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Do Transitions to Adulthood Converge in Europe? An Optimal Matching Analysis of Work-Family Trajectories of Young Adults from 20 European Countries

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Notes & Documents

n° 2010-04 Décembre 2010

Résumé :

Cet article compare le timing et l'organisation des trajectoires professionnelles et familiales de jeunes adultes dans 20 pays en Europe à l'aide de la 3e vague de l'enquête sociale européenne (ESS, *European Social Survey*) réalisée en 2006. Il aborde la question de la convergence de la transition vers l'âge adulte en Europe. Les parcours de vie sont décrits par cinq événements (1er emploi, 1re décohabitation, 1re mise en couple, 1er mariage et 1er enfant) observés rétrospectivement pour les hommes et les femmes de 35 ans et plus (N = 26 351) pour quatre générations (1935 et avant, 1935-1944, 1945-1959 et 1960-1971). La convergence des parcours de vie est étudiée à l'aide d'indicateurs comme l'entropie ou la turbulence et d'une typologie empirique construite avec une variante des méthodes d'appariement optimal et un algorithme de classification ascendante hiérarchique. L'analyse de cette typologie à l'aide d'indices de dissimilarité multi-groupe et d'une analyse factorielle des correspondances met en évidence la forte corrélation des 14 types de parcours de vie identifiés avec les régimes d'État-providence, l'histoire des systèmes familiaux et les générations. Après une convergence des parcours de vie des jeunes du Nord et de l'Ouest de l'Europe au cours des Trente Glorieuses, le passage à l'âge adulte s'organise pour les jeunes générations autour de deux nouveaux modèles caractérisés par une autonomie assez précoce par rapport à la famille d'orientation et la formation d'une famille de procréation plus tardive. Le passage à l'âge adulte dans les pays du Sud et de l'Est de l'Europe reste profondément inscrit dans l'histoire de leurs systèmes familiaux. La décohabitation est tardive dans les pays méditerranéens en intervenant au moment de la mise en couple. La tradition de la famille élargie persiste dans la plupart des pays de l'Est.

Pour citer ce document :

Lesnard, Laurent, Anne-Sophie Cousteaux, Flora Chanvril et Viviane Le Hay (2010). « Do Transitions to Adulthood Converge in Europe? An Optimal Matching Analysis of Work-Family Trajectories of Young Adults from 20 European Countries », *Notes & Documents*, 2010-04, Paris, OSC, Sciences Po/CNRS.

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Abstract:

This paper compares the timing and sequencing of work-family trajectories of young adults in 20 European countries using data from the third round of the European Social Survey (2006). It addresses the question of the convergence of transitions to adulthood in Europe. The life course is derived here from five standard events – employment, leaving-home, union formation, marriage and childbearing – retrospectively observed for men and women over 35 years old (N = 26,351), over four birth cohorts (before 1935, 1935-1944, 1945-1959, and 1960-1971). We employ entropy and turbulence indicators to measure convergence and to go further, we use optimal matching and cluster analyses to build an empirical typology of the transitions to adulthood in Europe. Multigroup information theory indices and correspondence analysis reveal that these patterns are highly correlated with welfare regimes, historical family systems, and cohorts. We observe that although there was a convergence in the passage to adulthood in Northern and Western Europe following the post-war boom era, two new models have emerged with the youngest cohort that are characterised by an early independence from the family of orientation and more or less delayed couple formation and childbearing. The transition to adulthood in Southern and Eastern Europe remains marked by their respective historical family systems. Whereas the departure from the parental home is late and usually linked to couple formation in Southern Europe, the tradition of joint households is still pervasive in Eastern Europe.

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Lesnard, Laurent, Anne-Sophie Cousteaux, Flora Chanvril and Viviane Le Hay (2010). "Do Transitions to Adulthood Converge in Europe? An Optimal Matching Analysis of Work-Family Trajectories of Young Adults from 20 European Countries", *Notes & Documents*, 2010-04, Paris, OSC, Sciences Po/CNRS.

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1. Introduction

The transition to adulthood in Western countries has undergone significant changes in recent decades (Shanahan 2000, Corijn and Klijzing 2001). Becoming an adult is no longer a rapid, well-structured sequence of key events (leaving school, entering the workforce, leaving the family of origin, getting married, having children); it takes more time and is less homogenous. It is often presumed that these changes have occurred in all advanced industrialised countries as a result of a similar evolution in institutional regulations and policies (Mayer and Schoepflin 1989, Blossfeld *et al.* 2005), and in values (Kohli 1986, Giddens 1991, Beck 1992) or in both of these aspects (Kohli 1986, Shanahan 2000). Yet very few studies have documented these changes in the transition to adulthood cross-nationally. This is demonstrated by the broad consensus on two of the main challenges that need to be addressed by life-course researchers (Gauthier 2007, Mayer 2009): (1) to develop new tools to study the life course as a whole, rather than as a series of transitions; and (2) to expand cross-national comparisons.

Indeed, contrary to pioneer works on the order of life-course events (Hogan 1978, Marini 1984, Hogan and Astone 1986, Rindfuss *et al.* 1987), studies on transitions to adulthood have concentrated on a subset of events that constitute the process of becoming an adult, for instance the transition to employment. This focus on transitions rather than on trajectories can be seen as the consequence of the dramatic development of event-history methods. These methods enabled researchers to causally model demographic processes, but did so at the expense of analyses focusing on a small number of events. As a result, even though it has been long acknowledged that the life course brings many interdependent domains into play, in reality, few empirical studies have considered them together (Iedema *et al.* 1997, Aassve *et al.* 2007a, Wolbers 2007). Moreover, understanding the impact that society has on the life course requires particular attention to the specific institutional, social policy and cultural context in which it occurs. Unravelling the effects of context can only be achieved by cross-national comparison; a research programme which “has hardly begun” (Mayer 2009 p.426).

This article sets out to address these two issues. We build family-work trajectories in 20 European countries using five questions asked in the module on “The Timing of Life: The organisation of the life course in Europe” of the third round of the European Social Survey (2006). We apply optimal matching and cluster analyses to build a typology of transitions to adulthood in Europe that preserve the complexity of these processes. The four main types of work-family trajectories that we observe here are highly correlated with both welfare regimes and with historical family systems. This result is in keeping with the hypothesis according to which social policies shape the life course.

2. Theoretical Background

In the 1950s and 1960s, the end of adolescence in industrialised countries was marked by three key life events that were rapid, ordered, and early (generally occurring before the age of 25): school-leaving, access to gainful employment and family formation (Modell *et al.* 1976, Rindfuss 1991, Shanahan 2000). The transition to adulthood was highly standardised, to the point where it could be satisfactorily described

using simple statistical methods like the median ages of transition (Hogan 1978, Marini 1984, Rindfuss 1991). Life courses were standard as a result of the stability and predictability fostered by the economic growth and the creation of welfare states that characterised the 1950s and 1960s (Mayer and Müller 1986). Shaped by the high demand for workers in the labour market and sheltered from uncertainties (illness, unemployment, retirement) by social policies and institutions, life courses were less erratic and less dependent on family solidarity. In a word they became, to a certain extent, institutionalised.

Numerous studies have shown that the transition to adulthood changed considerably from the 1970s onwards (1993, Shanahan 2000, Corijn and Klijzing 2001, Breen and Buchmann 2002, Billari 2004, Mills and Blossfeld 2005, Settersten *et al.* 2005, Elzinga and Liefbroer 2007). The different life events traditionally used to define the passage to adulthood began to occur later in life, became less connected to each other, and no longer necessarily happened in the same order. These transformations have usually been examined in the context of the second demographic transition (van de Kaa 1987, Lesthaeghe 1995) or in light of the writings of the early 1990s on the individualisation process (Giddens 1991, Beck 1992). Both of these concepts have been used in life-course research to broadly account for the declining influence of tradition in the ordering and timing of life events. For instance, it has been argued that a new stage, often referred to as "post-adolescence" (Galland 1990, Galland 2003) or "emerging adulthood" (Arnett 2000), has appeared between adolescence and adulthood. In this stage, young people experiment with their lives before taking on all the responsibilities of adult life.

It remains largely unknown, however, to what extent this trend is common to all industrialised countries. It is also unclear as to whether de-standardisation takes the same shape in these different countries, considering the possible lasting influence of cultural and institutional factors (Mayer 2001). Although individualisation is theoretically appealing, alternative explanations should also be considered. The expansion of secondary and tertiary education, higher unemployment rates, the proliferation of non-marital cohabitation and the facilitation of divorce, could also account for increasingly diverse life trajectories – in particular because these changes mean that life events are no longer irreversible (Aassve *et al.* 2007a). As a result, measuring the complexity of the life course and its variations, and assessing the effect of the institutional context through comparative studies, are now considered two of the main avenues in life-course research (Gauthier 2007, Mayer 2009).

2.1. Measuring the complexity of life courses

Empirical research on the life course has been more dependent on advances in statistical methods than other fields, because life-course data (longitudinal by definition) requires more elaborate statistical procedures than cross-sectional data. Moreover, the life course involves events belonging to different domains (family, school, employment, housing, etc.) making its analysis even more challenging. As a result, describing and measuring the complexity of the life course has been closely connected to the development of statistical techniques capable of taking into account the timing and ordering of life events (George 1993). In the absence of statistical tools adapted to longitudinal data, early studies had to rely on simple measures, such as the deviance from the modal sequence (Hogan 1978, Marini 1984). The introduction of event history techniques into life-course research (Tuma *et al.* 1979) can be considered a turning point, as these techniques paved the way for modelling transitions. However, this came at the expense of focusing the analysis on the timing of specific (single or repeatable) events. Taken together, research focusing on

transitions to employment, marriage, and parenthood suggest that recent birth cohorts are postponing the transition to adulthood (see for instance Iedema *et al.* 1997).

Focusing on single transitions, however, makes it difficult to understand the interrelationships of these different life events. Two solutions have been used to address this issue: competing risks event history models and sequence analysis. Competing risks event history analysis models simultaneously account for different kinds of transitions (Blossfeld *et al.* 2007). However, results are difficult to interpret when too many transitions are considered simultaneously, and in practice usually only a few competing transitions are considered (three for instance in Steele *et al.* 2004). Sequence analysis (SA) is a completely different approach to analysing life-course data. Used for the first time in the social sciences by Andrew Abbott and colleagues in the 1980s (Abbott and Forrest 1986, Abbott and Hrycak 1990, Abbott 1995), optimal matching (the most widely used SA variant) is basically a dissimilarity measure adapted to sequence data which, when combined with cluster analysis, produces empirical typologies. Dissimilarity is based on the timing, ordering and duration of states, and does not focus on any specific transitions in its standard parameterisation.

The potential of SA in the field of life-course research was emphasised at the end of the 1990s (Settersten and Mayer 1997, Shanahan 2000, Billari 2001), and since then, these methods have been increasingly used to describe life trajectories. However, most of these studies have focused on single countries and sometimes on either men or women: American men and women (Mouw 2005), British women (Aassve *et al.* 2007a, Piccarreta and Billari 2007), British men and women (Martin *et al.* 2008), French men and women (Robette 2010), and Italian men (Billari and Piccarreta 2005). These studies revealed a great diversity of patterns in transitions to adulthood, moving beyond simple dichotomies – such as for instance Hakim's opposition (2000) between career and family oriented women (Aassve *et al.* 2007a). Applied to multiple birth-cohort data, these fine-grained descriptions of entry into adulthood have been used to discern subtle changes in the life course. For example, using a 18-group typology of employment careers for two cohorts, Martin and colleagues (2008) found a greater variety of pathways to full-time employment for the youngest birth cohort, but concluded as to a rather weak trend toward the de-standardisation of passages. They noted that there are more differences between men and women than there are between the two cohorts analysed.

If these studies provide unprecedented insights into the complexity of the life course, their use of various methodologies to focus on single countries makes any comparative attempt challenging. To our knowledge, only three studies have considered multiple countries simultaneously using sequence analysis methods. Comparing Great Britain[1], Italy[2], and Sweden[3], selected as representative cases of three welfare regimes (respectively liberal, familial and universalistic) in reference to Esping-Andersen's classic typology (Esping-Andersen 1990, Esping-Andersen 1999), Schizzerotto and Lucchini find no evidence of de-standardisation. Instead, they find similar transitions to adulthood when social origin, education, marital status, number of children, and other factors are controlled for (2004b). Event history models are

[1] British Households Panel Survey.
[2] Italian Household Longitudinal Survey.
[3] Swedish Level of Living Survey.

complemented by optimal matching analysis applied to life-course data for individuals aged 15 to 35 years. However, OM is used here in a quite atypical way. Indeed, they only use substitution operations with costs proportional to the number of life events needed to pass from one state to another. For instance the substitution cost between states “first union” and “first job” is 1, and the substitution cost between “first union” and “first union + first job” is 2. This approach seems highly problematic, if not flawed, as two very different sequences will be considered very close: one composed of 5 years of “first union” and 3 years of “first union + first job”, and the other composed of 5 years of “first job” and 3 years of “first union + first job”. It is no wonder then, that the authors found no evidence of changes in average life-course dissimilarity across cohorts.

In the second study, 14 European countries were compared using ECHP (European Community Household Panel) data (Schizzerotto and Lucchini 2004a). Results, which will be presented in more detail in the next section, are based on event history models and optimal matching. However, the authors provide no details on how OM was parameterised and only use OM to measure average life-course dissimilarity, as in their previous study.

