and threats, and to exploit strengths and opportunities provided by the new capitalist epoch, even in its crisis-ridden format.

The volume is rich in historical, intellectual, political and anecdotal detail, provided in proportion to the issues at hand. Another great service delivered by the book is its comprehensive review of up-to-date literature (almost exclusively in English, with some exceptions in the authors' mother tongues, German and Hungarian) in the academic fields that have a bearing on establishing the dimensions of the analytical framework or when empirically substantiating the body of arguments. Scholars of any of the social sciences will find this volume a useful reference point when writing about transition societies – or even the fate of mainstream capitalisms for that matter.

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Katalin Füzér

LEE, RONALD D. and MASON, ANDREW (eds.) (2011): *Population Aging and the Generational Economy: A Global Perspective*. Cheltenham UK – Northampton MA: Edward Elgar, 598 pages.

Global population aging – caused primarily by fertility decline and increasing survival at older ages – will profoundly change the age structure of societies. Aging is an unprecedented, long-term demographic phenomenon: it has never been experienced before and is unlikely to be reversed in the future (Uhlenberg 2005). There is a rising concern about aging because it implies changes regarding the economic and social well-being of societies. In response numerous policy-oriented research programs on topics related to aging have been initiated over the last twenty years. One of these is the National Transfer Accounts Pro-

ject (NTA),[1] which is a large-volume joint-research effort by researchers from around the world (Asia, Latin-America, America, Africa and Europe). NTA is an innovative investigation that analyses the economic consequences of the changing population age structure. By examining the age patterns of economic activity and delineating inter-age transfers, it explores the economic relations between generations. How do different age groups acquire and use economic resources and how does this pattern of resource acquisition change with population aging? These are two main questions the project aims to answer.

The two founders and coordinators of NTA – Ronald Lee and Andrew Mason – are the editors of *Population Aging and the Generational Economy: A Global Perspective*,[2] which presents the first results of the project. They have long been studying the role of age distribution in macroeconomic issues. The volume builds upon their work as well as papers written by authors featured in the book. Since the book's publication in 2011, members of the NTA project published numbers of articles discussing new results, too.

Lee and Mason provide detailed theoretical explanations, conceptual foundations and a description of the key findings in the first section of the book. Section II presents and discusses comparative results, the estimates of economic activities, transfers and reallocations over the life-cycle. The third section of the book contains country specific articles that have been written by national teams of the NTA project. Even though these articles focus on individual countries and are not comparative, some of them go beyond country reports and discuss exploratory ideas related to the core project. Constructing the country accounts is a demanding task for which the coordinators and national teams deserve recognition.

The most important basic activities that determine the economic lifecycle are working, consuming, sharing and saving. NTA measures the age profiles of these economic activities: labour income, consumption, public transfers, private transfers and asset-based reallocations, and shows how they vary across different generations. The aggregate numbers of these age profiles are consistent with the System of National Accounts, which administers flows among institutions (government, households and the corporations). NTA therefore develops a new system of accounts that considers the dimension of age and redefines income streams originally flowing among institutions to flows among generations.

The national income is thus depicted as mainly intergenerational flows from the working-age population to the young and the elderly. Life-cycle deficit

[1] The website of the project is www.ntaccounts.org

[2] The book can be downloaded free-of-charge on the website of International Development Research Centre (IDRC)
http://www.idrc.ca/EN/Resources/Publications/Pages/IDRCBookDetails.aspx?PublicationID=987

(LCD) and life-cycle surplus (LCS) arise from the difference between labour income and consumption. Labour income in NTA is defined as the compensation of employees and labour-related taxes. Consumption consists not only of privately purchased goods and services but publicly provided ones as well, and it includes owner-occupied housing. Whereas all generations use economic resources and their per capita consumption patterns do not vary much with age; earning labour income is concentrated in the working ages while it is minimal or zero in childhood and old age. The working ages tend to consume less than their labour income resulting in a life-cycle surplus. Meanwhile the non-working age population (children and the elderly) consume more than their labour income resulting in a life-cycle deficit.

