The Complexity of Employment & Family Life Courses across 20th Century Europe: An Update

DIAL Working Paper Series 22/2019

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Dynamics of Inequality Across the Lifecourse: structures and process

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 724363

NORFACE NETWORK

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Abstract

Whether work and family lives became more unstable over the past decades has been debated. Most studies on life course instability focus on single countries tracing birth cohorts over time. Two recent studies benchmarked change in employment and family instability over time against cross-national differences in 14 European countries. Findings showed minor increases in employment and family instability compared to sizeable and stable cross-national differences, but were criticised for not including cohorts born past the late 1950s. We update their findings by adding over 15 additional countries and a decade of younger birth cohorts. Results still support a negligible increase in family instability, but a moderate increase in employment instability relative to consistently larger cross-national differences. Beyond previous studies, our analyses show a polarization between countries with low and high family complexity. In contrast, moderately increasing employment instability seems to be a Europe-wide trend.

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Introduction

A core question in social research concerns how social structures, including social policies, and normative and structural environments shape individual lives. Among many relevant outcomes of individual lives, the instability of life courses came into the spotlight in recent debates about rising employment precarity and family instability (Kalleberg & Vallas, 2017; Thomson, 2014). Unstable life courses moving between different jobs and unemployment, or recurrently changing family situations are often thought to be detrimental for individuals and their family members (Benach et al., 2014; Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009; Hill, Morris, Gennetian, Wolf, & Tubbs, 2013; Lee & McLanahan, 2015). But moving between different jobs and family situations can also be seen as a hallmark of liberal societies, where individuals are free to choose and re-adjust life paths (Beck, 1991, 2000). Life courses have been found most stable and uniform in the regulative communist societies of Eastern Europe and the dictatorships in Southern Europe in the 1950s and 1960s. This can hardly be seen as an indication of a generally desirable life course outcome (Fasang, 2014). Before answering the empirical and normative question, whether life course instability is associated with desirable or undesirable outcomes, one has to establish whether life course instability has really increased over the past decades.

To answer these questions, a convincing conceptualization and measurement of life course instability is necessary. In recent years, a burgeoning literature used sequence analysis to conceptualize and measure life course instability as the 'complexity' of longitudinal life course sequences (Elzinga & Liefbroer, 2007; Gabadinho, Ritschard, Studer, & Müller, 2010). Studies have focused on the complexity of employment careers (e.g., Biemann, Fasang, & Grunow, 2011; Ciganda, 2015; Struffolino, 2019; Struffolino & Raitano, 2019; Van Winkle & Fasang, 2017), retirement processes (e.g., Fasang, 2012; Riekhoff, 2016, 2018), and family life courses (e.g., Ciganda, 2015; Elzinga & Liefbroer, 2007; Ramos, 2019; Van Winkle, 2019, 2018). An advantage of this complexity measure over simple count variables are that they can take into account recurrent changes between categorical states, such as unemployment or education, as well as the extent of unpredictability within life course trajectories (see details below). Moreover, the complexity index can be weighted to highlight differential meanings attached to life course transitions, for example whether an employment move was voluntary or involuntary (Van Winkle & Fasang, 2017).

Increasing complexity, or movement between jobs or family situations, has been conceptualized in different terms. In life course sociology, Brückner and Mayer (2005) proposed the concept of life course differentiation as a process where the number of transitions and distinct states across the life time increases. In contrast, life course de-standardization refers to increasing life course heterogeneity within a population (Brückner & Mayer, 2005). Life course research has further underlined that more differentiated and complex lives might entail increasing unpredictability and uncertainty, which are thought to burden individuals (Beck, 1991, 2000). Studies on employment careers use employment complexity as an indicator for precarity, which explicitly includes both recurrent movements between fixed term

low quality jobs and non-employment as well as uncertainty and unpredictability about future job opportunities (Kalleberg & Vaisey, 2005). Studies on family instability have focused on recurrent family changes, for example single motherhood, frequent union dissolution and re-partnering and volatile step-family arrangements (McLanahan & Percheski, 2008). Family instability is generally understood as non-normative family transitions and their increasing frequency across the life courses where much of the literature focuses on its consequences for children (Cavanagh & Fomby, 2019). All of these approaches to life course instability have in common that they cover changes between multiple life situations over longer periods of time.

Most studies on life course complexity are motivated by the perception among scholars and the general public that lives have indeed become more complex across time. Economic restructuring and recession, globalization and new human resource management schemes, technological change, and occupational polarization are all assumed to have increased employment complexity by inciting more frequent moves in and out of employment and between jobs (Hollister, 2011). The Second Demographic Transition (SDT) is the most prominent account of family complexity, postulating a decline in marriage and parenthood, increase in separation, non-marital cohabitation and parenthood, as well as step-family arrangements due to a shift from materialist to post-materialist values (Lesthaeghe, 2014). Recent evidence suggests that family complexity might rather result from structural disadvantage, that is a lack of socio-economic opportunities, rather than changing values (Mills & Blossfeld, 2013). McLanahan (2004) highlighted a polarization of low family complexity among economically resourceful families compared with increasing family complexity among economically deprived families in the United States and several European countries (McLanahan & Jacobsen, 2015). Both studies on employment complexity or precarity and family instability often concentrate on one country and use cross-temporal variation to account for change across birth cohorts (Aassve, Davia, Iacovou, & Mazzuco, 2007; Baizán, Michielin, & Billari, 2002; Bras, Liefbroer, & Elzinga, 2010; Chaloupková, 2010; Robette, 2010; Simonson, Romeu Gordo, & Titova, 2011). For example, Biemann, Fasang, and Grunow (2011) studied whether globalization lead to more complex employment trajectories among West Germans born between 1929 and 1971. They find only a moderate increase in employment complexity that is not systematically linked to increasing economic globalization.