Only one article takes into account the complexity of the life course from a comparative perspective (Elzinga and Liefbroer 2007). Using data from 19 countries that took part in the Fertility and Family Surveys programme, the authors try to address three questions: (1) are transitions to adulthood are increasingly turbulent? (2) are they less standardised? (3) which type of trajectories have become less or more common? The first two questions are addressed through a turbulence index and a variant of sequence analysis. The third is dealt with by defining seven ideal types and assigning each individual to one of these ideal-types. We discuss the results obtained through these three different approaches in the next section and focus here on the third method used (the other two are discussed in the data & method section). Although Elzinga and Liefbroer’s study goes further than the other two in terms of measuring the complexity of the life course, it nevertheless appears limited in two important ways. Firstly, only family-life trajectories for women are considered. Secondly, this study relies on an *a priori* typology that may not be able to measure all life-course changes, if unexpected and original patterns are not taken into account. As a result, although sequence analysis has been successively used to describe the complexity of life-course variation in single country studies, it has not yet been used conclusively from a comparative perspective. This leaves the question of the de-standardisation of transitions to adulthood in industrialised countries, and their possible convergence, to less detailed studies.

2.2. The transition to adulthood in Europe

As a field of research concerned with the relationships between individuals and societies over the life-span, life-course sociology has an inherent interest in comparing different institutional settings (Mayer 2009). European countries are particularly useful to study from this perspective, as they combine a number of interesting properties. They are quite similar with regards to their overall economic development, labour market, political, and educational systems (on the limits of these similarities, see Breen and Buchmann 2002), whilst diverging in terms of social policies and institutions, as well as values and culture.

Historically, countries in North-West Europe have differed from the rest of the continent in the unusually high age at which individuals marry (for both sexes) and their high proportion of single people

(Hajnal 1965). This marriage pattern is congruent with the history of household formation in Northern and Western Europe observed in the 17th and 18th centuries. Before marriage, young people in rural areas often worked and lived outside the parental home as servants. After marriage, the couple formed a separate household, distinct from their family of orientation. On the contrary, Eastern Europe and Asia had a tradition of joint households in which young people got married early and continued to live with other relatives (Hajnal 1982). These weak family ties that are characteristic of North-West Europe can also be opposed to the strong family system observed in Southern Europe, which is characterised by later home-leaving and high familial solidarity (Reher 1998).

In short, since our main interest is in systemic variations (social policies, institutions, and culture), the 'most similar systems design' is the most relevant analytical framework. This means studying systems that are as similar as possible, but which differ with respect to the phenomenon of interest (Anckar 2008). These differences have often been understood via the concept of the welfare state, which has been popularised by the seminal work of Esping-Andersen (1990). The original formulation of this thesis distinguished between three kinds of welfare regimes: Liberal, Conservative, and Social-Democratic. In the Liberal regime (Australia, Canada, Ireland, UK, US), the state provision of welfare is minimal and the emphasis is put on the market and on individual responsibility. Social-Democratic welfare regimes (Denmark, Finland, Norway, Sweden), on the other hand, are characterised by generous and universally accessible social benefits, and policies that promote equality, especially between men and women. Finally, in Conservative regimes (Austria, Belgium, France, Germany) benefits are earnings-related, and the state provision of welfare is often subsidiary, in that it comes after family solidarity.

This typology has been heavily criticised (for instance for being too centred on the male breadwinner model, see Lewis 1992, Orloff 1993, Orloff 1996, Lewis 2002) but remains widely used by social researchers to carry out comparative studies (particularly life-course studies), although it is generally completed by two other types of welfare regime: Southern and Post-Socialist. The Southern type of welfare regime (Greece, Italy, Portugal, Spain, see Saraceno and Negri 1994, Ferrera 1996, Katrougalos 1996) is characterised by a system of social protection that is highly fragmented, potentially varying from the generous (e.g. old age pensions or universal health care system) to the nonexistent (e.g. no national minimum wage). It is also characterised, however, by the central position of the Christian Church and the family, which are seen as responsible for stopping the gaps in social protection. The Post-Socialist welfare regime (Eastern Europe) retains certain features of the former socialist system of welfare policy, common to the USSR and Eastern Europe (e.g. broad welfare coverage but with low benefits, see Deacon 2000, Novak 2001), but combines them with reforms inspired by Western countries (e.g. shift from closed to open employment, see Blossfeld *et al.* 2006).

What welfare regimes consist of, and how countries are classified according to them, are highly debatable and widely debated questions. If many life-course researchers use welfare regimes to organise comparative research (Iacovou 2002, Vogel 2002, Blossfeld *et al.* 2005, Fussell and Furstenberg 2005, Van de Velde 2008), there is a lack of agreement as to the boundaries of these models, or the number of cases that should be considered for each type (see Table 1). Other comparative life-course studies refer to, but seldom use, the welfare regime framework (Billari and Wilson 2001, Corijn and Klijzing 2001, Schizzerotto and Lucchini 2004a, Elzinga and Liefbroer 2007), generally because they focus on common trends rather than on differences.

Table 1 – Welfare regimes typologies in a selection of comparative life-course studies

	Liberal	Social-democratic	Conservative	Southern	Post-socialist
(Blossfeld *et al.* 2005)	Canada UK US	Norway, Sweden	France Germany Netherlands	Italy Ireland Mexico Spain	Estonia Hungry
(Fussell and Furstenberg 2005)	Canada US	Sweden	Germany	Italy	
(Iacovou 2002)	US	Denmark Finland Netherlands (called Nordic)	Austria Belgium Germany UK (called northern)	Greece Italy Portugal Spain	
(Van de Velde 2008)	UK	Denmark	France	Spain	
(Vogel 2002)		Denmark Finland Norway Sweden (Nordic)	Belgium France Germany Ireland Luxembourg Netherlands UK (central European)	Greece Italy Portugal Spain	
This article	Ireland UK	Denmark Finland Norway Sweden	Austria Belgium France Germany Netherlands Switzerland	Portugal Spain	Bulgaria Estonia Hungary Poland Slovenia Slovakia

Some changes in the transition to adulthood are common to all European countries, as hinted at by previous single-country analyses. Marriage and the birth of the first child are occurring later across Europe, and some life events (leaving home and first union; first union and marriage) are not as closely connected as before (Corijn and Klijzing 2001). However, these common trends do not seem to outweigh national differences (Billari and Wilson 2001, Schizzerotto and Lucchini 2004a, Fokkema and Liefbroer 2008) – especially the strong North/South opposition in family transitions (Iacovou 2002, Vogel 2002, Fussell and Furstenberg 2005) which confirms the path dependency hypothesis (Reher 1998, Mayer 2001). Pathways to adulthood are not more turbulent or unpredictable, but they are organised according to more diverse patterns than in the past (Elzinga and Liefbroer 2007).

Although this greater diversity is observed throughout Europe, pathways to adulthood are paradoxically slightly more heterogeneous in the 'more traditional' Southern Europe, than in the 'more individualised' Northern Europe (Billari and Wilson 2001, Schizzerotto and Lucchini 2004a). Despite being based on an *a priori* typology, the only true comparative sequence analysis of the transition to adulthood (Elzinga and Liefbroer 2007) reveals that France, the Netherlands, and Sweden seem to be converging towards two new and very similar standards: modern and alternative late motherhood. These standards are both characterised by a late first union, a long period of non-marital cohabitation followed by the birth of the first child, which occurs after marriage for the former (modern) and out of wedlock for the latter (alternative). Elzinga and Liefbroer consider the similarity of youth trajectories in Northern and Western Europe as their most surprising result. This suggests that phenomena that have been interpreted as evidence of de-standardisation could in fact be linked to a change of standard. This change would necessarily involve a

transition period during which the new standard is gradually adopted, to the point of becoming the predominant, but not exclusive, way to become an adult. This new model (as measured by quantitative surveys (Mills 2007) is not incompatible with the individualisation theory, because delayed first unions and childbirth can leave room for experimentation.

Despite social trends common to all major industrialised countries (expansion of secondary and tertiary education, increase in non-marital cohabitation, marriage later in life, fewer children, easier divorce, higher unemployment rates, and possibly individualisation), institutional arrangements and social policies, as observed through welfare regimes, still appear to be effectively shaping pathways to adulthood (Vogel 2002, Blossfeld *et al.* 2005, Van de Velde 2008). In particular, welfare regimes may or may not be a buffer against uncertainty, depending on how generous and universal they are, and thus influence the postponement of the transition to adulthood (Mills and Blossfeld 2005). This result underlines the fact that delay might not always be the consequence of experimenting with life, but may also be related to expectation, given that welfare regimes "establish a set of opportunities and constraints to which young people and other relevant parties (such employers) respond" (Breen and Buchmann 2002 p.303). It is only with a strong welfare state that young adults can really afford to experiment with their lives and think about their personal development (Van de Velde 2008). Young adults need assistance of some sort to lead an autonomous life. This assistance can be provided by the state (social democratic regime), by the market (liberal regime) or by the family – either financially (conservative regime) or in kind (southern regime). Life events may be postponed for various reasons that can be linked to the nature of the safety-net available for young adults. Danish young adults, for example, benefit from a state allowance that allows them to be independent from their family during their student years (Van de Velde 2008), and they know that they can count on a high quality public child care system when they have their first child. In Germany, having children is completely different, since it is generally synonymous with career interruption for women (three-year unpaid maternity leave, no public child care, tax incentives), which is a high price to pay, particularly for highly-educated women who consequently delay having children (Gustafsson *et al.* 2002, Stöbel-Richter *et al.* 2005) or prefer to not have any[4]. In Spain, young adults postpone their departure from the parental home – even when they are employed – until they have their own home and form their own family.

Overall, very different circumstances can lead to similar patterns – of late parenthood for example – when seen at a global level. When life courses are considered in detail, however, national differences seem to reappear, in keeping with the path dependency theory. This increasing diversity in life courses can only be made visible with tools capable of describing sequences of events in all their complexity (Shanahan 2000). Thus, in the absence of a multi-cohort, large scale, comparative sequence analysis of the transition to adulthood, the question of whether or not industrialised countries are converging towards a new model – and if so how this is happening – remains unanswered.

[4] Almost one in three women of the 1964-68 cohort with university schooling had no children in 2008, aged 40-44 (Deutschland 2010).

2.3. Research question and analytical strategy

This article sets out to address this issue for 20 European countries using the third round of the European Social Survey (2006). To do this, we use a series of methods to analyse work-family pathways of four cohorts of European men and women between the ages 0-35 years. We use entropy and turbulence to describe how the complexity of work-family pathways has changed over time and across countries. This first analysis is refined by the construction of an empirical typology using optimal matching and cluster analyses. Each of the 14 groups is characterised using median ages for the five life-events considered, as well as average entropy, average turbulence, and gender distribution. Finally, we use a multigroup dissimilarity index and correspondence analysis to simultaneously describe how the different types of transition to adulthood have changed over time, and how they vary between European countries.

3. Data and Methods

3.1. Data

Created in 2002, the European Social Survey (ESS) is conducted across Europe every two years and strives to obtain the highest level of quality and comparability in the operationalisation of the study in participating countries. Interviews are conducted face to face with participants who form a random sample representative of the residential population aged of 15 years and over. The ESS questionnaire is designed in English and translated into other languages according to the same protocol. The questionnaire is composed of two parts: a barometric module to monitor change and continuity in Europeans' social values, cultural norms and behaviour patterns; and two rotating modules selected among those proposed by multi-national teams of researchers.

We used the third round of the ESS in which one of the two rotating modules was about the perception of the life course and the timing of life events. The countries included in the analysis are: Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and Switzerland. We did not include Cyprus, Russia and the Ukraine to keep the sample size within the limits of the current computers, in terms of optimal matching and cluster analyses[5]. We restrict the sample to respondents aged 35 years and over, in order to observe complete the life course between the ages of 0-35. As data were collected retrospectively, the life course is observed for respondents born between 1905 and 1972. We defined four cohorts based on sample size considerations and historical periods that are likely to have had a significant impact on life experiences (Elder 1974, Baudelot 1988). The first cohort consists of Europeans born before 1935 and brought up in the historical context of the Second World War; the youngest were 11 years old in 1945, and those born in 1925 started adult life in the context of war (70% of the individuals in this cohort were born between 1925 and 1934). Individuals in the second cohort (born between 1935-1944) turned 20

[5] Latvia and Romania took part in the third round of European Social Survey but data for these two countries are not available in the integrated file.

between 1955 and 1964, and experienced a social (welfare state) and economic golden age (full employment, relatively high wages), but not the freedom (contraception, divorce, cohabitation, etc.) brought about by feminist and social movements throughout developed countries at the end of the 1960s. Individuals of the third cohort (1945-1959) were 20 years old between 1965 and 1979, in a period marked by overall economic prosperity and liberal morals. The fourth and final cohort brings together individuals born in and after 1960, who reached adulthood in a period marked by economic deregulation and rising unemployment, but also by the expansion of education. This four-cohort typology ensures sufficient sample size and is broadly compatible with Mayer's Life Course Regimes (Mayer 2001). The Fordist type is divided into two here, however, in order to account for the liberalisation of morals that occurred at the end of the 1960s and beginning to the 1970s in developed countries (see Table 2).

Table 2 – Samples size by country and cohort (unweighted Ns, respondents aged 35+)

Country	Before 1935 Early industrial	1935-1944 Fordist pre-1968	1945-1959 Fordist post-1968	1960 and after Post Fordist	Total
Austria	175	234	558	641	1,608
Belgium	195	210	431	416	1,252
Bulgaria	168	248	391	244	1,051
Denmark	171	223	428	318	1,140
Estonia	184	227	346	286	1,043
Finland	241	266	511	339	1,357
France	231	239	524	459	1,453
Germany	303	435	722	682	2,142
Great Britain	361	326	567	515	1,769
Hungary	235	255	401	244	1,135
Ireland	163	189	356	384	1,092
Netherlands	225	239	480	465	1,409
Norway	172	177	462	399	1,210
Poland	150	168	450	311	1,079
Portugal	361	344	493	410	1,608
Slovakia	133	154	414	349	1,050
Slovenia	154	194	376	270	994
Spain	220	210	375	422	1,227
Sweden	209	247	503	382	1,341
Switzerland	241	268	448	434	1,391
Total	4,292	4,853	9,236	7,970	26,351

Note: period names are inspired by Mayer (2001).

