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A comparative perspective on career mobility in Europe: career patterns and their effects on retirement timing.

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Introduction

At the dawn of the 21st century most Western labor markets are facing a double issue. On one hand there is an increasing and all pervasive flexibilization of work, manifesting itself in most domains of the work. In Europe, as well as in the United States, the last decennia were characterized by increasing labor market mobility (M. B. Arthur & Rousseau, 1996), shorter job tenures, increase in flexible works forms. Workers no longer expect to keep the same job for the rest of their careers; in fact, most believe this kind of career does not exist anymore (Vandenbrande, Coppin, Hallen, Ester, & Fouarge, 2006). This cannot but have an effect on the structure of individual careers. Most contemporary career researchers agree that the so-called "traditional career", defined as a working trajectory unfolding within one or two organizations (Sullivan, 1999), has virtually ceased to exist, perhaps being the prospect of but a few. Most workers of today find themselves in a working path, which has been labeled as "transitional career", spanning across multiple organizations. It is per definition characterized by several transitions not only in the beginning of the career path, which was also the case for the youth just starting their traditional careers (kind of a search-and-settle behavior), but also in the ripe career stages (Wang & Shultz, 2010). Whether this shift can be seen as a positive transformation within the Western labor markets, is one aspect of the analysis we present in this text; nevertheless it is nothing short of a fact, which labor market policy has to take into account without fail. For instance, the European Union aims to facilitate and support this flexibilization, recognizing it as an integral trend of the contemporary economy (Vandenbrande et al., 2006).

The second issue pertains to a pressing demographic problem--the ageing population, which sets the questions pertaining to retirement in the focal center of public policy (Johnson, 1993). Provided the demographic pyramid becomes disproportionally inflated at its top (Demeny, 2003), the proportion of individuals in the ending career stages rises as consequence, which has already stimulated a heated debate on the adequacy of retirement age stipulations across most European countries. The issue will only intensify in the future, considering the growing life expectancy in Europe and advances in health care.

In this article we will explore the confluence of both issues, focusing on the effects of the increased transitionality in individual working careers on the timing of labor market exit in 13 European countries. We will discern the patterns of job mobility in Europe and show that mid-life career experiences are relevant as a determinant for retirement timing.

Theoretical framework

Flexibilization of the labor market

The contemporary career literature postulates a conceptual dichotomy between the stable career patterns of the second half of the 20th century and more turbulent, flexible and less "pre-ordered" careers of today. Multiple concepts have emerged to describe that change, including boundaryless career (M. B. Arthur & Rousseau, 2001; M. B. Arthur, 1994), protean career (Hall & Mirvis, 1996; Hall, 1976, 1996a, 2004), intelligent career (M. B. Arthur, Claman, DeFillippi, & Adams, 1995), portfolio career (Mallon, 1998, 1999), multi-directional career (Baruch, 2004). Describing the same change, albeit from a slightly different perspective, the theory of *transitional labor markets* is better known in the policy-oriented literature (Gazier & Gautié, 2011; Schmid, 2002). Whatever the research strand may be, the issue in the focal point concerns a set of transformations of labor markets, organizations, careers and work in general. First and most importantly in regard to our analysis, there is an increasing job mobility on the level which has not been experienced by the previous generations of workers (M. B. Arthur & Rousseau, 1996; Ng, Sorensen, Eby, & Feldman, 2007). Traditional bureaucratic organizational frameworks within which stable long-term careers were able to unfold are now disappearing (Baruch, 2002, 2004), replaced by leaner, less hierarchical firm structures, that are oriented towards flexibility, quicker adaptation to market fluctuations (Ashkenas, 1999). This process has changed the notion of career dramatically. Not only are there objective changes in how careers develop, individual expectations towards what their careers are to entail shift as well. A stable career is no longer considered the norm. According to a Eurobarometer study, 80% of the Europeans believe that nowadays there is no such thing as a "job for life" (Vandenbrande et al., 2006). Some 42% agree that changing employers every few years is good for the employees, where younger respondents believe that more than older ones, indicating an attitudinal change over time (idem). Internal labor markets—one of the supporting structures of the traditional career—are weakening, shorter organizational tenures and lateral career moves become more prevalent (Gazier & Gautié, 2011; O'Mahony & Bechky, 2006). In Europe there is a growth of fixed-term contracts, as well as an increase in the use of flexible working arrangements, a trend that goes hand in hand in increasing labor market mobility (Brewster, Mayne, & Tregaskis, 1997; Guest, 2004). Movement and career development on the external labor market entails a new psychological contract, which sets the concept of employability central in the career development process. Employability has been defined in different ways (Clarke, 2009), but in general it refers to the ability to survive on both external and internal labor markets, having the potential to constructively adjust to the shifts in the labor market geared towards shorter job tenures.