Contrary to common conjectures two recent studies demonstrated that although employment and family lives became moderately more complex across birth cohorts, differences across countries are considerably larger. Van Winkle and Fasang (2017) used life history data from the third wave of the Survey of Health, Ageing, and Retirement in Europe (SHARE) to follow individuals employment lives from ages 15 to 45. They show that only 2 percent of the variance in employment complexity is attributable to cross-temporal differences, while 15 percent could be accounted for by differences across countries. Van Winkle (2018) used the same data source following individuals from ages 15 to 50, replicated with the Generations and Gender Survey (GGS), and found that less than 2 percent of family life course complexity variation can be traced back to cohort differences, but cross-national differences could account for 10 percent of the variance. Moreover, both studies found little evidence for country-cohort interactions. In other words, few birth cohorts within single countries deviated

from the average trend for all countries towards more complex employment and family life courses.

Both studies used a novel methodological approach, incorporating sequence based complexity metrics with cross-classified random effects modelling. This methodological strategy enabled the authors to use cross-national differences as a benchmark for whether change across time could be considered substantial or not. This is important for at least two reasons. First, traditional statistical significance testing has recently come under fire and numerous authors and journals have advocated abandoning it altogether (McShane, Gal, Gelman, Robert, & Tackett, 2019). Bernardi, Chakhaia, & Leopold (2016) recommend that researchers use informed benchmarking to reduce the overemphasis of statistical significance and highlight the social significance of research findings. The studies by Van Winkle and Fasang (2017) and Van Winkle (2018) accomplish this by using cross-national differences as a reference point to gauge whether cross-temporal differences are meaningful or not. Second, Van Winkle and Fasang's (2017) and Van Winkle's (2018) argument that cross-cohort differences are relatively small has important implications for comparative labour market, family and life course sociology: cross-national research designs are particularly promising to untangle how institutions shape the complexity of work and family life courses.

However, both studies were based on a limited sample of countries (N = 14) and birth cohorts (N ≈ 13 from 1924 – 1956). We use the seventh wave of SHARE to update their findings by adding over 15 additional countries and a decade of new birth cohorts (up to 1966). A core criticism of the original studies was that they missed younger birth cohorts born in the 1960s that were among the most affected by the structural and normative changes assumed to increase life course instability, including economic restructuring and skill biased technological change. If indeed employment and family complexity sharply increased for the cohorts born in the 1960s who experienced their early to mid-adult life courses between the 1980s and early 2000s, the argument would be limited to the earlier historical period covered in their original studies. In any case, the update presented in this paper would then locate the increase of life course complexity for specific birth cohorts, which is promising to disentangle its main structural driving forces. In addition, this update will be the first to include Baltic and Balkan countries. Information on these countries is nearly non-existent in the current literature on employment and family life course complexity.

Data & Methods

Sample & Sequence Definitions

We follow Van Winkle and Fasang (2017) and Van Winkle (2018) to define sequence states, calculate sequence complexity, and decompose sequence complexity variation across countries and birth cohorts. The sample of life histories comprises 28,295 individuals from the 3rd wave of SHARE and 61,466 individuals from the 7th wave, born between 1916 and 1966 in 30 European countries, with retrospectively collected annual information on educational and employment status, as well as parenthood and partnership status from ages 15 to 50.

We conceptualize individual employment trajectories by combining the school-to-work transitions with moves between employers and transitions in and out of employment. Each individual sequence is composed of 35 consecutive years. States are defined either as 1) in education, 2) in full-time employment, 3) in part-time employment, 4) unemployed, 5) inactive, or 6) in retirement. Employment states additionally include a job spell number to distinguish mobility between jobs from the first, second to n^{th} job. We filled in missing states between the years 1939 and 1955 with a WW II gap state. We also included general gap states for persons with missing state information for a maximum of six years. This allowed us to retain 3,270 additional individuals with one to six years of missing values out of 35 observation years in our analyses. The gap states only accounted for 0.3 percent of the total states across all time points. It is therefore unlikely that the inclusion of a gap state distorted our findings.

Family sequences are also composed of 35 consecutive annual states. Each sequence state is either 1) in the parental home, 2) single, 3) cohabiting, or 4) married. Further, each state element can be extended by the presence of at least one child: for example, married with at least one child. Note that "single" indicates that the respondent was neither in the parental home nor cohabitating; it does not specify the relationship status of the respondent in terms of living apart together relationships. Both suggest that we might slightly underestimate family complexity, but likely not systematically in a way that would invalidate our country and cohort comparisons. As only 1.5 percent (N = 1,376) of cases have a missing state, we follow Van Winkle (2018) and drop cases with missing states. Our analysis sample was 85,025 employment sequences (94.7 percent of the original sample) and 88,394 (98.4 percent of the original sample) family sequences after deletion of trajectories with missing states.

Sequence Complexity

We use a composite measure developed in sequence analysis to assess the complexity of sequences of categorical states: the sequence complexity index. This index measures variability within sequences as the geometric mean of normalized sequence transitions and normalized longitudinal sequence entropy (Gabadinho et al. 2010; 2011). Formally, the complexity, C, of a sequence, x, is defined as follows:

$$C(x) = 100 * \sqrt{\frac{q(x)}{q_{max}} * \frac{h(x)}{h_{max}}}, \qquad (1)$$

where the number of transitions within a sequence, q(x), is divided by the theoretical maximum number of transitions possible, q_{max}; the longitudinal entropy of a sequence, h(x), is divided by the theoretical maximum, h_{max}.

Longitudinal sequence entropy is

$$h(x) = -\sum_i^s \pi_i log \pi_i, \qquad (1a)$$

where π is the proportion of occurrences in a given state, i, of the sequence alphabet, s. Entropy within sequences is maximal when each state occurs an equal number of times, which reflects that the unpredictability of a given state is maximal. Complexity is minimal in

sequences composed of a single state and maximal in sequences that contain each state element with equal durations and have the maximum number of transitions. The complexity index provides a more nuanced indicator of life course differentiation compared with just the number of transitions or distinct states because the degree of uncertainty within life courses is incorporated through sequence entropy. In addition, multiple transitions between different states are captured, not just the number of a specific transition.