Work-family trajectories are based on five questions:

- Year of the respondent's first job (paid employment or paid apprenticeship) of 20 hours or more per week for at least 3 months (J);
- Year in which respondents lived separately from their parent(s) for 2 months or more (S) for the first time;
- Year in which respondents lived with a spouse or partner for three months or more (P) for the first time;
- Year of the first marriage (M);
- Year the first child was born (C).

These five events differ from the five key events Modell and colleagues (1976) used to describe the transition to adulthood, because the survey distinguishes cohabitation from marriage, but fails to collect

information on the year the respondent left school. In addition, these events are only recorded the first time they occur, making it impossible to explore their possible reversibility, an issue that is all the more important as unemployment, separation and divorce rates have dramatically increased since the mid-1970s.

With these five events, we build simplified trajectories to adulthood that describe the events the respondent has experienced so far with each year of life. For instance, if at age 25 a respondent has experienced the events "first job" (J) and "first time living separately" (S) then the 25th episode of her simplified life course will be coded JS, whether or not she got her first job before leaving home for the first time. In other words, event order is not taken into account in the coding of states, but emerges from the succession of episodes. Carrying on with the same example, if the first job occurred at age 18 and the first independent housing at age 20 then the trajectory for ages 18-25 will be coded J-J-JS-JS-JS-JS-JS-JS, whereas if these two events were reversed it would be coded S-S-JS-JS-JS-JS-JS-JS. Since these five events can either be experienced or not and order is not relevant, the number of possible states is $2^5 = 32$. In the rest of the analysis, we only considered the 26,351 life courses (out of 26,689) in which at least one of these five life events occur.

3.2. Measures of complexity

Two measures have been employed in previous life-course studies to quantify complexity of life-course pathways: entropy and turbulence (Elzinga and Liefbroer 2007, Elzinga 2010). Entropy (H) is a measure of uncertainty based on the distribution of a random variable (Shannon 1948). If p_i is the probability of occurrence of event *i* and there are *n* possible events, then entropy H is equal to:

$$H = -\sum_{i=1}^{n} p_i \log p_i$$

Entropy reaches its minimum value (0) when an event has a probability equal to 1 (no uncertainty at all) and its maximum value when all events are equiprobable. Entropy has been used in optimal matching studies to measure the homogeneity of a state distribution at a certain point in time (see for instance Lesnard 2010). It has also been applied to individual trajectories as a measure of their complexity, which, by definition, does not take into account the order of events (Elzinga 2010). However, as probabilities are replaced by the amount of time spent in each state proportional to the total time, entropy takes into account the duration of states. For instance, the entropy of the sequence S-S-JS-JS-JS-JS-JS-JS (0.56) is lower than for S-S-S-S-JS-JS-JS-JS (0.69), and more generally the higher the variance in the state durations, the lower the entropy. Turbulence (T) is another measure of the complexity of a sequence that is based on the number of distinct subsequences (Elzinga and Liefbroer 2007, Elzinga 2010). A subsequence is a fragment of a sequence, containing some states of a sequence, not necessarily contiguous but in the same order. For instance S-JS is a subsequence of the sequence S-S-JS-JS-JS-JS-JS-JS but JS-S is not. Having many distinct states is a sign of many state changes, and consequently, the more subsequences a sequence contains, the higher its turbulence. Like entropy, turbulence is also inversely proportional to the variance of the times spent in the different states. For instance, this implies that S-S-JS-JS-JS-JS-JS-JS is less turbulent than S-S-S-S-JS-JS-JS-JS.

As the sequences to which these two measures will be applied, are based on the first occurrence of five significant events, we expect few differences between them. Indeed, the main difference between turbulence and entropy is the number of subsequences, which is highly dependent on the nature of the sequences and on the state space. As the reversibility of events is not observed, the number of events should not vary much and consequently, neither should the number of subsequences.

3.3. Optimal Matching and Cluster Analyses

To take this further, we use optimal matching (OM) analysis and cluster analysis to build an empirical typology of these family-work trajectories. OM is a family of dissimilarity measures adapted to sequence data, which comes from computer science (Hamming 1950, Levenshtein 1966) and was introduced to the social sciences by Andrew Abbott and his colleagues (Abbott and Forrest 1986, Abbott and Hrycak 1990). Dissimilarity between two sequences is defined as the least weighted number of transformations that are required to make them identical, or in other words, to match. Three kinds of operations are allowed: insertion, deletion, and substitution. Each operation has a cost and it is the total minimum cost to match two sequences which is used as a measure of how divergent they are. As insertion and deletion operations are symmetrical in OM, they often are referred to as “indel” and are given the same cost.

As inserting or deleting an event leads to warping time, whereas substituting one event for another preserves time at the expense of approximating one state with another, the ratio of costs between insertion, deletion and substitution, determines the kind of temporal pattern OM will be sensitive to (Lesnard 2010). The cheaper the insertion and deletion operations are compared to substitution operations, the more the algorithm will shift sequences so as to get identically coded events to coincide. The algorithm can be fine-tuned by defining a matrix of pairwise substitution costs. However, additional information is then required, drawing on either theory or empirical results. OM users have often relied on transition frequencies between all states to set substitution costs (see for instance (Abbott and Hrycak 1990), despite the fact that substitution costs do not involve concepts of transition but should reflect the proximity between states (Halpin 2010). However they are defined, using more than one substitution cost raises the question of how legitimate feeding in outside information to OM is. To a certain extent, this external knowledge plays the same role in OM that initial beliefs, through prior probabilities, do in Bayesian inference. However, prior probabilities can also be set so as to reflect the lack of initial beliefs, by assigning identical probabilities to events. In OM, defining a matrix of pairwise substitution cost is equivalent to introducing prior knowledge into the analysis, and using only one substitution cost to express either the lack of initial beliefs or the decision to avoid introducing a bias, be it empirically or theoretically informed, into the analysis.

In this study, the latter solution is preferable because it would be very difficult, if not impossible, to define the 496 substitution costs implied by the 32-state space. In addition, we want to use OM to explore patterns of entry into adulthood using as few assumptions as possible. As a result, the only parameter to determine is the ratio of indel costs to substitution, which should depend on how acceptable warping time is. As we want the algorithm to be able to shift sequences a bit, so as to identify identical but slightly shifted sub-sequences, but we do not want to warp time too much, we decided to use “neutral costs”, i.e. the Levenshtein I distance, which corresponds to setting both indel and substitution costs to one. Hierarchical clustering is applied to the resulting distance matrix to build the typology. The beta-flexible linkage is used, as previous research has shown that it performs better than other linkages to recover patterns in presence

of noise and outliers (Milligan 1980, Milligan 1981). The beta parameter was set to – 0.3 following simulations which showed that the best recovery was obtained around this value (Milligan 1989). The number of clusters was decided on the basis of the highest spike in the Levenshtein I distance (beta-flexible linkage) observed for the 20-cluster solution on. A spike is evidence that two very dissimilar groups have just been merged and suggests that the cluster solution just before is optimal, in the sense that it is the more compact typology that respects the structure present in the data. R was used to perform OM and cluster analyses[6].

Clusters will be described using state distribution graphics, median ages, average entropy, average turbulence and paragons. A paragon is the most representative individual of a group. Contrary to modal sequences, which are composed of the most common state in a group at each point in time, paragons are actual sequences. Representativeness can be defined according to several criteria but here we opt for the simplest approach, according to which the most representative individual of a group is the one who is at the centre. In other words, it is the individual whose distance from all the other members of the group is the smallest.

3.4. Convergence measures

We use two techniques to assess how the transition to adulthood, as measured by the typology produced by OM and cluster analyses, has changed over time and varies across countries. First, we employ a multigroup dissimilarity index (MDI) based on entropy (Reardon and Firebaugh 2002) to study the trend in the similarity of the distribution of types of transition to adulthood across countries. A multigroup dissimilarity index measures how dissimilar the distribution of a variable is in several groups. This sort of measure has been used extensively to analyse segregation but was until recently limited to two groups. One of the most popular segregation indexes is the dissimilarity index (Duncan and Duncan 1955), which summarises the differences in the spatial distribution of two groups as the proportion of one of the two groups that would have to move to a different area in order to make the distribution identical for the two groups. Summarising differences in distribution for more than two groups is challenging and several methods have been suggested. Here we use the multigroup information theory index (MITI), which appears to be the most satisfactory index from a theoretical point of view, in particular because it is the only one that satisfies the additive group decomposability criterion[7]. According to this criterion, the index can be decomposed into the segregation among supergroups (here, groups of countries, eg. welfare regimes) and the segregation within supergroups (how even is the distribution of transition to adulthood within each welfare regime). This measure can be interpreted as a measure of how uneven the distribution of types of transition to adulthood is, on average, when each country is compared to the total unevenness of the distribution for all countries.

[6] TraMineR (Gabadinho *et al.* 2008) was used to conduct optimal matching. The agnes function (with options ,method = "flexible" and par.method = 0.65 to get ß = – 0.3) of the cluster library was used to perform the hierarchical cluster analysis.

[7] So if we subtract the MITI calculated for all European countries except Eastern Europe from the MITI value associated with all European countries, we get something proportional to the dissimilarity between Eastern Europe and non-Eastern Europe and to the dissimilarity within Eastern European countries.

We apply this index to all countries and to groups of countries for all four cohorts, in order to analyse trends in transitions to adulthood in Europe – both overall and according to welfare regimes.

To go further, we apply correspondence analysis (CA) to the cross tabulation of types of transition to adulthood and country-cohort. CA is a variant of factor analysis that represents contingency tables in low-dimensional spaces, where the distance between categories is proportional to their chi-square distance. If two country-cohorts are close on a given dimension, it means that the distribution of types of transition to adulthood is very similar. If a country-cohort is close to a type of transition to adulthood, it means that this type is overrepresented for this country-cohort, i.e. that there is a strong association between the two. In short, CA makes it possible to visually explore the association between two categorical variables. Each dimension represents a part of the association between the two variables measured by the chi-square statistics. The dimensions are ordered according to the value of the chi-square statistics: the first dimension representing the part of the association that is the most important according the chi-square statistics, the second dimension is associated with the second most important contribution to the chi-square statistics, etc. Applying CA to country-cohorts cross-tabulated with the typology of transition to adulthood, makes it possible to see whether or not European countries converge (or only some of them perhaps), and if they do, towards which types of transition to adulthood they are moving.

4. Results

4.1. Trends in the complexity of work-life pathways

Average entropy and turbulence over cohorts suggest that family-work pathways are increasingly complex (Tables 3 and 4). In the two tables, countries are ordered according to the average entropy and turbulence for the cohort born after 1960. These two measures give very similar patterns, opposing Southern and Eastern Europe (low entropy and turbulence levels) to Western and Northern Europe (high entropy and turbulence levels). Work-family pathways become more turbulent for almost all countries except Slovakia, Portugal, and Denmark – for which turbulence is roughly the same between the first and the last cohorts. Turbulence increased most for Slovenia, Spain, Poland, and Switzerland.

Table 3 – Average entropy by country and cohort

	Before 1935	1935-1944	1945-1959	1960+	Total
Slovakia	0.281	0.301	0.289	0.278	0.286
Bulgaria	0.285	0.297	0.297	0.286	0.292
Portugal	0.284	0.298	0.292	0.296	0.293
Spain	0.280	0.302	0.303	0.298	0.297
Slovenia	0.277	0.292	0.299	0.298	0.294
Poland	0.281	0.301	0.302	0.301	0.298
Belgium	0.286	0.301	0.303	0.304	0.300
Estonia	0.299	0.317	0.309	0.305	0.308
Ireland	0.267	0.301	0.303	0.307	0.298
Hungary	0.289	0.311	0.310	0.310	0.306
Germany	0.322	0.329	0.324	0.325	0.325
France	0.304	0.318	0.317	0.326	0.318
Netherlands	0.302	0.325	0.320	0.328	0.320
Austria	0.313	0.322	0.323	0.328	0.324
Great Britain	0.327	0.320	0.326	0.335	0.328
Norway	0.317	0.325	0.333	0.341	0.332
Sweden	0.328	0.343	0.342	0.341	0.340
Finland	0.317	0.333	0.334	0.342	0.333
Denmark	0.339	0.346	0.341	0.345	0.343
Switzerland	0.319	0.325	0.341	0.345	0.335
Total	**0.303**	**0.317**	**0.317**	**0.319**	**0.315**

As expected, entropy and turbulence measures provide very similar results for our data. What is more surprising is to find Switzerland ahead of social-democratic countries in terms of complexity of family-work pathways. This could be attributed to the fact that Switzerland is composed of three linguistic and cultural regions (German, French, and Italian) and organised in 26 independent cantons that have their own constitution, parliament, government and courts. Other conservative or liberal countries have slightly lower complexity scores than social-democratic ones, except for Great Britain (with turbulence). The positions of Belgium and Ireland, closer to Southern and Eastern European countries than to the UK, are also at odds with the classical welfare regime typology. The complexity of work-family pathways in these two countries appears to be more similar to Eastern or Southern Europe than to conservative or liberal countries.