The difference between consuming and producing is behind the flows from one generation to another. Whenever consumption exceeds production there is a period of dependency that has to be financed through monetary flows: either via (1) public transfer through government (tax payments and benefits), or (2) private or familial transfers mostly within the household or (3) asset-based reallocations (capital income and property income). In childhood and old age the average individual is economically dependent, because his consumption has to be covered by the output produced by the working age population. One of the important goals of the book is to explore how transfers and assets are used to meet lifecycle needs. This goal is well met, giving the reader an understanding of the variety of transfers, "transfer packages" and the transfer system as a whole.

While all societies are characterized by these economic flows, the ways and the channels of such flows and the role of public or private transfers and asset-based reallocations vary widely by region and probably over time. Societies also respond to the recent population aging in diverse ways. One of the greatest advantages of NTA and the results presented in the book is that it includes both a variety of countries at different stages of economic development and societies with different political and institutional settings. The comparative results presented in the book are especially important. Obviously country differences and differences according to development level are found in the support systems, but regional patterns are also highlighted. Public transfers are principal in Europe and Latin America and least prominent in developing Asia. Familial transfers are primary at younger ages in all societies, while familial transfers at older ages are important in Asia and Latin America and not so important in the US and European societies. The book argues that population aging will be a problem in particular for countries where old-age support is mainly sustained through public transfers.

However, and this needs to be emphasized, neither NTA nor the discussions in the book focus solely on public transfers to the elderly. This would be an oversimplification of the problem. NTA follows a comprehensive approach and

includes public and private intergenerational transfers, as well as asset based reallocations. Moreover, each generation – children, working-age population and elderly – is given consideration. Hence, even though it is fairly complex, the transfer system as a whole is taken into account. The book also contains an appendix with comparative tables and a glossary of terminology which is useful for the reader.

NTA distinguishes inflows (receiving a transfer) and outflows (making a transfer) as well as net transfers. Following Willis (1988) and Lee (1994a,b), Lee and Mason investigate the direction of intergenerational transfers by the mean ages of inflows and outflows. In Chapter 4 they show that population aging fundamentally changes the direction of net transfers. The magnitude of downward transfers – those flowing to future generations – decreases and the strength of upward transfers to the elderly increases. Older age structures eventually result in a reversal in the direction of total transfers. "When total transfers are upward from young to old, then the average person will receive more transfers in the future than she will make to others; or equivalently we might say that the future is obligated to make net transfers to those alive today." (p. 103). The direction of net transfers is an important measure of aging in the different countries. A related NTA summary measure is the support ratio, which incorporates the age variation in productivity and consumption needs (see Chapter 1 and 3). It is calculated by using the NTA age profiles and population data. The extent of dependency is better captured by this indicator than by conventional support ratios relying on fixed age groups.

NTA links population age structure and the macroeconomy. Once age profiles are constructed, future estimations of transfers and the different measures can be made using population projections. The book argues in favour of and demonstrates the advantages of using NTA age profiles for projections. These projections are essential to understanding the diverse ways in which societies respond to population aging and how policy decisions can possibly influence its effects. The book and its findings are supplemented by the data which are the cross-sectional measures of age profiles. These age profiles are estimated using administrative and survey data and the country National Accounts. They can be downloaded for all the participating countries from the NTA website.

The editors point out the limitations of the first results of the NTA project. Bequests for example are not included in the transfer system, as reliable estimates for these flows are not yet available. Joint research efforts in the NTA network however have already begun incorporating bequests. The results are also rather descriptive, as they rely on cross-sectional data and are not based on causal modelling. Future studies will estimate the economic lifecycle in a longitudinal perspective, and therefore track cohorts. These analyses will eventually result in causal models. Researchers will also consider non-market transfers in the reallocation system and incorporate age profiles of unpaid household labour

and consumption into NTA by estimating "time transfers" across ages (the value of household labor carried out for someone else in the household). In fact the chapter by Mathana Phananiramai already presents results on estimating these time transfers for Thailand. The importance of incorporating unpaid household labour can be illustrated by recent studies on women's labour and caring activities for the elderly and children. Further research will also focus on the changing roles of transfer packages from a historical perspective.

Although in the macro context of population aging we find substantial variation across countries in welfare policies, economic condition, institutional settings, family and kin relations, etc.; harmonized research across countries has the potential to greatly expand our understanding of aging (Uhlenberg 2005). This is precisely what the NTA project aims to achieve. It provides an analytic framework and a tool, as well as data, to explore these wide variations – all freely accessible on the internet. The framework and the first results of the project presented in *Population Aging* have already contributed to our understanding of aging, and the demographic and economic change it brings about. With the richness of its data, the National Transfer Accounts Project clearly has more contributions to make.