Cross-Classified Variance Decomposition Models

Cross-classified random-effects models are used to investigate levels of sequence complexity across countries and cohorts but also to decompose the proportion of complexity variance attributable to countries and to cohorts. These models represent a special case of multilevel modelling in which the higher-level units cannot be hierarchically ordered (Rabe-Hesketh & Skrondal, 2012, pp. 433–460; Snijders & Bosker, 2012, pp. 155–165). Individuals are cross-classified by birth cohort membership and country of residence. Formally, sequence complexity is modelled as follows:

$$y_{ijk} = \beta_0 + \zeta_j + \zeta_k + \zeta_{jk} + \varepsilon_{ijk}, \qquad (2)$$

where the sequence complexity, y_{ijk}, is composed of the constant β_0 (i.e., the grand mean); the group-specific error terms, ζ_j, ζ_k, and ζ_{jk}; and the individual error term, ε_{ijk}. The variance attributable to countries and birth cohorts is identified through country- and birth cohort–specific deviations from the grand mean, ζ_j and ζ_k, respectively. The group-specific deviations from the constant are also referred to as random intercepts or effects. Change caused by universal trends that affect cohorts identically across all countries will be captured in the cohort-specific deviations, whereas country-specific differences across all cohorts will be captured by the country-specific deviations. To capture country-specific change across birth cohorts, the additive cross-classified model is extended through an interacted random effect, ζ_{jk}. The relative proportion of complexity variance that is accountable to country- or birth cohort–specific differences are calculated as intraclass correlation coefficients (ICC), ρ:

$$Var(y_{ijk}) = Var(\zeta_j + \zeta_k + \zeta_{jk} + \varepsilon_{ijk}) = \psi_j + \psi_k + \psi_{jk} + \sigma, \qquad (2a)$$

$$\rho_{Country} = \frac{\psi_j}{\psi_j + \psi_k + \psi_{jk} + \sigma} \qquad (2b)$$

and alternatively

$$\rho_{Cohort} = \frac{\psi_k}{\psi_j + \psi_{k+\psi_{jk}} + \sigma}, \qquad (2c)$$

where σ is the constant variance of the Level 1 residuals; and ψ_j, ψ_k, and ψ_{jk} are the variances of the country-specific, cohort-specific, and interacted random intercepts, respectively, of the parameters in Eq. (2)**.** Equation (2b) calculates the correlation of observations from the same country but different cohorts by dividing the country-specific variance by the total variance.

Likewise, Eq. (2c) calculates the correlation of observations from the same cohort but different countries. In the following section, we first decompose the variance of employment and family sequence complexity using additive and interacted cross-classified random effects regressions. This allows us to quantify the proportion of variance attributable to country differences versus change across cohorts. In a second step, we assess average levels of employment and family complexity across countries and cohorts using empirical Bayes estimates of the country and cohort random effects. Finally, we use the empirical Bayes estimates of the interacted country-cohort random effect to determine whether countries deviate substantially from the average cohort trend.

Results

Decomposition of Employment & Family Complexity

The results of the cross-classified variance decompositions are displayed in Table 1. Overall findings substantiated the conclusions from Van Winkle and Fasang (2017) and Van Winkle (2018) also including twice as many countries and a decade of younger birth cohorts: considerably more variation in the complexity of employment and family trajectories was attributable to cross-national differences compared to change over time. For employment trajectories, 14.6 percent of the variance in sequence complexity could be ascribed to differences across countries (15 percent in Van Winkle and Fasang 2017), and 5.5 percent to change across birth cohorts (2 percent in the original study) (see column 1 of Table 1). Accordingly, while variation across cohorts is still substantially smaller, it increased moderately for the youngest cohorts included in this update. Findings thereby support that the structural changes noted above indeed moderately increased employment complexity across Europe. For family trajectories, cross-temporal differences could account for less than 2 percent of the variance of sequence complexity, while roughly 10 percent are due to cross national differences (equally 2 and 10 percent Van Winkle 2018).

Table 1: Cross-Classified Decomposition Results

Fixed Effects	Employment (Additive)	Employment (Interacted)	Family (Additive)	Family (Interacted)
Constant	12.20***	12.19***	13.62***	13.67***
	(0.80)	(0.81)	(0.35)	(0.32)
Random Effects				
Var(Country) – ψ_j	11.70***	11.75***	2.80***	2.40***
	(3.08)	(3.10)	(0.73)	(0.64)
Var(Cohort) – ψ_k	4.41***	4.53***	0.51***	0.41***
	(1.59)	(1.64)	(0.19)	(0.16)
Var(Interaction) – ψ_{jk}		0.34***		0.48***
		(0.05)		(0.04)
Var(Individual) – σ	63.64***	63.36***	23.59***	23.20***
	(0.30)	(0.30)	(0.11)	(0.11)
Intraclass Correlations				
$\rho_{Country}$	14.67	14.69	10.42	9.07
ρ_{Cohort}	5.54	5.67	1.92	1.55
Log. R. Likelihood	-297,347	-297,281	-265,245	-264,807
N – Individuals	85,025	85,025	88,394	88,394
N – Countries	30	30	30	30
N – Cohorts	17	17	17	17

Note: Significance Levels: ***p<0.001; Unstandardized regression coefficients displayed; Standard errors in parentheses; Significance of random effect parameters determined by likelihood-ratio tests. Data not weighted

Employment Complexity across Countries and Birth Cohorts

Empirical Bayes estimates of the country and cohort random effects from the interacted cross-classified model for employment complexity are presented in Figure 1. Comparing the left and right panel of Figure 1 again underscores how substantial country differences are compared to cohort change. As can be seen in Figure 1, countries broadly map on to welfare state regime types in terms of employment complexity. Southern European countries – Portugal, Greece, Cyprus, Malta, Spain, and Italy – had the least complex trajectories. Somewhat more complex but still below average were the Balkan countries – Romania, Croatia, Slovenia, and Bulgaria. Countries with average complexity included Eastern European countries – Hungary, Poland, and the Czech Republic – but also countries classified in the Western European conservative-corporatist regime – Luxembourg, Austria, Belgium, West

Germany, and France. Countries with the highest average complexity were from the Scandinavian social democratic regimes – Denmark, Sweden, and Finland – as well as conservative Western European countries – the Netherlands and Switzerland – and East Germany. East Germany shows relatively high employment complexity, which is an unexpected outlier from the perspective of welfare state regimes and might be related to the distinct mobility regime during communism and reunification process in East Germany (see also Van Winkle and Fasang, 2017). Among the Baltic States, Estonia resembles its Scandinavian neighbours, while Latvia and Lithuania are closer to West Germany and France.