Table 4 – Average turbulence by country and cohort

	Before 1935	1935-1944	1945-1959	1960+	Total
Slovakia	5.998	6.225	6.105	5.981	6.068
Bulgaria	5.858	6.027	6.135	6.127	6.063
Belgium	6.120	6.223	6.258	6.143	6.192
Portugal	6.287	6.431	6.238	6.208	6.283
Slovenia	5.879	6.161	6.213	6.283	6.170
Spain	5.972	6.316	6.398	6.291	6.271
Estonia	6.145	6.495	6.318	6.318	6.326
Poland	5.951	6.259	6.288	6.342	6.252
Ireland	5.968	6.431	6.448	6.377	6.349
Hungary	6.137	6.391	6.440	6.426	6.363
France	6.404	6.508	6.459	6.625	6.511
Netherlands	6.458	6.633	6.598	6.655	6.600
Germany	6.602	6.727	6.697	6.659	6.678
Austria	6.527	6.587	6.619	6.688	6.632
Sweden	6.759	6.851	6.851	6.796	6.821
Norway	6.676	6.711	6.724	6.810	6.744
Great Britain	6.786	6.642	6.656	6.826	6.729
Denmark	6.849	6.990	6.825	6.826	6.861
Finland	6.600	6.791	6.748	6.927	6.775
Switzerland	6.606	6.656	6.910	6.974	6.828
Total	**6.370**	**6.525**	**6.518**	**6.546**	**6.504**

4.2. Types of transition to adulthood

In order to go beyond this global trend, we use optimal and cluster analyses on the same data. They reveal a great variety of family-work pathways in Europe that it is very difficult to describe with less than 14 types (see Table 5 and Figure 1). In hopes of addressing this lack of parsimony, we have grouped these 14 types of pathway into five major categories, based on the duration of the transition to adulthood (cf. Hogan 1981 p.61), and the order and duration of the five life events. These categories are as follows: Early Bird, Intermediate, Independent, Family, and Other.

Composed of only one of the 14 clusters (Type 10), the “Early Bird” group represents almost one in five pathways. As its name suggests, for the members of this group transition to adulthood happens early and rapidly: in terms of median ages, all the key events we observe are experienced between 18 and 22 in the standard order: first job, parental home departure, marriage and children. Few types of transition to adulthood are gendered, but the Early Bird is one of them: this quick and early passage to adulthood is much more common for women than for men. The most representative sequence is of an individual who gets her first paid job at 13, leaves the parental home at 18, then starts a family (first partnership, marriage, and children) two years later.

Of about the same size, the “Independent” group is made of three clusters (Types 31, 32 and 33) that have in common an early but incomplete transition to adulthood (first job at about 18, and first experience living independently at about 20, but with the other events occurring after the age of 30). Young adults in Type 31, meet their first partner quite early (med. age 23) and marry young (med. age 24) but the birth of the firth child occurs much later (med. age 33), if ever. The paragon of this group is an individual who secures her first job at 14, leaves the parental home to live with a partner at 18, gets married at 24, and has her first child at 32. Type 33 could be seen as the common-law version of Type 31 as marriage occurs very late (med. age 34), if at all; but it could also reflect the fact that some young adults have several partnership experiences, which are not taken into account by the first-time framework of the ESS. Obviously, the first partner is not necessarily the first spouse. This is the case for the paragon of this group who leaves the parental home and gets a job at age 20, starts to live with a partner two years later, but has their first child at age 33. Type 32 adds to this a late first partnership (med. age 32), but this type of transition is experienced by only two thirds of individuals. The most representative person of this cluster moves out of the parental home and has their first job at age 26 and a first partnership experience at age 33.

Table 5 – Basic characteristics of the 14 types of transition to adulthood

Type of transition to adulthood	Size			1st job		1st time living separately			1st time living with partner		1st marriage		1st child		Duration of the transition to adulthood			Complexity		Women
	Freq.	% (unweighted)	% (weighted)	Median age	Never (%)	Median age	Never left parental home (%)	Never lived with a parent (%)	Median age	Never (%)	Median age	Never (%)	Median age	Never (%)	Age at first event (p25)	Age at last event (p75)	Duration	H (mean)	T (mean)	%
Early bird 10	**4,875**	**18.5**	**17.6**	**18**	**0.0**	**19**	**0.0**	**0.0**	**20**	**0.0**	**21**	**0.0**	**22**	**0.0**	**16**	**23**	**7**	**0.31**	**6.21**	**70.5**
Intermediate	**5,950**	**22.6**	**21.7**	**19**	**0.0**	**20**	**0.0**	**0.0**	**24**	**0.0**	**26**	**10.9**	**27**	**0.0**	**16**	**30**	**14**	**0.35**	**6.85**	**50.3**
21 Late marriage	1,743	6.6	6.0	17	0.0	18	0.0	0.0	25	0.0	25	0.0	27	0.0	15	28	13	0.37	**6.64**	42.7
22 Late 1st job	3,339	12.7	12.6	21	0.0	22	0.0	0.0	24	0.0	26	0.0	27	0.0	18	30	12	0.34	6.60	52.9
23 No marriage	868	3.3	3.0	18	0.0	20	0.0	0.0	22	0.0	37	74.4	26	0.0	16	30	14	0.34	6.78	55.5
Independent	**5,050**	**19.2**	**19.6**	**18**	**0.0**	**20**	**0.0**	**0.0**	**25**	**11.5**	**28**	**30.5**	**34**	**52.1**	**16**	**32**	**16**	**0.32**	**6.64**	**44.5**
31 Very late 1st child	1,807	6.9	7.9	17	0.0	21	0.0	0.0	23	0.0	24	0.0	33	49.9	15	31	16	0.33	6.77	50.2
32 Very late 1st partnership	1,753	6.7	6.3	18	0.0	19	0.0	0.0	32	33.3	34	51.5	35	56.6	16	33	17	0.30	6.46	39.9
33 Very late/no marriage/1st child	1,490	5.7	5.5	18	0.0	20	0.0	0.0	23	0.0	32	43.0	33	49.5	16	32	16	0.33	6.69	42.8
Family	**7,079**	**26.9**	**29.0**	**16**	**21.8**	**22**	**9.7**	**0.7**	**23**	**7.0**	**23**	**8.3**	**25**	**9.1**	**15**	**28**	**13**	**0.31**	**6.57**	**54.3**
41 No parental home departure	623	2.4	2.3	17	0.0	39	82.7	6.7	22	0.0	23	0.0	24	0.0	15	27	12	0.32	6.42	48.3
42 No 1st job	1,942	7.4	6.6	40	79.6	20	0.0	0.0	22	0.0	22	0.1	24	0.0	18	27	9	0.26	5.60	76.1
43 Late parental home departure	2,983	11.3	13.6	16	0.0	22	0.0	0.0	22	0.0	22	0.0	25	0.0	14	26	12	0.35	7.04	52.3
44 Very late parental home departure	1,531	5.8	6.5	17	0.0	29	26.9	0.7	30	32.5	30	38.4	32	42.2	15	32	17	0.29	6.95	33.1
Other	**3,397**	**12.9**	**12.1**	**20**	**37.3**	**21**	**11.1**	**1.5**	**26**	**39.4**	**25**	**21.5**	**27**	**21.3**	**16**	**31**	**15**	**0.28**	**5.98**	**55.6**
51 Very early parental home departure	443	1.7	1.6	19	5.9	12	0.9	0.0	24	5.6	25	8.8	27	12.2	9	30	21	0.38	7.67	48.1
52 Marriage without partnership	450	1.7	1.8	17	0.0	22	0.0	0.0	39	93.8	23	0.0	25	0.0	15	28	13	0.33	6.61	60.0
53 Unusual pathways	2,504	9.5	8.7	24	49.6	23	36.5	2.0	27	35.7	27	27.6	28	26.7	18	32	14	0.25	5.57	56.2
Total	**26,351**	**100.0**	**100.0**	**18**	**10.7**	**20**	**7.0**	**0.4**	**23**	**9.2**	**24**	**13.3**	**25**	**15.2**	**16**	**29**	**13**	**0.32**	**6.50**	**54.7**

In between these two extremes is a group of three clusters (Types 21, 22, and 23) that we have called the “Intermediate” group. They are characterised by a transition to adulthood that begins reasonably early (first job at about 19 and first experience living separately at about 20) and takes more time to complete than for Early Birds, but not as long as for Independents. Half of the young adults in these three clusters have children at about 27, and all of them do so before 35, whereas only half of the Independents have experienced parenthood at age 35. Type 22 is the most common form of intermediate transition to adulthood (13%). Median ages reveal that at the beginning nothing separates these pathways from Early Birds. However, whilst the latter quickly have a first partner (med. age 20), followed by marriage and the birth of a first child (before the age of 25), adults in Type 22 live with a partner for the first time at 25 (median age) before getting married and having children. The paragon of this group is an individual who leaves the parental home at age 20, gets her first job at 24, begins living with a partner one year later, has children the year after that (age 26) and gets married two years later at age 29. Type 23 is the common-law version of Type 22, that is, median ages of the partnership and first childbirth are about the same, but three out of four young adults in this group said they had never been married. This is the case of the most representative sequence of this cluster in which the first job occurs at age 17, first independent housing at age 19, first cohabitation at age 25 and the first child at age 26. Type 21 is characterised by a first partnership that occurs later than for Types 22 and 23. It is similar to Type 32, but is not as extreme because partnership is delayed less and followed more rapidly by marriage and children. The most typical sequence here starts with a first experience of paid work at age 16, first independent housing two years later, first cohabitation at age 25, then marriage and children at age 27. Overall, Independent and Intermediate types are less gender specific than the Early Bird group. However, men appear to be slightly more represented in types characterised by late unions (Types 21, 32, 33), which is consistent with the age difference between spouses observed across Europe.

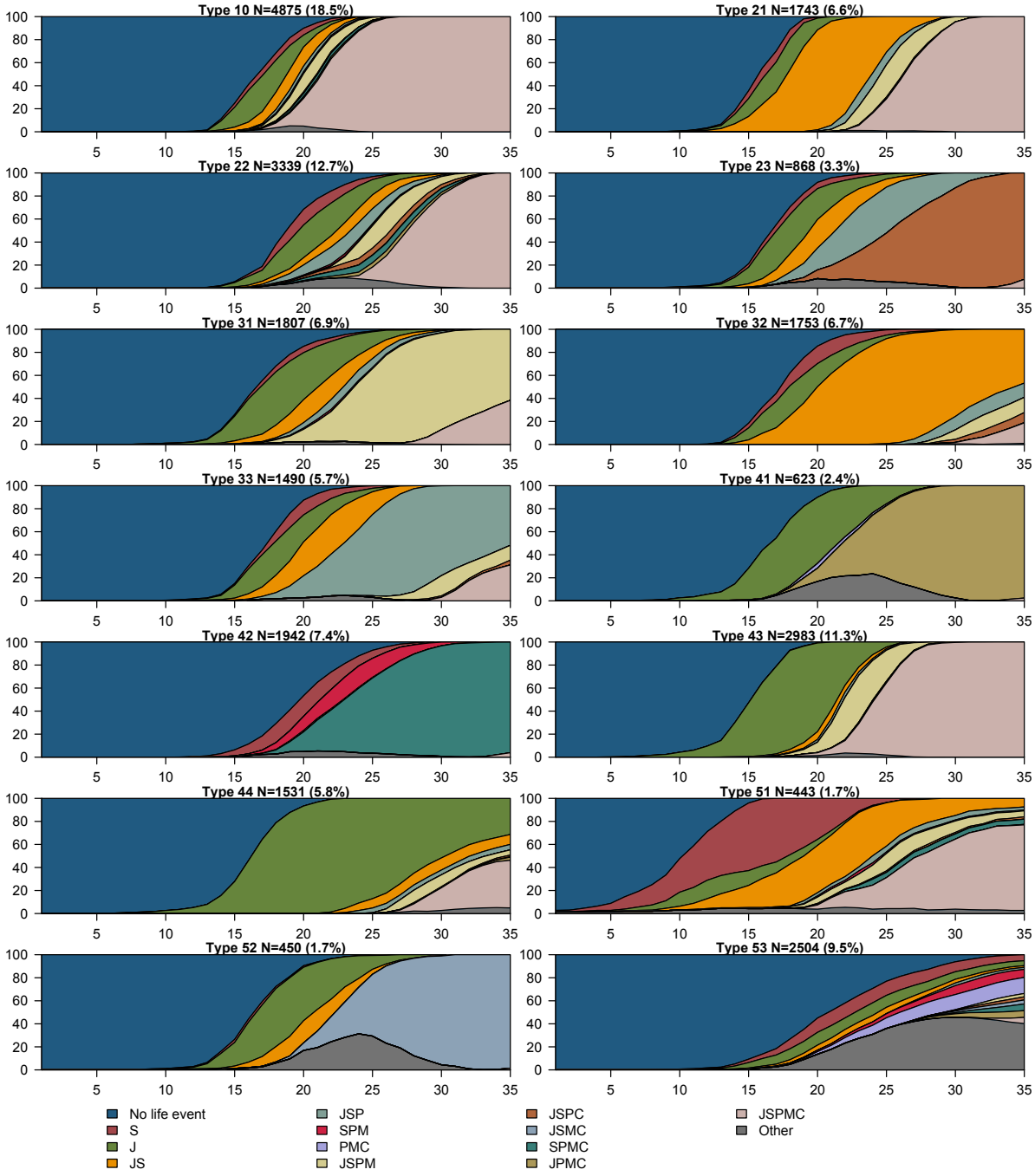

Figure 1 – State distribution of the 14 types of transition to adulthood (simplified state space)

The Early Birds, Intermediates and Independents differ mostly in terms of the timing of the five events, which are almost all experienced and experienced in the same order. The two other major groups are very different. Making up one quarter of the transitions to adulthood in Europe, the Family group (composed of four clusters: 41, 42, 43, and 44) differs from the other three major groups in the timing of the first job and the first time the individual leaves the parental home. In the three other major groups, these two

events occur quite early, roughly in the same order, and very close in time. In the Family group, however, leaving home does not follow the first job but instead takes place with the experience of conjugal life.