Markers of career success also have been de-institutionalized in the context of the flexibilizing labor markets. The traditional signs of a successful career, promotions, steady growth of salary and other external indicators of achievement, are not sufficient in themselves anymore, giving way to the subjective factors, the individual experience of one's own career (Hall, 1996b; Peiperl, Arthur, & Goffee, 2000).

The careers that are a part of the current analysis pertain largely to the second part of the 20th century, and may not have been influenced by the most recent labor market phenomena to the same extent as the careers commencing today are. Nevertheless they are relevant to the understanding of contemporary careers in two ways. First, it can be argued that, despite the vast body of research and literature on the *new career* being relatively recent, the precursors to these career changes have been in place since early 1980s (Ashkenas, 1999; Baruch, 2004), with the evolution of the neoliberal agenda, global economy and organizational changes peculiar to that period (Appelbaum & Schettkat, 1998; Kalleberg et al., 1998). The proliferation of these changes differed historically per country, of course, yet we can argue that highly transitional careers of those who will retire in the next decennia may not be as drastically different from the ones found in our sample. In other words, the distribution of different career types (in terms of mobility) is unlikely to be the same, shifting more towards the proportional increase of the transitional careers, but we can expect substantial continuity between the career types for proximal cohorts.

Second, it is feasible to suspect that the causal mechanisms, linking career mobility of the generations under study to the retirement processes will operate in a comparable fashion for those who are about to retire.

In addition we may note (somewhat disclosing the upcoming analysis) that it is exactly the second half of careers of the respondents in question, situated for the large part between 1980s and 2010 contains features that distinguish between the most prevalent, stable career type, and its transitional counterpart. It is exactly the period in which the mentioned career transformations came to full development. All in all, studying the transitional careers of the late generations is crucial to the understanding of careers that are about to be completed, and perhaps of the ones which are entering into their final stages. This is especially true considering the focus on retirement, as the number of methodological alternatives to the study completed careers is very limited.

The importance of mid-career

Even though the effects of mid-career experiences are often assumed to have an impact on the retirement process (Damman, Henkens, & Kalmijn, 2011; O'Rand, 1996), the research on this relationship remains limited. Instead, the majority of empirical retirement studies focus

on the immediate (proximal) context of the end-career stage, considering determinants related to both financial and non-financial aspects of the pre-retirement situation (Schalk et al., 2010; Shultz, Morton, & Weckerle, 1998). Nevertheless there are substantial theoretical (Wang & Shultz, 2010), as well as empirical grounds (Damman et al., 2011; Han & Moen, 1999; Hayward, Friedman, & Chen, 1998; Mutchler, Burr, Pienta, & Massagli, 1997; Raymo, Warren, Sweeney, Hauser, & Ho, 2009; Singh & Verma, 2003) to examine the problematic of retirement in a broader temporal perspective, considering the career structure in general. This approach allows to expand the frame of analysis towards mid-life career events, and view later working life conditions as not being independent from the entire career course running prior. O'Rand (1996) argues that the contemporary transformations of the labor market (cf. supra) challenge the tacit assumptions of the research considering pre-retirement context alone, provided that the heterogeneity of careers increases. The last job conditions prior to retirement may not be representative for a substantially increasing proportion of workers, changes in job tenure cause shifts in the importance of jobs in relation to their duration, characteristics of the last job (such as tenure and earnings) become less informative without a reference to the career in as whole.