Figure 1: Empirical Bayes Estimates of Employment Complexity by Cohort and Country

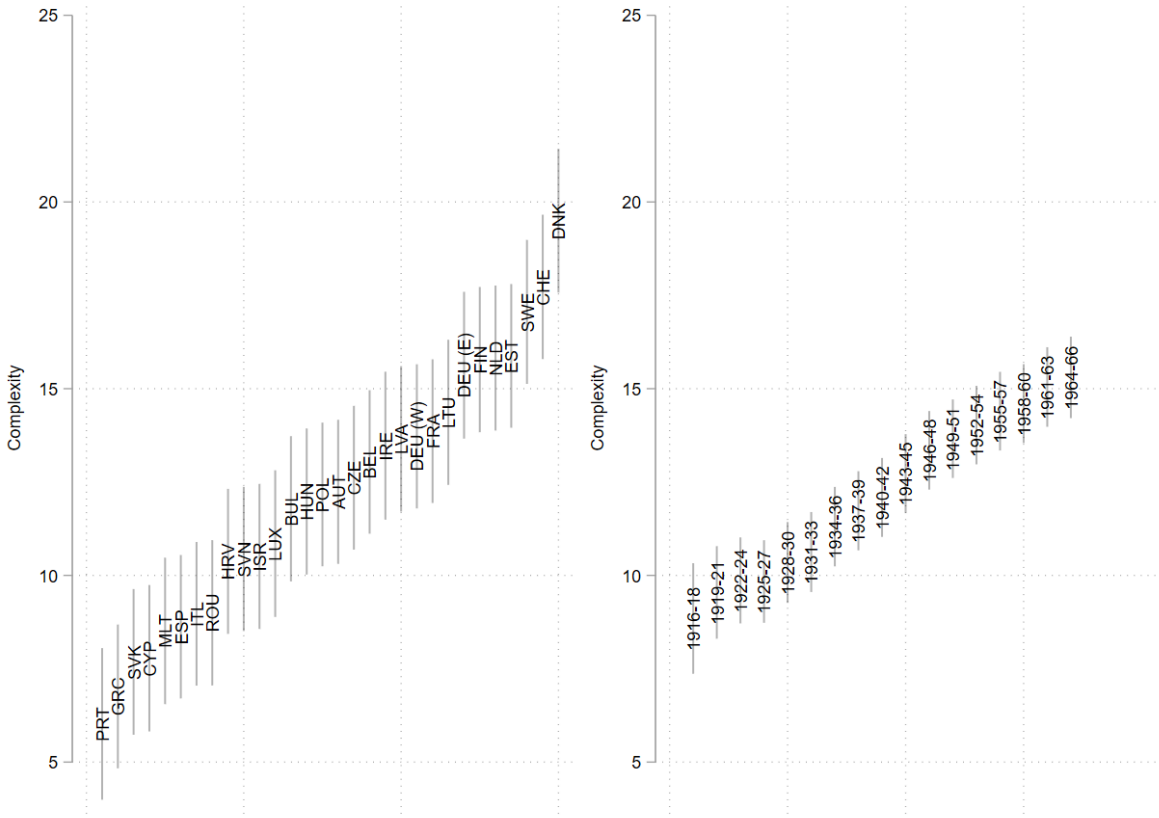
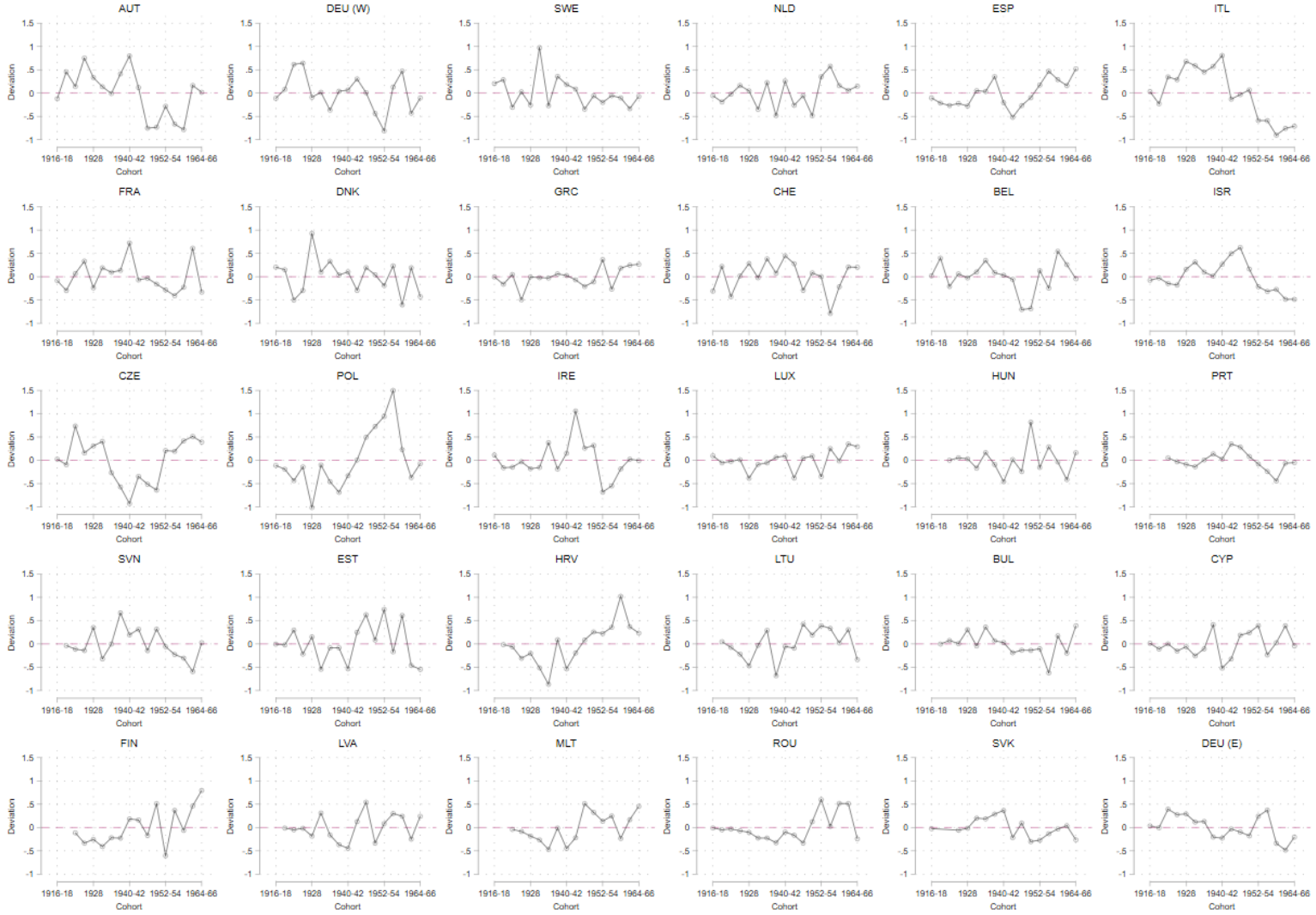