Three of the four groups (Types 41, 43, and 44) are characterised by a first job, often at a very early age, followed by a long period of time without any other events. In type 43, this long period of time is followed by all the other life events (living parental home, partnership, marriage, and childbirth) that occur almost at the same time - the first child arriving a year after the three other events. The paragon of this type is an individual who starts working at age 19, leaves the parental home at age 21, gets married one year later and has children two years after that, at age 24. Type 44 (in which men are over-represented at 67%) is a kind of delayed version of Type 43: at age 35 a quarter of these young adults have known no other life events than their first job. The most representative sequence is composed of only two events: the first job at age 19 and the first independent housing at age 30. Young adults in Type 41 go directly from living with their parents and having a job, to marriage and children. In sum, they form a family without leaving the parental home, an intergenerational family. Its paragon is an individual who has her first employment experience at age 16, gets married (and starts to live with her partner) at age 26 and has her first child one year later. Type 42, like the other types in the Family group, is characterised by the fact that leaving the parental home seems to be linked to the first partnership, but it differs from the other Family types in the absence of a first job experience. Disproportionately feminine (76%), this type of trajectory is characterised by a short period of time during which young adults live independently, followed quickly by marriage and soon after by the birth of a first child. For the paragon of this type, these events occur respectively at ages 18, 19, and 20. For all four of these Family types, marriage and parenthood happen a bit later than for the Early Bird group, but earlier than for the Intermediate and Independent groups (when they happen at all, which is seldom the case in Type 44).

The remaining major group brings together two very small clusters and one larger one. The latter (Type 53) is composed of all the other work-family pathways that were not similar enough to be assigned to the other clusters, but which have little in common. As Figure 1 shows, it is the cluster in which atypical states appear most frequently. Indeed, the paragon of this group is an individual who leaves the parental home at age 18, has a first partnership experience at age 21 and a first child at age 23 and no other life events after this. Half of these young adults do not experience a first job at all. Women are slightly over-represented (56%) in this type. Type 51 is characterised by a very early departure from the parental home (med. age 12) and a reasonably late first partnership, followed rapidly by marriage and children for almost all of the individuals of this group. Type 52 is certainly the most puzzling one, bringing together individuals who have a first job experience, followed by independent living, but who marry directly and have children without ever living with a partner. Moreover, this is not because these individuals did not respond to that question: on the contrary, most of the time (80%) they specifically said that they had never lived with a partner. Yet, 90% of them are currently living with a spouse or a partner. The paragon of this group is an individual who starts work at age 14, leaves the parental home at 17 and gets married and has children at

age 21 but never lives with a partner. Possible interpretations include marriages of convenience, couples that live apart, or more probably survey error. The fact that this type is overrepresented in some countries (the Netherlands[8], 38%; Belgium, 16%; and Switzerland, 12%) gives credit to the survey error hypothesis[9].

As expected, turbulence is lower on average for Early Bird transitions to adulthood (6.21) than for Intermediate and Independent groups (resp. 6.85 and 6.64). Indeed, these groups have about the same number of states but with different timing, leading to different variance in the time spent in each state. However, turbulence level is about the same, on average, between Independent and Family pathways, which is logical given that these two major types of transitions to adulthood are both characterised by incomplete and longer sequences compared to Early Bird ones. The lowest value of turbulence is reached for unusual pathways (Type 53), again a logical result as these sequences are composed of few states and as a consequence, of few subsequences. However, the explanatory power of turbulence measures appears limited in distinguishing between types of transitions to adulthood that differ in important ways, for example: Type 23 – Intermediate, no marriage (6.78), Type 32 – Independent, very late first partnership (6.77) and 33 – Independent, very late/no marriage and children (6.69).

4.3. Types of transition to adulthood across countries and over time

To analyse how these types of transition to adulthood are distributed in Europe for the four cohorts, it is necessary to study a 80 by 14 table (see in appendix Table A). To do so, we use the multigroup information theory index (MITI) and correspondence analysis. MITI measures how uneven the distribution of types of work-family pathways is across countries. Figure 2 shows index values for all countries and groups of countries. It is not possible to conduct analyses for each of the welfare state regimes because of the low number of cases for two of them (see Table 1, we only have Ireland and the UK as representative of the Liberal welfare regime, and Portugal and Spain for Southern Europe). If we begin by considering the 20 European countries together, we observe a slightly U-shaped curve indicating a relative convergence for the 1945-1959 cohort (compared to previous ones), but which is followed by greater heterogeneity for the youngest cohort. However, if we consider the countries without Eastern Europe, we see that convergence increased slightly with the last cohort, born between 1960 and 1971. Before the 1945-1959 cohort, the two curves are remarkably close. The gap widens slightly for the 1945-1959 cohort, indicating that even if Eastern European countries follow the same trend as the rest of Europe, the convergence speed is slower. But with the 1960-1971 cohort (most of whom became adult in the context of the collapse of Soviet Union) this slowdown becomes a turnaround; work-life pathways in Eastern Europe became more heterogeneous than they had ever been, while in the rest of Europe they became slightly more similarly distributed.

[8] We contacted the National Coordinator of the ESS for the Netherlands but received no answers to our questions.
[9] This problem is unlikely to affect the turbulence and entropy results as it is a very small group and because these three countries have very different values for these two indicators.

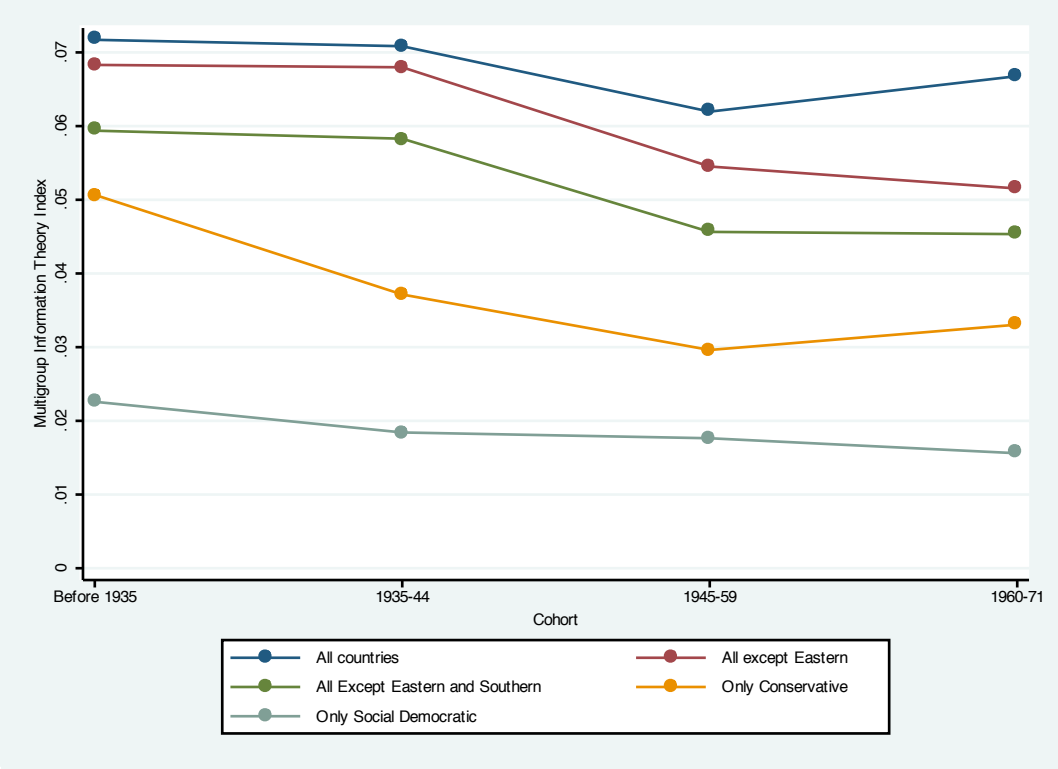

Figure 2 – Multigroup Information Theory Index (14-cluster typology)

Leaving Eastern Europe and Southern Europe aside sheds further light on the convergence in patterns of transitions to adulthood in the rest of Europe. Firstly, for the cohorts born before 1945, the similarity between Eastern Europe and Southern Europe is largely responsible for the similarity between Eastern Europe and the rest of Europe. Secondly, it appears that if European countries did converge with the 1945-1959 cohort, this was far less true in Eastern Europe than the rest of Europe, and the convergence was short-lived in any case. The turning point came with the 1960-1971 cohort, as Eastern Europe started to drift away, whereas Southern Europe converged with the rest of Europe (which remained at the same level of similarity). The question of the convergence in the transition to adulthood can be refined further by calculating MITI separately for Conservative countries and for Social Democratic countries. Indeed, in terms of work-life pathways, the much higher degree of similarity between Nordic countries, compared to Conservative ones, is striking.

But that is not all. If we compare the slopes of the two curves, we can see that there is a strong convergence for the 1935-44 and 1945-1959 cohorts, with Conservative countries becoming increasingly like Scandinavian ones (steep slope for the former, flat slope for the latter). However, this convergence ended with the 1960-1971 cohort, which started to diverge slightly because the transition to adulthood in Conservative countries seems to have become less homogeneous again. We could interpret this as a convergence of the two groups towards two slightly different models.

Correspondence analysis[10] casts additional light on this question (see Figure 3). The first three dimensions explain almost three-quarter of the chi-square statistics[11]. The first dimension, which accounts for 40% of the chi-square statistics, is related to a division between the South and the East, and the rest of Europe, as demonstrated by the multigroup segregation index analysis. On the left of this first dimension are Eastern and Southern European countries, as well as Family types of transition to adulthood: 41 (Family – no parental home departure), 42 (Family – No first job), and 43 (Family – late parental home departure). On the right, we find all the other European countries and types of transition to adulthood: 23 (Intermediate – no marriage), 33 (Independent – very late/no marriage/ first child), and 32 (Independent – very late partnership). There is a precise time element associated with the first dimension, given that for almost all countries the four cohorts are ordered from the left to the right (except for Slovakia or Bulgaria, which show little movement on the horizontal axis). The first dimension is thus the condensed history of the transformation of the passage to adulthood in Europe, from familial to individualised forms.

Before going further, it seems useful to present the second dimension, which accounts for 21% of the chi-square statistics. The second dimension contrasts the youngest cohorts of Eastern Europe countries (1945-1959 & 1960-1971) and the oldest cohorts of Nordic ones, with the youngest cohorts of the rest of Europe. The former group of country-cohorts is associated with types 10 (Early Bird) and 41 (Family – no parental home departure), and the latter with types 42 (Family – No first job), 53 (Other – unusual pathways), and to a lesser extent, 44 (Family – very late parental home departure) and 33 (Independent – very late/no marriage or first child). In other words the second dimension contrasts transitions to adulthood that happen quickly and early in life, with those that are slower and remain incomplete.

Taken together, these two dimensions provide a map of the changes in transitions to adulthood across Europe over four cohorts. Almost all countries have a kind of reversed U-shape trajectory. This means that for all European countries, old cohorts tended to have slow and incomplete familial transitions to adulthood (family formation without a job experience, late or no parental home departure, etc.), whereas more recent cohorts were likely to have quicker passages to adulthood that happen earlier in life (Early Bird, and intergenerational families for Eastern Europe countries). However, the youngest cohorts seem to have moved back to slower and more incomplete transitions. These are of a completely different nature to the transitions of their elders, however, being much more individualised: early job experience and departure from the parental home, but late or no marriage, and late or no birth of the first child.

Although the welfare regime framework was not used at all in this correspondence analysis, the way the countries and cohorts are grouped often appears to reflect it. As suggested by MITI analyses, the most

[10]Types 51 and 52 were introduced into the correspondence analysis as supplementary, given their very small size and the likely data problem revealed by Type 52.
[11] Interpreting correspondence analysis requires first deciding on a number of factors and aiming to understand how they relate to the items of the two categorical variables from which they are constructed. The number of factors should be as parsimonious as possible without oversimplifying the structure of the association between the two variables. The elbow criterion (which has a different meaning than in cluster analysis) is often used to decide on how many factors are necessary. Here the most obvious cutting point is three dimensions.

homogeneous cluster of countries and cohorts is the Social-Democratic one. This is the group of countries for which the reversed U shape is the least pronounced, because the oldest cohort was already quite different from the Family types, and already experiencing rapid transitions to adulthood at a relatively young age (Type 10). Subsequent cohorts then took progressively more time to complete the different stages after gaining their first job and leaving the parental home; delaying partnership, marriage, and having children (Intermediate types 21 and 22). The youngest cohorts in Social-Democratic countries experienced reasonably similar transitions to previous cohorts, although perhaps more slowly and with an increasing tendency to skip the marriage stage (Types 23 and 33).