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Lili Vargha

OLÁH, LIVIA SZ. and FRĄTCZAK, EWA (eds.) (2013): *Childbearing, Women's Employment and Work-Life Balance Policies in Contemporary Europe.* Basingstoke: Palgrave Macmillan, 224 pages.

Edited by Livia Sz. Oláh from Stockholm University and Ewa Frątczak from the Warsaw School of Economics, this volume addresses the interplay between paid work, work-life balance policies and childbearing choices of women in the context of low fertility, increased labour market flexibility and different work–life balance policies in contemporary Europe. The contributors assess the importance of labour force attachment on young women's fertility intentions (i.e. intention to have a first/next child) or desires (ideal family size). They study childbearing choices (and not actual births) because of their interest in understanding long-term fertility developments and identifying possible areas for policy interventions.

The *conceptual framework* of the volume centres around two key concepts that one needs to consider when trying to understand the relationships between work, family and fertility: uncertainty and risk, and incoherence. In the volume the two key concepts are not given equal attention – less emphasis is put on the issue of gender equality than on risk and uncertainty.

Increasing uncertainty and risk characterise the labour markets of Europe. When eligibility to social benefits and services has become increasingly dependent on one's labour force participation, and when childbearing is seen to greatly increase uncertainty, the impact of unemployment, temporary employment and job insecurity on fertility decisions may also have strengthened. In this context many risk-averse prospective parents postpone or forgo childbearing and instead concentrate on acquiring higher educational attainment or further employment experiences.

Incoherence concerns the difference between levels of gender equity in individual-oriented (e.g. education and paid work) and family-oriented institutions. While young women's aspirations are no longer limited to the family, the persistently unequal division of housework and childcare is seen as severely constraining the opportunities women have in terms of education and the labour market. However, the institutional context and work-life balance policies may greatly reduce the negative impact of family responsibilities on economic and other roles of women (and especially mothers) beyond the family.

The volume includes *five case studies*, focusing on two high-fertility countries, Sweden and France, and three low-fertility societies, Germany, Poland and Hungary. (East and West Germany are also differentiated.) These countries represent different welfare regimes and work–life balance policies. Sweden is the prime example of a social democratic welfare regime and the dual-earner policy configuration. France and Germany represent the conservative welfare regime and the general family support policy configuration. Hungary and Po-

land represent the post-socialist welfare regime and the transition post-socialist policy configuration. These countries show that there is no one-to-one relationship between the fertility level of a country and the welfare regime or policy configuration to which it belongs.

Results shed more light on how the employment situation and incoherence between low gender equity at home and high gender equity in the public sphere impact on childbearing decisions in different welfare and policy contexts. A weak labour market position constrains plans to become a mother in all analysed countries. Policy protection against economic hardships is insufficient or non-existent in the case of mothers without stable employment. Being in education, unemployed, inactive, or in part-time or temporary employment are linked to pronounced risk of economic hardship and insecurity, and these life situations have been found to reduce motherhood intentions, although the effects do vary by country.

Continuous participation in the labour force is more important to entering parenthood than to having another child – parents seem to be less vulnerable to labour market uncertainties in most countries, depending on the policy context. Generous family and employment policies greatly reduce uncertainty and financial hardships for French and Swedish mothers who wish to have more children. The exception is Swedish mothers with weak labour market attachment, who do not qualify for generous social provisions, and who thus suppress intentions to extend their families. Unemployment has a negative effect on childbearing intentions in East Germany but not in West Germany and Poland, where unemployment of mothers is linked to planning to have additional children. In these latter cases unemployment may indicate mothers' family orientation and her preference for fulfilling family roles over employment, especially if the partner can provide a reasonable standard of living for the family (the male breadwinner model).

Incoherence between gender equity in the private and public spheres has been found to decrease childbearing intentions in most cases. Social norms and the lack of child-care institutions often compel women in West Germany to choose between having children and caring for their young children themselves, or not having children at all and instead participating in the labour market. In Poland women who experience higher gender equity in their partnership also have stronger childbearing intentions. The Hungarian interviews also highlight the fact that competing aspirations and the tension between the demands of domestic and paid work may suppress women's fertility aspirations.