Figure 2: Empirical Bayes Estimates of Country-Specific Deviations from Cohort Employment Complexity



Although country differences are larger than differences across cohorts, the trend towards increasing complexity is more prominent including a decade of younger birth cohorts than in Van Winkle and Fasang (2017). Indeed, the proportion of complexity variance attributable to change across time is more than twice as large as was previously found. Our results highlight that changes in the two decades between 1980 and 2000, when the 1960s cohorts were entering and establishing themselves on the labour market, lead to an overall trend of increasing employment complexity that is substantively meaningful albeit moderate. The average trend across our sample of European countries increases from below average levels typical of Southern Europe to above average levels typical of East Germany, Finland, the Netherlands, and Estonia. Moreover, the trend towards increasing complexity is approximately linear: there is no evidence that a certain birth cohort or cohorts were suddenly affected by a period event that increased only their average complexity levels. Figure 2 shows the empirical Bayes estimates of the country-cohort random effects, which are presented as country-specific deviations from the cohort trend shown in Figure 1. However, we find no statistically significant deviations from the overall cohort trend within countries.

Family Complexity across Countries and Birth Cohorts

Figure 3 is analogous to Figure 1, but displays the empirical Bayes estimates for the country and cohort random effects from models on the complexity of family sequences. Again, when comparing the left and right panels in Figure 3, cross-national differences are substantially larger than change over time. The order of the countries from least to most complex in Figure 3 also matches common welfare state groupings, although to a lesser degree than for employment trajectories. The least complex family sequences could be found in Eastern Europe – Slovakia, Poland, Hungary, and the Czech Republic – Southern Europe – Malta, Portugal, Spain, Italy, Greece, and Cyprus – as well as countries in the Balkans – Bulgaria, Croatia, Slovenia, and Romania. Another tight group of countries with slightly above average family complexity were mainly members of the Western European conservative-corporatist welfare regime – Belgium, Austria, the Netherlands, and Luxembourg – as well as East Germany, Ireland, and Lithuania. Sweden and Denmark are two countries with the most complex family sequences. Between them and the former group of Western European countries lie Estonia, Finland, and Switzerland on the upper end and Latvia, France, and West Germany on the lower end.