Theoretically, this perspective is embedded in the life course paradigm (Elder, 1998; Wang & Shultz, 2010). The key idea is that the current (or latest) individual situation is the result of a multitude of actions, choices and values, that together form a trajectory leading to a certain position in the social structure. For the retirement process, the individual history matters in terms of experience in dealing with previous transitions, work and leisure habits, as well as previous labor force participation patterns (Appold, 2004; Wang & Shultz, 2010). If an individual has a set of work-related behaviors and psychological orientations (cfr. Bourdieu's habitus (Swartz, 1997)) incorporating systematic dealing with previous transitions in the workforce, is less invested in work identity-wise, building it independently from the organization or the firm, and possesses qualities that help the adjustment towards new conditions (be it a new job or the retirement itself), the person in question will be better prepared for the upcoming transition and is likely to achieve better outcomes in it (Van Solinge & Henkens, 2008; Wang & Shultz, 2010). This idea closely resonates with the description of the boundaryless career properties (M. B. Arthur & Rousseau, 1996; M. B. Arthur, 1994), which is theoretically linked to the conceptualization of the transitional career, as we understand it in this study.

A closely related set of theoretical concepts that explains the link between career development mid-life and retirement-related processes pertains to the theory of *cumulative advantage and disadvantage* or CAD (Dannefer, 2003; DiPrete & Eirich, 2006). The concept stems from R. Merton's *Matthew effect,* the term more recognizable in the policy-related literature, and mirrors the idea of *path-dependent increasing returns* in the economic literature (W. B. Arthur, 1994). The central thesis of CAD is that advantage (or disadvantage) of one individual or group accumulates over time, (1) resulting in structural inequality between groups or individuals and (2) creates differentiated sets of opportunities and

options that structure the future of the said groups and individuals. This accumulation tends to magnify initially small differences and makes it difficult or even impossible for someone to recover from being "behind" on a certain resource (DiPrete & Eirich, 2006), be it income, education or, in our case, resources pertaining to career (e.g. employability, subjective and objective career success etc.). Someone in a strong position on the labor market has a substantially different set of resources and opportunities than someone bound to the secondary labor market; moreover, these positions are rooted in the differentiated social context, and play a great role in determining the development of the future trajectory. There are, indeed, empirical indications that diversity increases with age (Nelson & Dannefer, 1992; O'Rand, 1996), conform the theory.

Specific causal mechanisms

A major portion of the mid-life work experience effects on retirement is explained by the financial aspect (Damman et al., 2011; Hayward et al., 1998). The latter will influence pre-retirement financial context, and by consequence the retirement event itself (Hayward et al., 1998; Raymo et al., 2009). Unstable work patterns can have a disrupting effect on pensions and thus forcibly postpone retirement, especially in countries or sectors where remuneration is a function of job tenure. On the other hand, mobility associated with promotions would have an opposite effect (Damman et al., 2011). For instance, self-employment is likely to be associated with later retirement due to lesser stability in the earning trajectories, whereas workers of large bureaucratic firms will benefit from both organization- or sector-specific regulations and are more likely to accrue an advantage in terms of earnings (Elder & Pavalko, 1993; Hayward et al., 1998). In general, external mobility is positively associated with salary increase, although this relationship can be contingent on external factors, such as gender or race or career stage (for an overview see Lam, Ng, & Feldman, 2012). On the other hand, Mehdizadeh & Luzadis (1994) find a negative relationship between mid-life mobility and accumulated private pensions, albeit the data pertains to the US. Career interruptions during prime childbearing years have been shown to result in lower pension accumulation and later retirement for women (Raymo et al., 2009).

Mobility related to sorting workers into primary and secondary markets, in accord with CAD theory (with eventual link to the social class (Schalk et al., 2010)), is associated with the differentiation of job qualities, such as job pressures and work complexity, which are known to have impact on the retirement timing (Beehr, Glazer, Nielson, & Farmer, 2000; Schalk et al., 2010; Zappalà, Depolo, Fraccaroli, Guglielmi, & Sarchielli, 2008). Favorable working conditions and job properties will be associated with later retirement and vice versa, in accord with the push/pull theory perspective. Workers moving frequently in and out of labor

force may be less invested in their careers and less attached to work, therefore viewing early retirement as a relief from the precariousness of their employment.