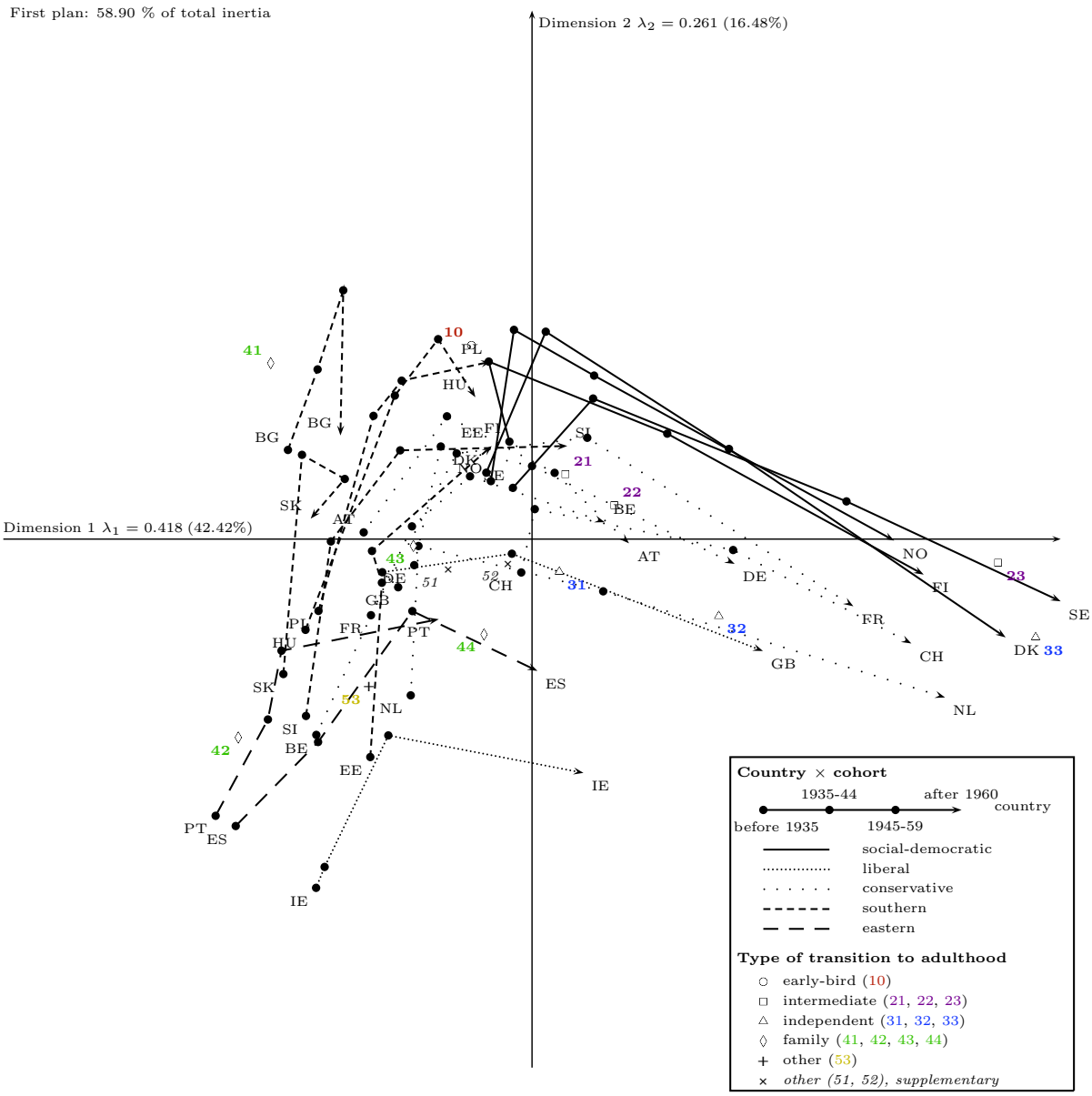

Figure 3 – Correspondence Analysis - dimensions 1 and 2 (14-cluster solution and country-cohort)

Conservative countries and the UK demonstrate rather similar trajectories, except that they begin with the Family types of transition to adulthood for the oldest cohort (all of them except for Type 41 – no parental home departure), followed by passages to adulthood that happen earlier and more quickly for the baby-boomers, and which then become progressively longer for the last cohort born after 1960, until they

correspond to the Intermediate and Independent types of transition. In terms of family-work pathways, Ireland is not at all like Britain, but instead very close to Southern European countries. Before looking into that in more detail, it is worth noting that this Conservative + UK group can be divided into two subgroups. The first is made up of France, the Netherlands and Switzerland, in which the youngest cohorts appear very similar to those in Nordic countries in terms of work-family pathways, and could be considered as frontrunners in Western non-Nordic Europe. The second group combines Austria, Belgium, Germany and Great Britain. This group is tending in the same direction as the first, but more slowly and either with very late first marital life experiences (Types 31 and 32) or parenthood that occurs very late (if at all). All in all, the UK, Conservative, and Social-Democratic countries seem to converge towards what appears to be the new European model of transition to adulthood; characterised by a reasonably early and synchronised first job and departure from the parental home, followed a bit later by cohabitation, then by children (Types 23 and 33). Less delayed than Type 33, Type 23 is more characteristic of Social-Democratic countries. In both cases, marriage comes (at best) after the birth of the first child, suggesting that marriage no longer appears to be a necessary step in the transition to adulthood for young people (born after 1960) in Western Europe.

Yet there is not total convergence for this group of countries; alternative modes of the passage to adulthood still exist. In Denmark, 37% of the 1960-1971 cohort had transitions to adulthood of Type 23 or 33 (see Table A in appendix). This figure is of 27% for Switzerland and France. In Denmark, Intermediate pathways make up most the alternative transitions to adulthood (45%); but this is less the case for Switzerland, in which Independent pathways are more common (50%) than in Denmark (35%). As a result, although Conservative countries and Britain are moving in the same direction as the Social-Democratic group, they are taking a different path, with first partnership, marriage and childbirth occurring later. This is what the third dimension of the correspondence analysis shows, accounting for 14% of the chi-square statistics[12]. The easiest way to explain what this third dimension adds to the analysis, is to consider Figure 3 and to imagine that some parts of it go up and others go down – like a 3D image. What goes up: 41 (Family – no parental home departure), 53 (Other – unusual pathways), 23 (Intermediate – no marriage), and to a lesser extent 22 (Intermediate – late first job). What goes down: 43 (Family – late parental home departure), 44 (Family – very late parental home departure), and 31 (Independent – very late first child). This means that the proximity of Types 33 and 23 on the first two dimensions is in fact a geometrical illusion resulting from the collapse of a 3D image onto a 2D one. As found in the MITI analysis, Social-Democratic and Conservative countries converge only partially, because the former converge towards Type 23, whereas the latter towards Type 33. Of the three frontrunner Conservative countries, only the youngest French cohort seems to really move towards the Social-Democratic model. On this third dimension, Switzerland is on the other side, and the Netherlands is in between.

On the first two dimensions, Portugal and Spain cluster together with Ireland – possibly explained by the importance of the Catholic religion in these countries. Compared to the rest of Western Europe, Family types are much more common in this cluster (except for Type 41 – no parental home departure, type one)

[12]See Figure B in appendix.

for the oldest cohort, but also for subsequent cohorts. It is only with the youngest cohort born after 1960 that Spain and Ireland cross the border of the second dimension, moving towards Independent transitions to adulthood, suggesting a possible accelerated convergence towards Conservatives countries that bypass the quick and early stage (Type 10). As suggested by the MITI analysis, these countries converge towards the Conservative ones only for the most recent cohort.

As the MITI analysis also indicates, the cohorts born before 1945 across Southern and Eastern Europe are very similar in terms of work-family pathways. Cohorts born after 1945 and growing up in socialist countries tend to converge towards the quick and early transition to adulthood (Type 10), however, which is not the case in Southern Europe. With the exception of Slovenia, these cohorts delay their transition somewhat, pushing further towards the longer transitions (Types 21 and 22). The youngest cohorts in Bulgaria and Slovakia even seem to go backwards toward the Family patterns of transition to adulthood. This suggests that socialism enabled, to a certain extent, young adults to create their family without relying on their parents (Type 10). However, this model coexisted with more traditional models (Type 41), where two generations of families lived in the same home. The collapse of Soviet Union experienced by the youngest cohort disrupted the transition to adulthood in Bulgaria, Slovakia, and to a lesser extent Hungary, bringing about unusual combinations of life events (Type 53, see Table A in the Appendix). Young adults living in Slovenia and Poland seem to have been less affected by this event. One possible interpretation is that the remote relationship between these countries (Poland in 1956 and 1980; Yugoslavia in 1948) and the Soviet Union could be a clue to understanding these specificities. In Portugal and Spain, by contrast, conservative military dictatorships did not promote the emancipation of young people in the same way socialism did (as demonstrated by the predominance of the Family types 42, 43, 44 and the absence of Early Bird trajectories). Given that they ended sooner (respectively in 1974 and 1975), and in different circumstances than socialism (they both joined the European Union in 1986), however, the youngest cohorts of these countries adopted more individualised and slower transitions to adulthood, than those of the former socialist countries.

5. Discussion and conclusion

The various statistical methods we have employed have provided evidence for dramatic changes in the transitions to adulthood in Europe for the four cohorts studied, which cover almost all of the 20th century. If, in keeping with previous analyses (Elzinga and Liefbroer 2007) complexity indicators (entropy and turbulence) have shown here that work-family pathways are increasingly intricate in Europe, it is only with the empirical typology we built using optimal matching and cluster analyses that we were able to fully account for the complexity and variety of transitions to adulthood. Even though they are based on limited information (the years in which five life events first occurred) and neglect the possible reversibility of these events, work-family pathways showed a great deal of variety that could only be captured by a 14-group typology. The different groups vary according to whether the transition to adulthood is completed, and the order and timing of events. The characteristics of the Early Bird group (all of the events are experienced in the standard order and at a rapid pace) bear a striking resemblance to the accelerated transition to

adulthood pattern, observed in the US for the two decades after the Second World War (Modell *et al.* 1976, Hogan 1981). The Family group of work-family pathways, on the other hand, brings together types that are almost all characterised by an early entrance to the labour market, followed by a long period of time without any of the other events happening, then finally a period in which they all happen in rapid succession. This group fits the description of the traditional pre- and early-industrial life-course regime quite well (Mayer 2001), in which young adults stay in a "semiautonomous state" for some time before completing all the other transitions (Modell *et al.* 1976). Lastly, the Independent and Intermediate types of transition to adulthood, characterised by more or less delayed transitions, echo the writings on the de-standardisation of the transition to adulthood (Corijn and Klijzing 2001, Breen and Buchmann 2002), but mitigate them by illustrating the emergence of two new standards.

These fourteen types of transition to adulthood can be found, to varying degrees, in almost every European country for every cohort. Even though some of them are more common in some countries for some cohorts, there is never only one single life-course pattern. Even during the post-war boom (1945-1975), when rapid transitions to adulthood at a young age were indeed the most common pattern in Western Europe, they were not the only one. As Pollock (2008) stressed, this is not a surprise *per se,* as qualitative work has shown that back then the transition from school to work was not always quick and easy (Vickerstaff 2003). Yet thanks to the empirical typology approach we have adopted, for the first time it is possible to accurately measure just how widespread the different types of transition to adulthood were at different periods of time. In Great Britain for instance, the Early Bird pattern has never represented more than 20% of the transitions to adulthood (23% for Germany, 25% for Sweden, and 27% for France). Even if many studies on these transitions have tried to capture the dispersion of life courses around average or median patterns, only the empirical typology approach adopted here is able to precisely measure this diversity. Indeed, contrary to a typology derived from theory, the different types of transition to adulthood uncovered here were not defined *a priori* (as for instance in Elzinga and Liefbroer 2007), but were instead based on empirical data. Not raw data though, as clustering is applied according to the distance between trajectories as given by optimal matching. Our 14-cluster typology also confirms the ability of optimal matching methods to provide detailed descriptions of life courses that take into account both the timing and order of life events (Settersten and Mayer 1997, Shanahan 2000, Billari 2001). Quite remarkably, based on these fourteen types of work-family pathways, we observe distributions of country-cohorts that echo previous theoretical and empirical writings on the impact of welfare regimes on youth trajectories (Mayer 2001, Van de Velde 2008). Our results are also consistent with the history of household formation and family systems in Europe (Hajnal 1982, Reher 1998). Indeed, they support the idea that Family group patterns are uncommon in Nordic countries, even for the oldest cohort, in accordance with the historical tendency of early home-leaving. Moreover, countries in Southern Europe are still marked by strong family ties characterised by late or very late parental home departure (Types 43 and 44). Finally, we also find a strong association between traditional joint households (Type 41) and Eastern Europe countries.

This typology has made it possible to analyse in great detail how the transition to adulthood has changed over time and across countries. The two analytical strategies used to analyse the 80 x 14 table (country-cohort x life-course type) provided unprecedented insight into the convergence of European countries. Multigroup information theory index, computed for different groups of countries, showed that

Europeans' entry into adulthood converged for the first three cohorts (born before 1960). However, the youngest cohort of Europeans, born in the 1960s, proved to be more diverse in the ways they entered adulthood. This sudden increase in diversity is partly due to the youngest cohort of Eastern Europeans who went through very different life stages to their fellow Europeans. For the latter, life-course patterns continued to converging further, although at a much slower pace than it had for previous cohorts. The correspondence analysis of the distribution of these different types of transition to adulthood across cohorts and countries gave new insights into this partial convergence (Billari and Wilson 2001, Elzinga and Liefbroer 2007, Fokkema and Liefbroer 2008). To begin with, it provided direct evidence for the first time, that the transition to adulthood is being transformed. This processes has moved from models of transition that were initially incomplete, delayed and semiautonomous (Family type) for the oldest cohort, except in the Nordic countries; to transitions that started to happen faster and earlier in life (Early Bird), except for Southern countries; before once again becoming incomplete and delayed, but now with greater emancipation from the family (Intermediate and/or Independent), except for several Post-socialist countries. Indeed, even if previous studies or reviews (eg. Shanahan 2000, Mayer 2005) have suggested this pattern of transformation, none of them provided direct evidence for it, but instead had to rely on piecing together numerous studies to support their claims. Only an empirical typology for several cohorts and countries could provide such direct evidence.