All in all, the volume extends our knowledge about the mechanisms of childbearing decision making, the effect of increased labour market flexibility on family choices, the impact of policy measures, and the interplay between micro- and macro-level factors in different social contexts. The careful selection and the relatively low number of countries make the cross-national com-

parisons interesting and manageable, providing a good balance between detailed single-country descriptions and more generalised overview of dozens of nations. Even though each empirical chapter deals with one country at a time, the common comparative conceptual framework and the harmonised research design are meant to contribute to the *coherence* of the book. Moreover, the introductory and closing chapters seek to provide a common background and synthesise the findings. However, the volume also proves that one size does not fit all – not only in the case of work–family reconciliation policies but also when one tries to select theoretical concepts and research methods for several country studies. As a result, some chapters use additional theories, like the capability approach of Amartya Sen for Sweden and Hungary, the theory of social production function complemented by the life-course approach and new home economics for Germany, and the preference theory, gender equity theory and social capital theory in the case of Poland. Moreover, childbearing choices and the employment situation of women are conceptualised and measured somewhat differently in each of the five countries, and the Hungarian analysis is the only one which makes use of qualitative data. However, these differences do not endanger the comparability of the findings across countries.

Lívia Murinkó

TOMKA, BÉLA (2013): *A Social History of Twentieth-Century Europe.* London – New York: Routledge, XIX + 526 pages.

Béla Tomka's monumental summary of Europe's twentieth-century social history was published in English in 2013, four years after the Hungarian original. It seems quite natural to see such a volume, dealing with urgent problems European societies have had to face for decades, finding its way to a broader audience in Hungary and Europe. Tomka's book focuses on the following issues: gloomy demographic trends, 'lowest-low' fertility, ageing of the population, migration that is hardly controlled and all of its resultant social, political and cultural consequences, changing family life and interpersonal relations, altering gender roles, values and norms, weakening social cohesion, individualism, secularism, post-industrial and/or post-modern societies, post-materialism, the future of the welfare state, consumer societies and Americanisation, urbanisation and the mass media. It is obvious that all these trends and concepts are vague, controversial and sometimes rejected by experts. Writing such a comprehensive volume calls for a brave heart and deep knowledge, yet such an endeavour frequently results in criticism that mostly focuses on specific details. So it is not surprising that few books with such ambitious goals make it to the market.

In addition, Tomka's book is the only one to cover both Western and East Central Europe (mostly the Czech Republic, Hungary, Poland and Slovakia), sometimes reaching into South-Eastern Europe too. In this respect it is unique, as it contains all the important aspects of twentieth-century social history connecting it to Eastern European developments: divergences and convergences, the dynamics of which differ by subject, regime changes more broadly and Eastern European capitalism over the last 25 years.

Besides an introduction and conclusion, the book consists of eight chapters on population (covering trends and theories such as population size, fertility, mortality, changing age composition, migration and the theories of the two demographic transitions); family and households (contraction and nuclearisation of the family, replacement of marriage by cohabitation, increasing divorce rates and more frequent extramarital births, changing interpersonal relationships between partners, changing attitudes toward children, growing individualism and secularism, as well as theories, such as the Hajnal line dividing Europe into two marriage patterns, Laslett's household typology, and theories on intra-household relations by Philippe Aries, Lawrence Stone and Edward Shorter); social stratification and mobility; the welfare state; work, leisure and consumption; politics; urbanisation; and education, religion and culture. In every chapter the author describes the main trends based on the most general indicators of the subject and surveys the usual interpretations. I find this to be one of the book's most important advantages: it assesses interpretations of economic, social and cultural processes that are unfolding even now, the consequences of which we cannot see and are difficult to foresee or predict.