Figure 3: Empirical Bayes Estimates of Family Complexity by Cohort and Country

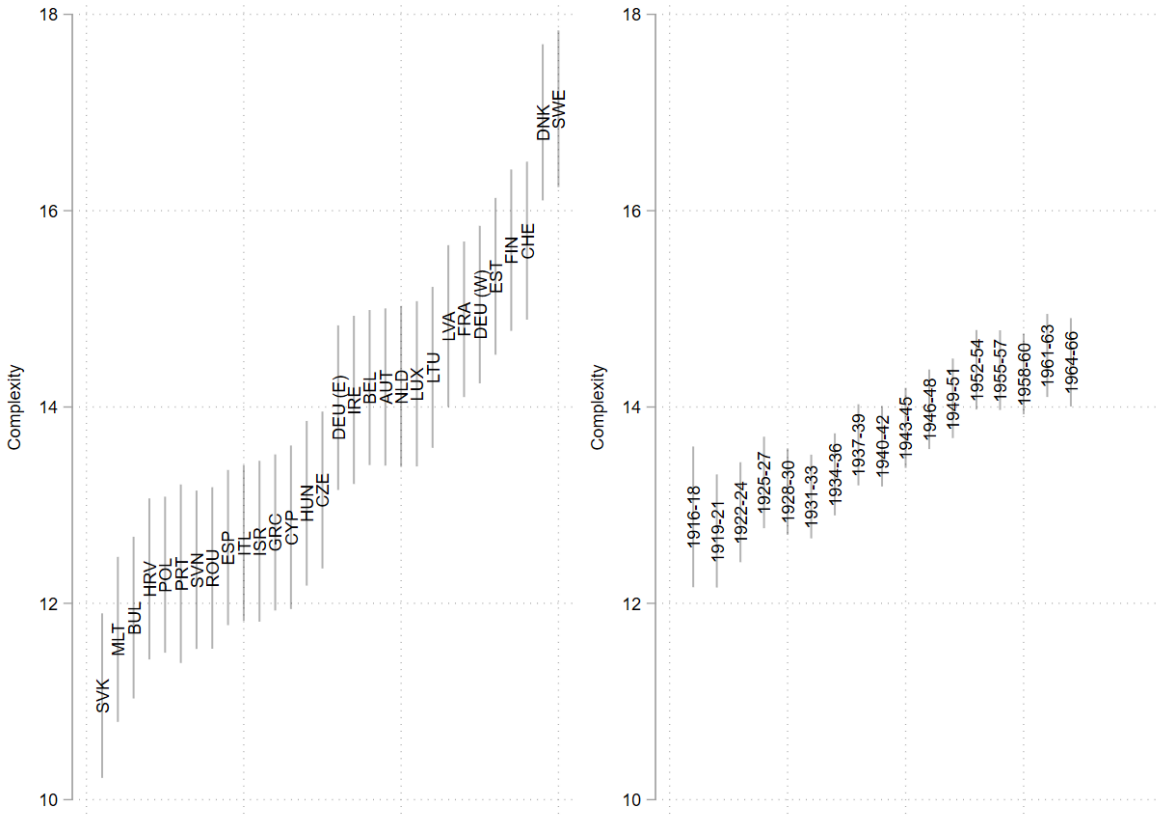
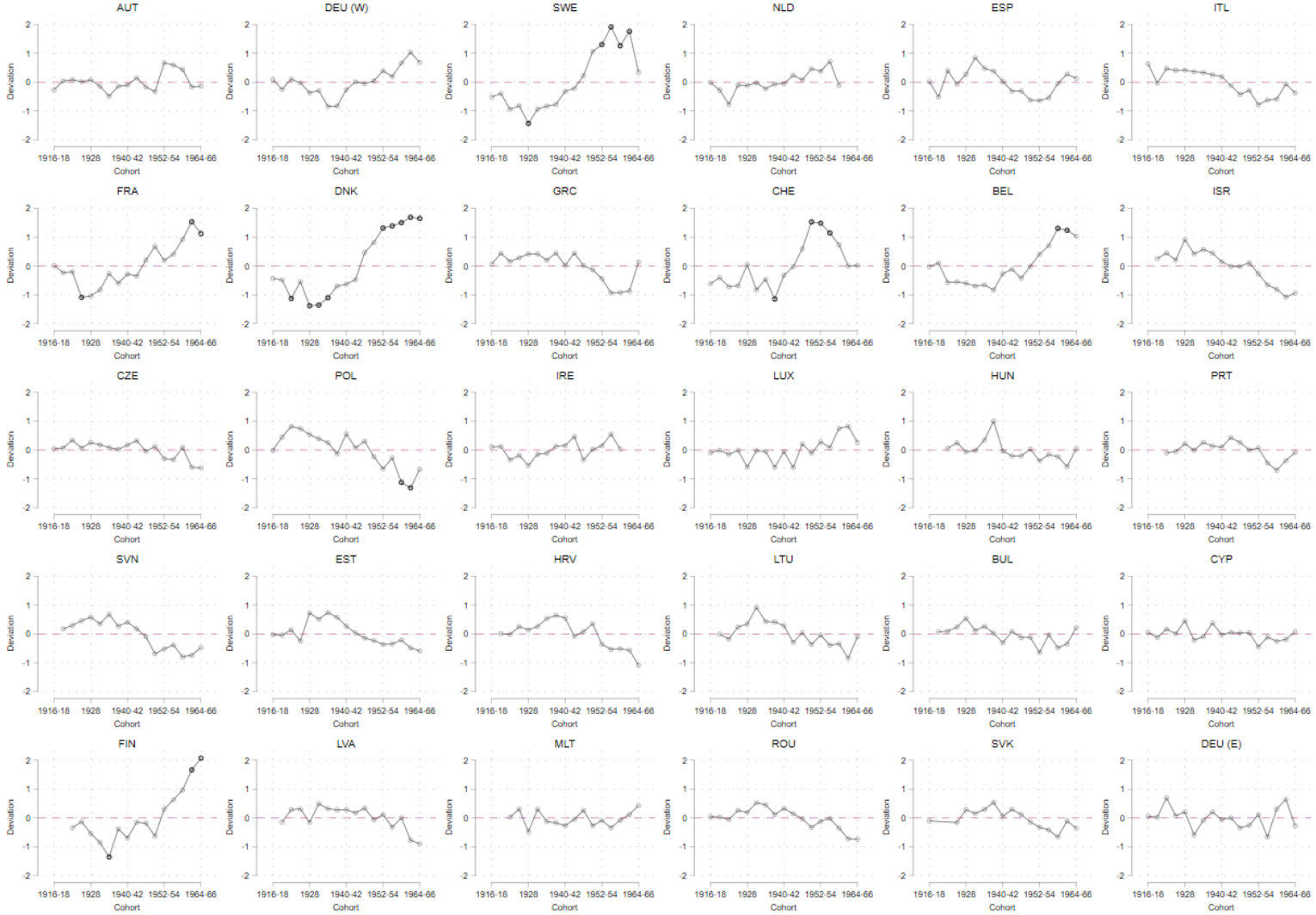


Figure 4: Empirical Bayes Estimates of Country-Specific Deviations from Cohort Family Complexity



Although the birth cohort estimates indicated a trend towards more complex family life courses, as shown in the right panel of Figure 3, that upward trend is less pronounced than for employment trajectories. In fact, the results demonstrated that average complexity was relatively stable for cohorts born between 1916 and 1936, before continually increasing between the 1934 and 1954 cohorts. After 1954 there was no increase in the complexity of family sequences across our countries. However, in contrast to employment complexity, we found numerous country-specific deviations from that trend, especially located among the youngest birth cohorts. The empirical Bayes estimates of the country-cohort random effects for family complexity are displayed in Figure 4. Younger cohorts from the Scandinavian social democratic countries – Sweden, Denmark, and Finland – as well as some Western European countries – France, Switzerland and Belgium – have considerably higher average complexity levels than the general cohort trend (roughly 2 points or 15 percent above the cohort mean). This indicates that there may be a polarizing trend in the complexity of family life courses in Europe: while most of Europe experienced no increases in complexity following cohorts born in the mid-1950s, the complexity of family trajectories continues to increase in Scandinavian countries and a few Western European countries.