Health is another important predictor of retirement (Schalk et al., 2010). Poor health generally leads to earlier retirement (Hayward, Grady, Hardy, & Sommers, 1989; Schalk et al., 2010; Topa, Moriano, Depolo, Alcover, & Morales, 2009; Wang & Shultz, 2010). Aside from its direct effects on retirement, however, it mediates the effects of the working history. Again, following the CAD logic, poorer working conditions throughout life are associated with weaker health prior to retirement (Hayward et al., 1998; Schalk et al., 2010; Wahrendorf, Blane, Bartley, Dragano, & Siegrist, in press). Substantive complexity, physical and environmental demands are found to be linked to health. Occupations lacking complexity, entailing sufficient levels of job stress or physical demands are related to higher mortality and heart disease rates (idem). Involuntary job loss mid-career has been associated with higher likelihood of retirement for health reasons (Raymo et al., 2009).

Qualitative research also adds to the explanation of the effects of mid-career transitionality on events later in life. Thus, Fournier, Zimmermann & Gauthier (2011) show, that the "repetition of uncertain, heterogeneous occupational events", such as ones peculiar to a fragmented or highly transitional career trajectories, more often than not lead to a build-up of obstacles that result in an unraveling of the career (cfr. Hayward et al., 1998). Four types of obstacles are discerned in this regard. The first type pertains to the difficulty of establishing a well-defined area of expertise, with individuals in this career type having a fragmented skill profile. Second, work-related networks of people in fragmented careers are less elaborate and less well maintained. Due to the shifting nature of their work, old contacts are lost with time as they remain unused. For some individuals it is even the case that such a network is never built in the first place. The third type of obstacles is related to the expectations of employers about the experience of workers in their specific areas. It pertains to the gap in the said experience that increases with age between those who have enjoyed a stable career on one hand, and those who have been transitioning between jobs. Finally, the difficulty of adjusting to new jobs is the last type of obstacle. Older employees often have trouble "fitting in", what discourages them from continuing employment. All these types of processes entail a higher likelihood of career unraveling after its mid-point, instead of career progression. Hayward et al. (1998) find, in turn, that career unraveling is associated with earlier retirement.

Our control variables are theoretically linked to the determinants and causal mechanisms described above. Thus, career success and its measures refer to the non-financial mediator group, along with career voluntariness, which is related to the degree of control over one's career, and as consequence to career unraveling. Education, sector and family indicators are well-known covariates of retirement (De Preter, Mortelmans, & Van Looy, n.d.; Schalk et al., 2010; Singh & Verma, 2003; Wang & Shultz, 2010).

Data and methods

For our analyses we use data from SHARELIFE release 1.0, as of November 24, 2010, or SHARE release 2.5.0, as of May 24, 2011 (see A. Börsch-Supan, Hank, & Jürges, 2005; Axel Börsch-Supan, Hank, Jürges, & Schröder, 2009). SHARELIFE data were collected in 2009 in 13 European countries, and contain retrospective data on work, family, health and other life domains throughout complete respondent's lifespan. The data are a part of a longitudinal study, which contains 3 waves at the time of this writing. The main selection criterion for the respondents was to be of age 50 or older at the first measurement. Our analysis pertains mostly to the information that was not measured across all waves (due to the retrospective nature thereof); therefore we opted for non-longitudinal techniques to be applied to the research problem at hand for the relationship between the retrospective data and its cross-sectional (outcome or covariate) variables.

Our primary unit of analysis is the individual career. For our purposes we make a sub-selection of respondents, based on their participation in the labor market—the criterion entails having at least one job after leaving the initial full-time educational trajectory. The same moment is also the starting point for the careers in the analysis, even if the respondent does not become employed right away. The size of the effective sample is N = 22886. From the SHARELIFE data we derive a set of work-related statuses arranged on a timeline starting from the mentioned labor market entry, and concluding with the moment of the data collection. A more detailed description of how this is done can be found in the respective section below.

We operationalize a job in the same fashion it is represented in the data: being either self-employed or employed during at least 6 months, working either part- or full-time. The operationalization of a career is then a sequence of states containing one or more jobs, either interrupted or uninterrupted by unemployment or labor market inactivity (having no job and not searching for one). In our analysis we look at the first 50 years of that sequence, whereby the year of data collection represents a natural truncation point for careers of shorter length. This implies that our initial sample contains both retired and active respondents, though some analyses that make use of the retirement age variable, are restricted to the retired subsample alone (N = 11652).