Yet if our results provide a stronger basis for this long-term view of the transformations of the transition to adulthood, they also mitigate it to a certain extent. First of all, the degree to which this single overarching story represents an acceptable summary varies across cohorts. Our results are also consistent with previous empirical studies that have documented the absence of convergence of transitions into adulthood across countries (Billari and Wilson 2001, Elzinga and Liefbroer 2007, Fokkema and Liefbroer 2008). MITI analyses also revealed that it was Europeans born just after the Second World War who experienced the most similar passage to adulthood. This cohort of Europeans entered adult life in the context of strong economic and welfare state growth (except in Portugal and Spain) that enabled most Europeans to rapidly become independent from their family of orientation. As emphasised by Modell and colleagues (1976), the transition to adulthood is a period of uncertainty for young people in all societies, and this cohort found unprecedented buffers in the public policies and institutions (public health clinics, unemployment benefits, pensions, etc.) and in the economic prosperity of the 1950s-1970s. Probably for the first time in history, life was more predictable and less dependent on one's family of orientation. As emphasised by Pollock (2008), it is paradoxical that the cohort that enjoyed economic and moral freedom (the Fordist post 1968 cohort), had the quickest and earliest transitions to adulthood. Our findings are consistent with these claims, adding that as previous studies have found, the end of this "golden age", triggered by the economic crisis that started in the mid-1970s, was accompanied by delayed transitions to adulthood. In this regard, our findings suggest that the economic context at the time of entry into adulthood is of primary importance because it contributes to the framework within which expectations and life plans can be formed and realised (or not). As the MITI analysis showed, the convergence in Europe was maximal for the cohorts that started their adult life in the 50s and the 60s. In other words, it was during the post-war boom, a period of unprecedented economic growth in Europe, that the influence of cultural and institutional factors seems to have been the weakest.

The increased divergence in paths to adulthood during less favourable economic periods, suggests that the effect of cultural norms and welfare regimes is greater in these circumstances. Indeed, the first dimension of the correspondence analysis fits with theories of individualisation (Giddens 1991, Beck 1992), showing how, overall, life courses have evolved towards more individualised forms (except in some Eastern European countries): Family patterns, which made up the majority of work-family pathways for the oldest cohort, have become more Intermediate or Independent life-course patterns, happening later and with increased autonomy.

During periods of economic stagnation or depression, welfare states can expand or condense the time they give to young people. Even if they are weakened, welfare regimes still continue to shape how global trends apply nationally, and to influence the life course, as our results suggest (2001, Blossfeld *et al.* 2005). If the transition to adulthood took longer for the 1960-1971 cohort in Western Europe than for previous ones, the duration of the transition to adulthood was greater for Conservative and Liberal countries than for Social-Democratic ones. Independent life course patterns are indeed much more common in the former than in the latter: 37% (vs. 24%) in Great Britain, 31% (vs. 24%) in Germany, 46% (vs. 26%) in the Netherlands, and 50% (vs. 23%) in Switzerland. As revealed by simple correspondence analysis, France stands out from other Conservative countries with 30% Independent and 37% Intermediate life-course patterns, figures that are close to those of Norway (resp. 29% and 43%) and Sweden (36% and 47%). The globalisation process produces more uncertain youth trajectories in employment transitions and in family formation. Generous welfare systems (Scandinavia and France) reduce the duration of transition to adulthood and provide a buffer against globalisation (Aassve *et al.* 2007b) compared to countries with scarcer policies (Liberal and Southern countries). This supports the importance of nation-specific institutions in shaping individual life courses (Mills and Blossfeld 2005).

Taken together, these changes and patterns point towards the emergence of two similar but distinctly new models of transition to adulthood: the Intermediate and Independent patterns, and more specifically types 23 (no marriage) and 33 (very late/no marriage/first child). These two emerging standards bear striking resemblance to the “Traditional Late Motherhood” and “Modern/Alternative Late Motherhood” ideal-types described by Elzinga and Liefbroer (Elzinga and Liefbroer 2007). If types 23 and 33 have in common delayed but classically ordered life events, the postponement of the first marriage and the first child is much more pronounced for the latter. Indeed, 43% of young adults of Type 33 have never experienced marriage at age 35 and only half of them had a first child. The situation is very different for the unmarried group of the Intermediate life-course pattern, because all individuals have at least one child but only one in four get married before the age of 35. This could be evidence of a new kind of transition to adulthood that no longer includes marriage as a necessary step, especially in relation to parenthood (Kiernan 2004). However, as we are only observing the first occurrence of these life events, it is not possible to exclude the likelihood that some of these young unmarried parents are in fact single parents. As a matter of fact, 19% of these adults

were single parents at the time the survey was conducted, whereas the average rate in the whole sample was 7%.

The strong support families receive from the state in Nordic countries, and to a certain extent in France[13], might reduce, both subjectively and objectively, the risk that having children represents, especially in difficult economic times. This is because welfare states provide general frameworks in which individuals can live and make plans for their lives (Mayer and Schoepflin 1989). In this respect, having children is a life event that has undergone huge changes since the 1960s, but which remains the only one that is irreversible. One of the outcomes of the feminist movement and other social movements that occurred throughout most industrialised countries at the end of 1960s was to dissociate sexuality from childbearing. The decision to have children (as well as when and how many) is now often made rationally by couples. More valued than ever before, perhaps even sacralised (Zelizer 1985), children have increasingly become the object of their parent's full attention, as evidenced by the increase in family time (Bianchi *et al.* 2006), especially in highly educated and middle-class families (Lareau 2003). Social-democratic welfare regimes offer a stable framework for couples to organise their family lives, and protect them from unemployment, sickness, the economic consequences of divorce or separation, but they also offer childcare facilities that enable both parents to stay in the labour market.

If childbearing is postponed in Scandinavian countries and in France, usually occurring in the last stage of the transition to adulthood (Marini 1984), this is not as pronounced as it is in other Conservative countries and in the UK, where having children entails more changes and risks for couples, especially for women. This refers primarily to the effect of family policies, which have become increasingly different among European countries since the 1970s (Gauthier 2002a) The lack of childcare facilities in Germany and the 3-year maternity-leave scheme might explain why Independent life-course patterns are more common there than in Scandinavian countries. This might in turn explain the lower fertility rates in those countries; given that half of the individuals who had Independent type transitions to adulthood had no children at age 35. But welfare states are not only about family policies, they also provide (or not) cushions against adverse economic circumstances. Given the money and time spent on children in advanced industrialised countries, bad economic prospects and weak social security might also push couples to delay their plans for having children, depending on their expectations and educational background (Kreyenfeld 2010).

The lack of state childcare services might also explain the almost direct switch from Family life-course patterns to Independent ones in Southern Europe. As Portugal and Spain were isolated during the period when the rest of North-Western Europe was experiencing high growth rates and developing their welfare policies and institutions, Spanish and Portuguese young people were excluded from the early and quick transition to adulthood pattern experienced by the 1935-59 cohorts everywhere else in Western

[13]Like Scandinavian countries France has quite a high proportion of transitions to adulthood that do not include marriage: types 23 and 33, with very late or no marriage represent 27% in France, 28% in Norway, and 40% in Sweden.

Europe. As a result, they skipped this stage and the youngest cohort seems to have gone directly to postponed transitions to adulthood, particularly to the longer types (Independent patterns and Family Type 44) marked by a high proportion of childlessness at age 35.

Countries in Eastern Europe clearly illustrate the limits to the welfare regime framework in conducting comparative research on the life course. During the post-war socialist era, Eastern European countries converged towards the quick and early transition pattern, along with the North-Western European countries. Socialism marked a clear rupture in the tradition of joint households frequently observed in the oldest cohorts. This historical period confirms the strength of the birth cohort in shaping an individual's life course, as Elder showed for the Great Depression in America (Elder 1974). The collapse of the Soviet Union had varying consequences on countries in Eastern Europe, some tending to return to Family life-course patterns (Slovakia or Bulgaria), whilst others continued to exhibit a high proportion of quick and early transitions into adulthood (Poland or Hungary), and still others moved towards slightly more delayed patterns (Slovenia or Estonia). As emphasised by Mayer, (2005) Esping-Andersen's typology, even expanded to include Southern and Eastern Europe, may conceal variations in policies and institutional settings that are crucial for the transition to adulthood. Our findings confirm Mayer's claim that France is closer to Social-Democratic countries than to Germany in terms of the life course. Even if France's family policies were not designed to promote equality between women and men, but were rather inspired by pro-natalist concerns (Gauthier 1996, Winkler-Dworak and Toulemon 2007), in practice they have proved quite efficient in reducing the private costs of parenthood, traditionally borne by women. It is only because our study is based on several countries per welfare regime (especially Eastern Europe countries, see Table 1), that this limitation could come to light. To our knowledge, this is the first time that a typology of transitions to adulthood was made with so many countries. This suggests that further comparative research on the life course should unpack aggregated institutional regimes and focus on specific institutions and policies. Although this recommendation is not new (Przeworski and Teune 1970), it has not been systematically put it into practice (Gauthier 2002b). It can be achieved by centring the analysis on few countries that differ markedly on certain key policies (2005, 2009, Fussell *et al.* 2007), but it could also be achieved by means of multilevel models applied to a large number of countries. From the expansion of large-scale comparative surveys like the ESS or SHARE, to the development of contextual databases describing policies and institutions, to the maturation and availability of multilevel methods – all the requirements to conduct policy-informed comparative analyses are met.

Overall, the empirical typology approach adopted in this article proved worthwhile in addressing the question of the convergence of transitions to adulthood in Europe. Our findings show that this convergence was particularly pronounced for the cohorts born after the end of the Second World War, but that it slowed to a large extent afterwards. The fact that the trajectories of these countries come together along the lines of the classical welfare regime typology suggests that even when they are weakened, institutions and policies still leave a clear mark on the different stages of the path towards adulthood. This hypothesis undoubtedly needs further investigation, which requires going beyond description and using multilevel analysis to unravel the institutional, policy, cultural and individual factors that lie behind these different ways of becoming an adult.

ACKNOWLEDGEMENTS

A grant award from the *Caisse Nationale d'Allocations Familiales* (National Office for Family Allocations or CNAF) has contributed to the funding of this study. We would also like to thank Cécile Van de Velde and Vincenzo Cicchelli for their helpful comments.

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APPENDIX

Table A –Distribution of the types of transition to adulthood by country and cohort

		Type of transition to adulthood														
Country	Cohort	10	21	22	23	31	32	33	41	42	43	44	51	52	53	Total
Austria	Before 1935	14.9	10.3	12.6	0.6	8.0	4.6	0.6	8.6	9.7	10.3	2.9	1.1	0.0	16.0	100
	1935-1944	27.8	7.3	12.8	0.4	7.7	6.0	1.7	3.0	3.8	15.0	3.8	0.4	0.0	10.3	100
	1945-1959	21.9	4.5	12.4	2.2	10.2	5.7	7.5	4.3	2.2	12.9	6.3	1.1	0.0	9.0	100
	1960+	18.7	4.4	13.6	3.6	8.7	6.6	10.5	2.2	1.7	9.0	8.6	0.3	0.3	11.9	100
Belgium	Before 1935	8.7	0.5	12.8	0.5	10.3	2.6	0.0	1.5	16.4	14.9	10.8	0.0	5.1	15.9	100
	1935-1944	18.6	1.4	16.2	1.0	11.4	3.3	0.5	1.0	7.6	21.0	4.3	0.0	4.8	9.0	100
	1945-1959	21.1	1.4	19.7	0.7	12.5	1.2	2.6	0.2	5.1	17.4	4.6	0.0	6.5	7.0	100
	1960+	17.5	1.7	26.4	3.1	8.7	3.6	7.2	0.5	5.0	9.6	6.3	0.2	2.9	7.2	100
Bulgaria	Before 1935	25.0	1.8	14.9	0.0	3.0	1.8	0.0	12.5	9.5	6.0	3.6	1.2	1.2	19.6	100
	1935-1944	27.4	5.2	13.7	0.0	4.8	0.4	0.4	11.7	7.3	5.2	1.2	5.2	2.0	15.3	100
	1945-1959	37.6	2.6	13.8	0.3	4.6	1.5	0.3	10.5	7.2	4.3	3.1	2.0	2.0	10.2	100
	1960+	28.3	3.7	11.5	0.8	2.5	4.9	0.4	9.8	7.8	4.1	3.3	2.5	1.2	19.3	100
Switzer-	Before 1935	12.4	18.3	6.6	0.0	5.0	16.6	1.7	2.5	5.4	4.6	8.7	2.1	5.8	10.4	100
land	1935-1944	17.5	12.3	7.8	1.1	7.1	12.7	3.0	0.7	3.7	14.6	3.7	1.9	6.0	7.8	100
	1945-1959	14.3	10.5	9.2	3.1	10.0	10.9	13.4	0.7	1.3	10.3	6.3	2.9	2.7	4.5	100
	1960+	8.1	9.0	12.4	1.6	8.8	15.4	25.6	0.9	1.2	5.3	5.1	0.9	1.6	4.1	100
Germany	Before 1935	13.2	9.6	11.2	1.3	6.6	4.3	1.0	3.0	3.6	20.1	7.3	1.0	0.7	17.2	100
	1935-1944	18.9	8.5	9.7	1.1	10.1	4.4	1.1	4.4	1.1	22.8	6.0	2.5	1.1	8.3	100
	1945-1959	23.3	4.7	8.7	2.4	10.2	6.8	5.3	2.4	1.9	16.6	6.1	1.1	2.5	8.0	100
	1960+	15.1	5.0	12.5	6.2	8.8	10.0	12.5	1.9	1.3	7.3	8.8	1.0	2.5	7.2	100
Denmark	Before 1935	18.1	25.1	4.7	2.3	9.9	6.4	0.6	0.0	7.0	14.0	3.5	2.3	0.0	5.8	100
	1935-1944	31.4	21.1	7.2	1.3	9.9	5.8	3.6	0.4	3.1	9.0	3.1	1.8	0.0	2.2	100
	1945-1959	22.4	9.6	16.8	6.5	6.5	9.1	10.7	0.5	1.9	9.3	0.9	0.9	0.2	4.4	100
	1960+	5.7	7.2	23.9	13.8	3.1	8.5	23.3	0.0	1.3	3.1	1.3	0.9	0.0	7.9	100
Estonia	Before 1935	9.8	7.1	13.0	1.6	4.3	11.4	1.1	1.6	26.6	3.8	3.8	3.8	0.5	11.4	100
	1935-1944	19.8	11.5	9.3	3.1	4.8	5.3	0.4	2.6	19.4	4.0	4.8	4.4	0.9	9.7	100
	1945-1959	26.6	9.2	9.0	3.2	2.9	5.8	1.2	1.4	22.3	6.9	1.2	1.4	0.0	9.0	100
	1960+	30.8	6.6	14.7	6.6	3.1	2.8	2.4	2.4	9.8	2.8	3.1	1.4	0.0	13.3	100
Spain	Before 1935	2.3	3.2	8.2	0.0	8.2	2.7	0.0	4.1	25.0	16.4	11.8	2.7	0.5	15.0	100
	1935-1944	3.3	3.8	11.0	0.5	4.8	5.7	0.5	2.9	20.0	25.2	13.8	2.4	1.0	5.2	100
	1945-1959	12.0	5.6	13.1	0.8	5.3	5.1	2.4	1.9	11.2	21.1	9.9	3.5	0.5	7.7	100
	1960+	9.7	3.1	15.9	2.1	8.8	6.4	6.2	0.5	6.4	11.6	16.1	0.7	0.5	12.1	100