Additional Analyses

In addition to the analyses above, we decomposed the complexity of employment and family trajectories for men and women separately. The results of these models can be found in Table A1 in the appendix. The proportion of variance for both employment and family sequences attributable to country and cohort differences is larger for women than for men. Roughly 18 percent of women's employment complexity variance can be accounted for by cross-national differences and 8 percent by cohort differences, this is only 12 and 2 percent, respectively, for men. Similarly, only 8 percent of men's family complexity variance is due to country differences and 1 percent to change over time, compared to 11 and 2 percent, respectively, for women. The ordering of countries from lowest to highest average employment and family complexity for men and women is substantively similar to those presented above. While both men and women demonstrate an increase in employment and family complexity across cohorts, this increase is more pronounced for women attesting to women's increasing employment participation over our observation period in most European countries (depictions of country and cohort ordering available from authors upon request).

We also estimated cross-classified decompositions on complexity values that are weighted for durations spent in distinct states. Van Winkle & Fasang (2017) and Van Winkle (2018) were both interested in establishing which employment and family states were driving the country and cohort differences they observed. In a similar fashion, we multiplied employment and family complexity by the square root of the number of years spent in distinct employment and family states plus one. Note that the addition of one ensures that complexity does not become zero for individuals who do not experience the state being studied and the square root safeguards against the creation of outliers. The intraclass correlation coefficients of these models are displayed in Table A2 in the appendix. For employment complexity, we find that country differences in time spent in education and part-time employment are

particularly important. Education is also particularly important for change in the complexity of employment trajectories across cohorts, but the number of years spent in unemployment also plays a significant role for cross-cohort differences. The moderate increase in employment complexity is therefore driven both by educational expansion and a higher probability of ever or recurrently experiencing unemployment for younger cohorts. For the complexity of family trajectories, the results point to the role of time spent in singlehood – usually between the parental home and marriage – for cross-national differences. Notably, in countries with higher complexity values such as Sweden and Denmark, independent single living is more widespread and of longer duration compared to countries in which family complexity is lower, such as Poland and Portugal. Time spent in cohabiting relationships with and without children as well as time spent in divorce with children are integral elements of cohort differences in family complexity, which corresponds to trends associated with the SDT. Accordingly, the small increase of family complexity over time is driven by increases in cohabitation and divorce with and without children – among some countries, but not among others (see above).

Discussion

This study updated two recent studies on the complexity of employment life courses (Van Winkle & Fasang, 2017) and the complexity of family life courses (Van Winkle, 2018). Specifically, we addressed a core criticism of both studies: we expanded the limited sample of countries and birth cohorts by adding more than 15 new countries and a new decade of younger birth cohorts born in the 1960s. Findings substantiated the original conclusions and added information on cross-country and cross-temporal variation in employment and family life course complexity.

First, we corroborate the previous findings that contrary to common conjectures increases in employment and family life course complexity have been moderate in 20th century Europe. This includes cohorts born after 1960 who experienced their employment and family lives in the 1980s, 1990s and 2000s. These are precisely the cohort whose employment and family trajectories are thought to be most complex due to economic restructuring and recession, globalization and new human resource management schemes, technological change, occupational polarization (Hollister, 2011) as well as the onset of the SDT (Lesthaeghe, 2014).

Second, by benchmarking change in life course complexity across cohorts against stable differences across countries, we can contextualize effect sizes and inform their social significance (Bernardi et al., 2016; McShane et al., 2019). Our results demonstrated that 15 percent of the variance in sequence employment complexity was ascribed to differences across countries, but only 5.5 percent to change across birth cohorts. Cohort differences accounted for less than 2 percent of the variance of family complexity, while roughly 10 percent were due to cross-national differences. This corroborates Van Winkle and Fasang's (2017) and Van Winkle's (2018) argument that cross-cohort differences are relatively small compared to much more substantial cross-national differences. Although our interest lied in the complexity of life courses that extend well beyond the transition to adulthood, recent research on Italian employment trajectories suggests that the complexity of early working lives has increased

considerably among recent cohorts (Struffolino, 2019). An avenue for future research on life course complexity could adapt our methodological approach to examine life course complexity that is concentrated in the transition to adulthood relative to country differences.

Third, our update provided new information on the systematic cross-country variation in employment and family life course complexity. Specifically, we were able to include two geographical groups of countries that are understudied: Baltic countries (Estonia, Lithuania, and Latvia) and countries in the Balkans (Slovenia, Croatia, Romania, and Bulgaria). Our findings suggest that the average complexity of family and employment trajectories in the Balkans are similar to levels found in most Southern and Eastern European countries. In contrast, the Baltic countries seem to be split into two groups: Latvia and Lithuania, which are similar to Western and Central European countries, and Estonia, which is more similar to Nordic countries. More research that incorporates the historical political legacies of these countries, e.g. the transformation from state socialism and autocratic regimes to liberal market democracies, is needed to better understand why we find low levels of complexity in the Balkans and medium to high complexity in the Baltic countries.

The inclusion of new countries and birth cohorts contributes to one of the most central debates in European family demography. Are patterns of family formation converging or diverging over time or do cross-national differences persist or even widen? Most research has contended that cross-national differences are stable or growing rather than converging as suggested by the SDT thesis (Billari & Wilson, 2001; Corijn & Klijzing, 2001; Elzinga & Liefbroer, 2007; Fokkema & Liefbroer, 2008; Mills & Blossfeld, 2005; Sobotka & Toulemon, 2008). Our results suggest that cross-national differences in the complexity of family life courses are indeed stable on average for a sample of 30 countries. However, our findings also support divergence in cohort change across countries. While the complexity of family trajectories continues to increase across more recent cohorts in a number of Nordic and Western European countries, it has stagnated across most countries, especially in Southern and Eastern Europe as well as the Balkans.