Job changes in a career sequence are defined by respondent's answers as to whether his or her employment situation has changed. Generally, a job change implies a change of employers (default coding), although the respondent could specifically request to consider an intra-organizational move as a change of job. For our purposes we consider it correct to treat both cases equally.

Main variables

There are two main dependent variables in the analysis, both pertaining to the timing of permanent labor market exit. One of them is the effective retirement age, derived from a direct question in wave 2 and from the retrospective section on work in wave 3. This dependent variable is used in country-level analysis. The second variable refers to the difference between legal and effective retirement ages, and is used in the European-level models to provide a reference for differences in legal retirement ages between the countries.

Two independent variables are placed in the focal point of our analysis, both pertaining to the specifics of individual career patterns in terms of its transitionality. One of them is the career *complexity* index, the details of the exact calculation of which are outlined in the respective section of this text. In short, it is an individual career measure taking into account the number of statuses and transitions in a career, as well as their order. Another variable entails the membership in one of the nominal career type classes, which will be constructed below. A career type is also based on specific patterns of transitions between jobs, but offers additional advantages as to the interpretation of career transitionality.

Control variables

The use of control variables in the models is intertwined with two methodological issues peculiar to the data set. The first issue involves missing values. Although the amount of missings it tolerable in each variable (even though being higher in the financial indicators), they are spread across different cases. As the result, as the number of variables in the model increases, the available sample decreases substantially. Therefore the specification of our models is oriented towards sparser models with the most essential variables.

The second issue pertains to the retrospective nature of the data. As the retirement for different respondents can occur anywhere from the 1970, we can only include variables that are able to refer to the retirement event retrospectively (i.e. to avoid attributing effects to factors that are placed post hoc in time) or those which refer to an overall career property and thus have no meaningful temporal placement.

Thus, *education* is measured in a number of years in full-time education the respondent has enjoyed. *Health* is a dichotomous variable that refers to having a prolonged period of ill health in the 3 years prior to retirement. *Marital status* is measured at the moment of retirement, and is represented by a dichotomous variable indicating whether the respondent had a partner at that time. Number of divorces the respondent had is also considered in the family-related set of control variables, along with the number of children.

The *active career years* indicator measures the sum of years spent actively on the labor market (in either employment or self-employment), and is directly derived from the career sequences in the analysis. The *total number of jobs* represents how many jobs the respondent had in their career. As mentioned previously, this generally entails external organizational mobility, unless specifically stated otherwise by the respondent. The s*ector* variable represents the sector of the last job of the respondent, thus prior to retirement. The sectoral categorization is as follows:

1. *Agriculture, hunting, forestry, fishing*
2. *Mining and quarrying*
3. *Manufacturing*
4. *Electricity, gas and water supply*
5. *Construction*
6. *Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods*
7. *Hotels and restaurants*
8. *Transport, storage and communication*
9. *Financial intermediation*
10. *Real estate, renting and business activities*
11. *Public administration and defense; compulsory social security*
12. *Education*
13. *Health and social work*
14. *Other community, social and personal service activities*

Career voluntariness index is a measure that represents the average voluntariness of transitions in a career. The index is constructed by counting voluntary transitions per respondent, and then dividing that number by the total number of transitions of that respondent.

The transitions are classified as follows:

Table 1: the classification of career transitions used for construction of the voluntariness index

Voluntary transitions	The respondent resigned from a job The employment was terminated by mutual agreement
Involuntary transitions	The respondent was laid off The plant or office was closed down
Ambivalent transitions[1]	Completion of a temporary job

[1] This transition type can refer to real events both of voluntary and involuntary nature. It is not possible to derive the exact character of these transitions from the data. There is no additional information on the eventual respondent's inclination to prolong the contract; therefore, the transition can be interpreted both

Career satisfaction refers to the subjective satisfaction of the respondent in regard to his or her career in general. Additional variables for the subjective career success are *disappointment* (having experienced a major disappointment in one's career), *achievements* (being satisfied with one's achievement, considering all efforts), *sacrifices* (having sacrificed to much for one's career). All subjective career success variables are measured one the scale from 1 to 4, higher values indicating higher levels of agreement with the corresponding item (e.g. higher career satisfaction), while lower levels indicate the contrary.