		Type of transition to adulthood														
Country	Cohort	10	21	22	23	31	32	33	41	42	43	44	51	52	53	Total
Finland	Before 1935	22.8	10.8	7.1	5.0	7.5	11.2	0.0	3.7	5.0	12.4	4.6	3.3	0.8	5.8	100
	1935-1944	25.9	13.5	9.8	2.6	3.8	7.5	1.1	4.1	3.4	18.0	6.0	2.3	0.4	1.5	100
	1945-1959	25.0	9.2	11.9	4.5	8.2	9.8	8.6	1.0	1.4	10.8	6.7	0.6	0.0	2.3	100
	1960+	12.7	6.8	19.5	9.7	6.8	10.0	20.6	0.0	1.2	4.4	4.7	0.0	0.0	3.5	100
France	Before 1935	14.7	8.7	10.0	0.4	7.4	6.1	0.4	0.9	13.9	16.5	4.8	2.2	2.6	11.7	100
	1935-1944	24.3	8.4	14.2	0.8	5.4	4.6	2.1	0.4	7.1	17.2	5.4	2.1	2.1	5.9	100
	1945-1959	27.5	5.9	13.4	4.2	5.9	6.3	7.4	0.8	5.9	13.2	2.3	0.6	1.7	5.0	100
	1960+	11.1	3.3	20.5	12.9	5.2	10.7	14.2	0.4	3.7	5.4	5.0	0.7	0.7	6.3	100
Great Britain	Before 1935	15.2	9.1	4.7	0.0	10.5	10.2	0.3	1.9	11.6	18.6	8.0	2.8	0.8	6.1	100
	1935-1944	19.0	5.8	6.4	0.6	10.1	5.5	0.9	0.3	12.6	22.1	8.6	2.1	0.0	5.8	100
	1945-1959	20.1	6.2	8.6	0.7	13.8	7.1	6.7	0.4	9.9	15.0	4.9	0.9	0.2	5.6	100
	1960+	8.9	7.2	9.9	7.4	12.4	11.1	14.0	0.6	4.9	7.8	5.6	2.1	0.6	7.6	100
Hungary	Before 1935	14.5	2.1	14.5	0.0	8.1	2.6	0.0	5.1	15.3	12.3	6.4	1.3	1.3	16.6	100
	1935-1944	27.5	3.1	14.9	0.4	5.9	2.7	1.2	5.1	5.5	20.0	4.3	0.8	1.2	7.5	100
	1945-1959	35.2	3.2	12.5	1.2	6.7	2.2	2.0	3.5	4.5	16.5	8.7	0.2	0.5	3.0	100
	1960+	30.7	2.5	15.6	2.5	4.9	3.7	2.5	2.5	4.1	13.9	8.2	1.2	0.8	7.0	100
Ireland	Before 1935	3.1	6.1	3.7	0.0	6.1	9.8	0.0	1.2	13.5	3.7	14.1	1.8	3.1	33.7	100
	1935-1944	2.1	7.9	7.4	1.1	4.2	10.1	0.5	0.5	21.2	10.1	6.9	2.1	1.6	24.3	100
	1945-1959	8.7	7.0	6.7	1.7	5.1	8.4	2.8	2.0	15.2	12.4	4.8	3.1	2.8	19.4	100
	1960+	5.5	3.4	10.9	4.4	6.8	14.8	6.8	1.3	7.8	3.9	8.1	1.0	3.4	21.9	100
Nether-lands	Before 1935	7.6	6.2	8.9	0.0	5.3	6.7	0.9	0.0	5.3	13.3	11.1	2.2	15.1	17.3	100
	1935-1944	11.7	6.7	7.9	0.4	6.7	3.3	0.8	0.4	2.9	21.8	6.3	3.8	18.4	8.8	100
	1945-1959	12.7	5.2	11.0	1.0	8.8	9.2	8.5	0.4	3.1	14.0	6.7	1.7	9.2	8.5	100
	1960+	4.5	1.9	18.5	5.6	9.9	11.4	24.9	0.0	1.5	5.4	6.0	0.4	3.9	6.0	100
Norway	Before 1935	23.8	14.5	6.4	0.0	4.1	16.3	1.2	1.2	8.7	8.1	5.2	3.5	1.7	5.2	100
	1935-1944	32.2	17.5	11.3	0.6	4.0	6.8	2.8	0.6	5.1	10.7	3.4	3.4	0.0	1.7	100
	1945-1959	29.9	14.1	14.9	3.0	3.9	6.3	6.7	1.3	4.5	7.6	3.5	0.4	0.0	3.9	100
	1960+	13.8	7.0	21.8	13.8	4.5	10.5	14.3	0.5	1.5	3.5	3.0	1.0	0.0	4.8	100
Poland	Before 1935	18.0	11.3	9.3	1.3	4.0	2.7	0.0	4.0	16.0	5.3	4.7	0.7	2.0	20.7	100
	1935-1944	26.8	10.1	10.1	0.0	3.6	5.4	0.6	8.3	5.4	6.0	4.2	1.2	1.8	16.7	100
	1945-1959	28.2	5.1	17.8	1.3	3.6	2.9	0.2	6.7	5.8	11.3	5.1	1.1	1.1	9.8	100
	1960+	29.9	4.5	16.7	3.2	3.5	4.8	1.9	6.1	2.9	6.4	8.7	0.6	3.2	7.4	100
Portugal	Before 1935	5.3	4.2	2.8	0.8	6.4	1.4	0.3	3.6	22.4	18.0	8.3	5.3	0.3	21.1	100
	1935-1944	8.4	4.4	7.6	0.3	5.2	2.6	0.3	2.0	19.8	23.0	6.4	8.1	0.0	11.9	100
	1945-1959	13.6	3.9	7.7	0.2	8.1	1.6	1.0	3.9	18.1	19.7	4.1	4.5	0.2	13.6	100
	1960+	14.9	1.7	14.4	2.9	9.0	3.9	2.2	1.7	8.0	14.1	8.5	1.7	0.2	16.6	100
Sweden	Before 1935	18.7	14.4	8.1	1.9	7.7	9.1	1.9	1.4	4.3	13.9	10.0	3.8	0.0	4.8	100
	1935-1944	24.7	14.2	13.0	6.1	6.5	5.3	3.6	0.8	2.8	13.8	5.7	0.8	0.4	2.4	100
	1945-1959	16.9	8.9	19.5	11.5	3.6	10.5	13.3	0.2	1.0	7.4	3.4	0.4	0.0	3.4	100
	1960+	8.4	7.9	17.0	22.5	4.5	14.7	17.3	0.3	1.6	1.3	1.3	0.5	0.0	2.9	100
Slovenia	Before 1935	11.7	5.8	15.6	0.0	1.9	3.9	1.3	3.9	18.8	3.9	3.9	3.9	0.6	24.7	100
	1935-1944	20.6	7.2	17.0	0.5	3.1	2.6	0.0	4.6	17.0	5.7	3.1	5.7	0.0	12.9	100
	1945-1959	27.4	5.1	14.4	2.9	4.8	2.7	0.8	5.1	9.8	8.0	3.5	2.4	0.3	13.0	100
	1960+	26.3	3.7	15.6	10.0	2.2	4.1	3.0	3.7	5.2	7.4	7.0	0.7	1.1	10.0	100
Slovakia	Before 1935	18.8	5.3	12.0	0.0	1.5	1.5	0.8	2.3	15.8	5.3	5.3	0.8	1.5	29.3	100
	1935-1944	27.3	4.5	11.0	0.6	1.9	0.6	0.0	5.2	13.6	14.9	4.5	3.2	2.6	9.7	100
	1945-1959	29.2	5.6	15.0	0.2	3.1	2.4	0.2	1.9	15.2	8.7	3.9	0.7	2.9	10.9	100
	1960+	30.9	2.0	10.6	1.1	2.3	2.9	0.6	3.7	17.2	6.6	4.9	0.6	0.9	15.8	100
Total	Before 1935	13.5	8.6	8.9	0.8	6.6	6.7	0.6	3.1	12.6	12.2	7.2	2.4	2.2	14.7	100
	1935-1944	20.4	8.6	10.7	1.2	6.4	5.0	1.3	2.9	8.8	15.9	5.4	2.8	2.1	8.6	100
	1945-1959	22.6	6.3	12.7	2.7	7.2	5.9	5.4	2.3	6.8	12.4	4.8	1.4	1.7	7.7	100
	1960+	15.4	4.7	15.9	6.7	6.8	8.5	11.3	1.7	4.3	6.8	6.4	0.9	1.2	9.4	100
Grand	Total	18.5	6.6	12.7	3.3	6.9	6.7	5.7	2.4	7.4	11.3	5.8	1.7	1.7	9.5	100

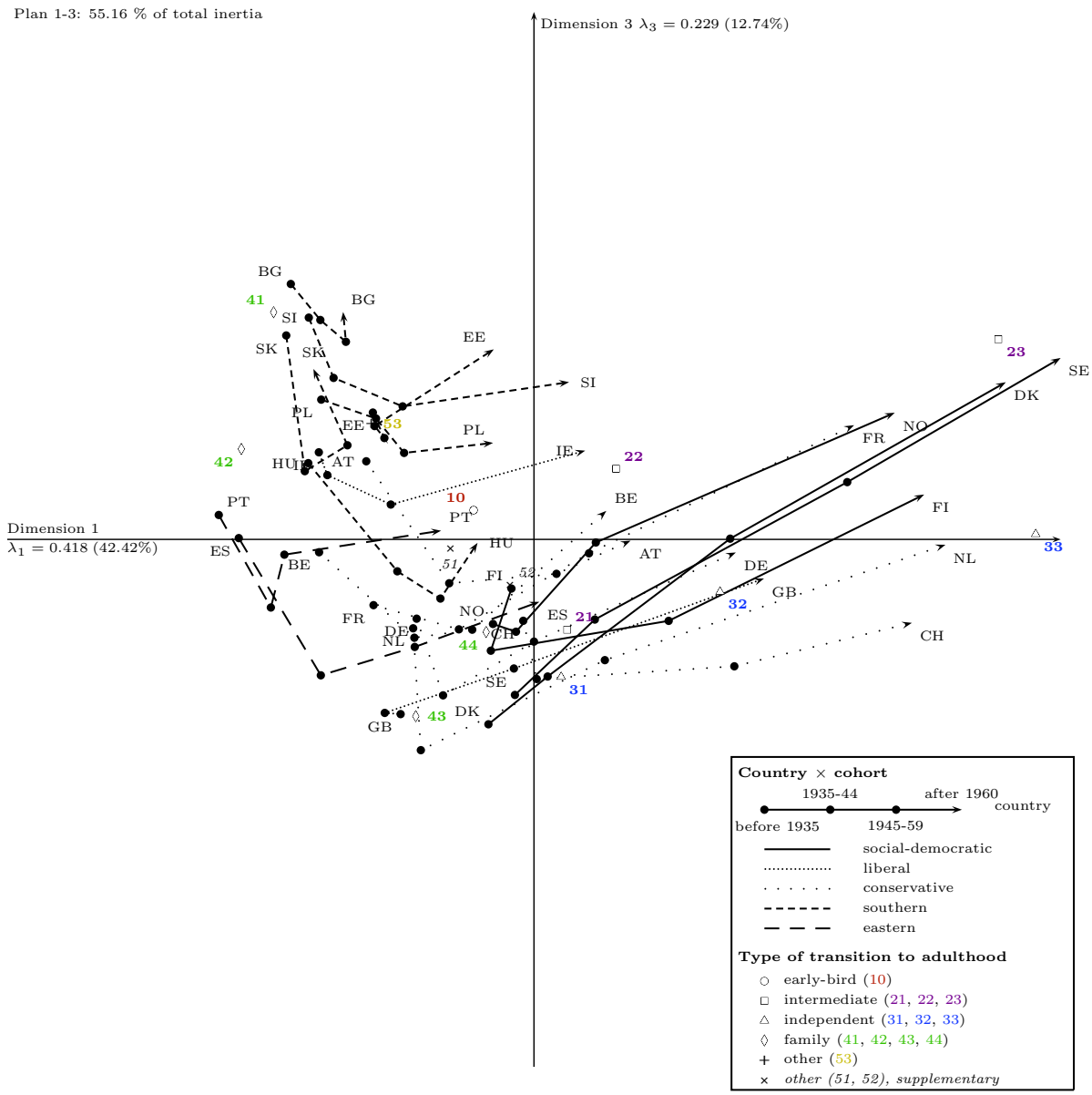

Figure B –Correspondence Analysis dimensions 1 and 3 (14-cluster solution and country-cohort)