The polarization of trends in family life course complexity maps on to Thévenon's (2011) classification of family policies in OECD countries. The Nordic countries cluster into "family policies of continuous strong support for working parents of children under age three" that will facilitate both family formation and reconfigurations after separation leading to high complexity. The continental European countries combine "high financial support, but limited support to dual earner parents for children under age three" which still makes it difficult for women to combine work and family, possibly leading to a delay of family formation and less complex family lives. In contrast, the Southern and Eastern European countries (with some exception for Hungary) cluster into "limited family support" in relatively restricted welfare states that increase dependence on family members. High dependence on other household members can suppress family events, such as cohabitation and divorce, that create family complexity over the life course (DiPrete & McManus, 2000). The results of our weighted analyses that highlight the importance of cohabitation and divorce for cross-cohort differences are in line with this interpretation. For Eastern Europe and the Balkans a drop in fertility during the post-socialist transition period in the 1990s, when they were in their prime child-bearing years might further contribute to low family life course complexity (Sobotka, 2011). More

generally, further analysis should investigate to what extent diverging destinies of a class-specific polarization of family complexity (McLanahan 2004) contribute to average family life course complexity on the country level.

In contrast to country-specific trends for family complexity, employment complexity continues to increase across more recent cohorts for all countries. This is in line with scholars highlighting increasing employment precarity among younger cohorts (Kalleberg & Vallas, 2017). However, even if the trend towards more complex employment life courses continues, cross-temporal change would not be as large as cross-national differences for decades to come. While moderate in size against the benchmark of stable cross-national differences, this universal increase is notable. Yet one should not jump to conclusions about similar universal driving forces underlying this trend. It is possible that global economic developments and less employment security in many countries play a role in this increase. Further, for the cohorts born in the 1960s women's increasing labour market participation and their usually more volatile employment trajectories due to childbearing interruptions might contribute to the increase in employment complexity in many, if not all, countries. Our analyses performed separately by gender support this interpretation. However, the seemingly similar trend of increasing employment complexity across countries departs from very different country-specific levels and might be driven by country-specific factors. Additional research including macro-indicators on employment protection legislation, economic development, labour market restructuring and changing gender relations in the labour market is needed to investigate whether the most recent moderate increase indeed is driven by common or country-specific factors.

Finally, our study underlines the potential of cross-national comparisons to understand the drivers of both employment and family life course complexity. The bulk of the variation in these outcomes lies in stable differences across countries. Differential life course sociologists and comparative welfare state scholars have long highlighting the importance of institutional arrangements in generating cross-national differences in life course complexity (Esping-Andersen, 1990; Hall & Soskice, 2001; Mayer, 2009). For example, studies show that employment protection legislation and wage protection rates are associated with intra-generational mobility and employment complexity (Gangl, 2003; Tatsiramos & van Ours, 2014; Van Winkle & Fasang, 2017). Similarly, family policies that incentivise a male-breadwinner female homemaker division of labour seem to stabilize family life courses. In contrast policies that reduce gender and intergenerational dependencies increase family life course complexity (Van Winkle, forthcoming). The combination of specific macro-structural features as unique country 'packages' seem to create country-specific 'life course mobility regimes' (DiPrete 2000) that are fairly stable across birth cohorts. This stability points to considerable path-dependency in welfare state institutions. To disentangle the combined effects of different institutional features on life course complexity cross-national comparisons therefore seem particularly promising.

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Appendix

Table A1: Cross-Classified Decomposition Results by Gender

	Men		Women	
	Employment	Family	Employment	Family
Fixed Effects	(Interacted)	(Interacted)	(Interacted)	(Interacted)
Constant	13.00***	14.26***	11.74***	13.27***
	(0.62)	(0.29)	(0.95)	(0.36)
Random Effects				
Var(Country) – ψ_j	8.62***	2.17***	15.39***	2.77***
	(2.29)	(0.58)	(4.06)	(0.74)
Var(Cohort) – ψ_k	1.64***	0.22***	6.73***	0.59***
	(0.63)	(0.10)	(4.24)	(0.23)
Var(Interaction) – ψ_{jk}	0.33***	0.51***	0.37***	0.44***
	(0.07)	(0.06)	(0.07)	(0.05)
Var(Individual) – σ	62.75***	24.19***	62.33***	22.13***
	(0.45)	(0.17)	(0.40)	(0.14)
Intraclass Correlations				
$\rho_{Country}$	11.75	8.01	18.14	10.68
ρ_{Cohort}	2.23	0.81	7.93	2.27
Log. R. Likelihood	-133,067	-116,939	-163,778	-147,675
N – Individuals	38,095	38,736	46,930	49,658
N – Countries	30	30	30	30
N – Cohorts	17	17	17	17

Note: Significance Levels: ***p<0.001; Unstandardized regression coefficients displayed; Standard errors in parentheses; Significance of random effect parameters determined by likelihood-ratio tests. Data not weighted

Table A2: Intraclass Correlations of Decompositions Weighted by Employment & Family State Durations

	Education	Unemployment	Retirement	OLF	1 FT	2 FT	3 FT	4 FT	5 FT	1 PT	2 PT	3 PT	4 PT	5 PT
$\rho_{Country}$	15.32	7.05	8.42	6.78	8.16	9.00	9.12	9.21	8.78	11.65	12.34	11.94	12.18	12.48
ρ_{Cohort}	9.24	5.18	3.05	0.64	5.51	3.49	2.64	2.15	1.94	4.66	4.70	4.65	4.54	4.70

	Parental Home	Parental Home Children	Single	Single Children	Cohabitation	Cohabitation Children	Marriage	Marriage Children	Divorce	Divorce Children
$\rho_{Country}$	3.32	5.76	13.55	4.07	6.22	5.66	5.48	3.80	4.66	4.32
ρ_{Cohort}	0.00	0.67	0.89	0.82	2.73	2.07	0.69	0.50	0.91	2.15