Every good history book contributes to the interpretation of the present, but in this case the connection is particularly direct and alive. The closing section of the chapter on families and households (*Families in the new millennium: the post-modern as a return to the pre-modern?*) is particularly interesting in this respect. Here, the growing uncertainty of families is discussed as a kind of revival of pre-industrial characteristics. The growing rate of dissolved unions and frequent remarriages (or new extramarital unions), and the various forms of co-residence (and to some extent the decreasing nuptiality and the rising age of marriage) do indeed resemble pre-industrial times – though with some notable differences. In the pre-industrial era it was high mortality that caused the high frequency of union dissolutions, uncertain family relations and less predictable family life courses, whereas in our age it is the increasing frequency of divorces that produces comparable results. The development of European societies appears to be non-linear and reversible, though different causes and conditions may lie behind these seemingly similar processes. The same problem emerges again in the discussion of social stratification and mobility, where the author speaks about 'purer' forms of capitalism of the post-industrial or post-modern

era, but in a different context. Such discussions make the book a particularly exiting read.

The immense reference list and the wide selection of further readings grouped by chapters and topics give the reader a chance to deepen his or her knowledge and to form his or her own interpretation. Tomka's volume is not really an essay on Europe's twentieth century and the present day but a scientific monograph, one that can be treated as the starting point for further studies or as an aid to those wanting a comprehensive view at a more advanced level. Its target audience is primarily university students studying twentieth-century history but should also be of interest to anyone who is interested in understanding of our present-day problems better and their roots and prospects in the future.

Such a comprehensive book always raises the question whether it would have been better written as a collaboration of field experts. More authors usually know more. Yet single authorship has its advantages too: a consistent concept, methodology, structure and style. I think that the end result justifies the means. In writing this book the author truly performed the job of an entire expert team. Naturally, there is always something missing from a work of synthesis such as this. It is indeed not possible to include everyone's hobby horse in such a 'concise' history and there are always controversial statements or even errors. Fortunately there are not many in this book. However, for students' sake, it would be worth collecting and correcting them chapter by chapter. Here I provide examples of all three from the chapters on population and family.

In discussing recent demographic trends (lowest-low fertility, the decreasing popularity of marriage, the growing rate of union dissolution, the preference for less stable forms of living together), many important aspects are highlighted, for instance decreasing mortality, changes of values, interpersonal relations, attitudes, changing gender roles, female employment, the prolonged process of education, etc. However, globalisation and the resulting uncertainty in the labour market would also be worth mentioning as factors that hinder people from shaping long-term relationships and making irreversible decisions that influence the rest of their lives. In other chapters (e.g. the one on the welfare state) globalisation does have its own place in the discussion. As for disputable or oversimplified statements we can give an example from Chapter 3 (p. 70): "*In most regions in East-Central Europe and the Balkans, there were no traditions on family farms for employing non-relatives who would also integrate into the household, like in many parts of Western Europe*". In fact, such traditions *did* exist. There are similar percentages of servants, lodgers and employees in Hungarian peasant households in the nineteenth century as in Western Europe. No doubt the context or the type of that kind of servitude differed, but the simplification of households (the gradual disappearance of lodgers and employees) in the twentieth century was a similar process in both Western and East Central

Europe. Finally, there is a mistake or misunderstanding. According to the author, Peter Laslett and his colleagues provided a large body of evidence on pre-industrial household structure and family life, which refuted the traditional evolutionist model of family and household formation (a development going from complex forms towards simpler ones in parallel with modernisation). So far, so good. However, for Tomka these efforts were based on family reconstitution, a method developed by the French demographer Louis Henry. A bit later on: "*when such data collection is performed on a mass scale... and is complemented by other sources, an accurate image of the major characteristics of family structure in the past can be gained*" (p. 61). This is incorrect. Family reconstitution is based on the information gained from the lists of marriages, births and deaths in parish records, which contain no information about households (persons actually living together). It was developed primarily to analyse long-term demographic processes in the pre-statistical era, when only the long series of demographic events were at our disposal. One of the great disadvantages of the method is that we know nothing about the household in which those events took place. So the inclusion of household context into the analysis of fertility or mortality (which would otherwise be highly important) is not possible. Laslett and his successors used other sources mentioned by Tomka, namely household lists or population censuses, which also included the composition of households and families. The name of Henry's method can cause misunderstandings, but family reconstitution data do not give any clue as to family structure on their own. We can see here that there are also some disadvantages to being a single author of such a comprehensive piece of work. All in all, these small errors and deficiencies do not seriously diminish the value of the book and the merits of the author. In my view this is a book that should be included in the libraries of all scholars studying social history and all persons interested in our past and present problems alike.

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