Variables related to finances are *last salary* and *pension*, are measured as a decile in the respective income type distribution for each country separately. The incomes are corrected for inflation, since the timing of the retirement can differ significantly. The variables are related, respectively, for the salary in the last job (one prior to the retirement), and the first retirement benefit received.

Gender, age are self-explanatory.

For the multilevel models we employ a number of the country-level indicators, pertaining to the same variable groups that were outlined in the theoretical section. In addition, two indicators related to unemployment were used as an extra control set. In total, six measures are involved, extracted from the respective EUROSTAT tables per country and per year (EUROSTAT, 2012). For those years where a value was absent, the average of other years was imputed. The measures are as follows:

1) Median relative income ratio of elderly people (65+): persons aged 65 and over compared to persons aged less than 65 years.
2) Aggregate replacement ratio: ratio of income from pensions of persons aged between 65 and 74 and income from work of persons aged between 50 and 59 years.
3) Poverty risk for pensioners: below 60% of median equivalized income after social transfers.
4) Total pension expenditure as % gross domestic product
5) Employment rate in the age group from 55 to 64
6) Long term unemployment rate

All categorical variables have been coded using the effect coding. This implies that each categorical factor level is compared to the grand mean, not the reference category, whereby the respective coefficient shows the degree of deviation from that mean. All continuous variables have been centered on their mean.

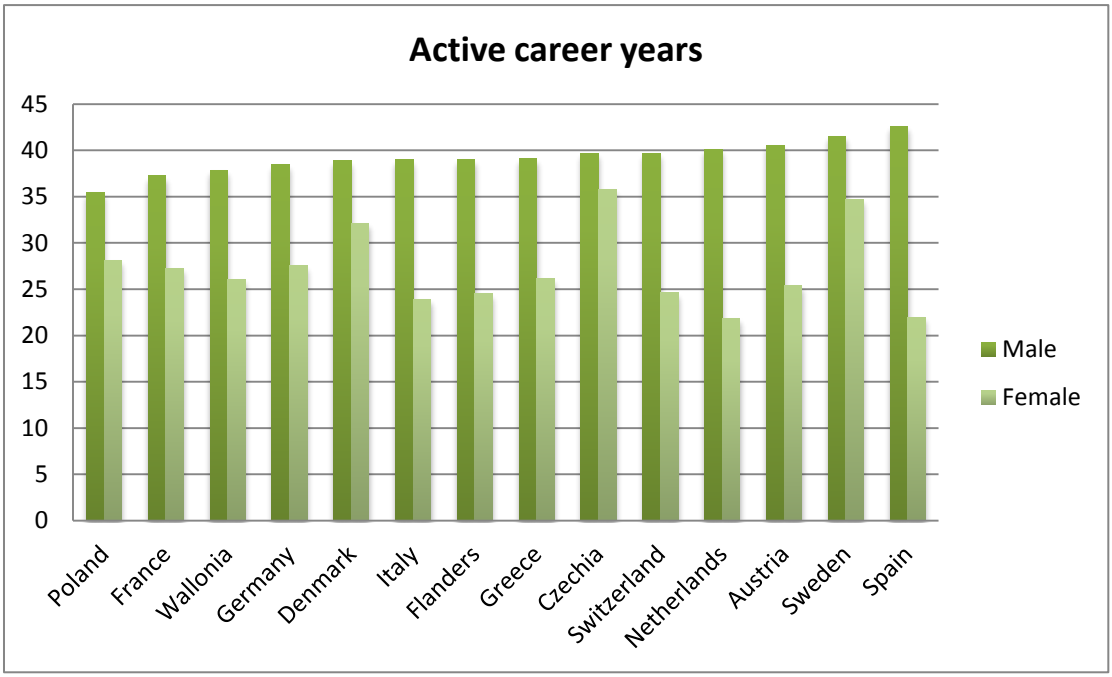
ways. We chose for the ambivalent transitions to contribute only 0.5 to the index, assuming this to be an expected value of such transitions, approached when the number of cases is sufficient.

Part I: Careers and their properties

An exploration of European careers

In this section we will review several descriptive career indicators in a comparative perspective. For informative purposes we split the Belgian sample in two subsamples, Flanders and Wallonia[2], where appropriate. Figure 1 presents the mean number of years spent in activity on the labor market (employment or self-employment) for the 14 resulting territories per gender:

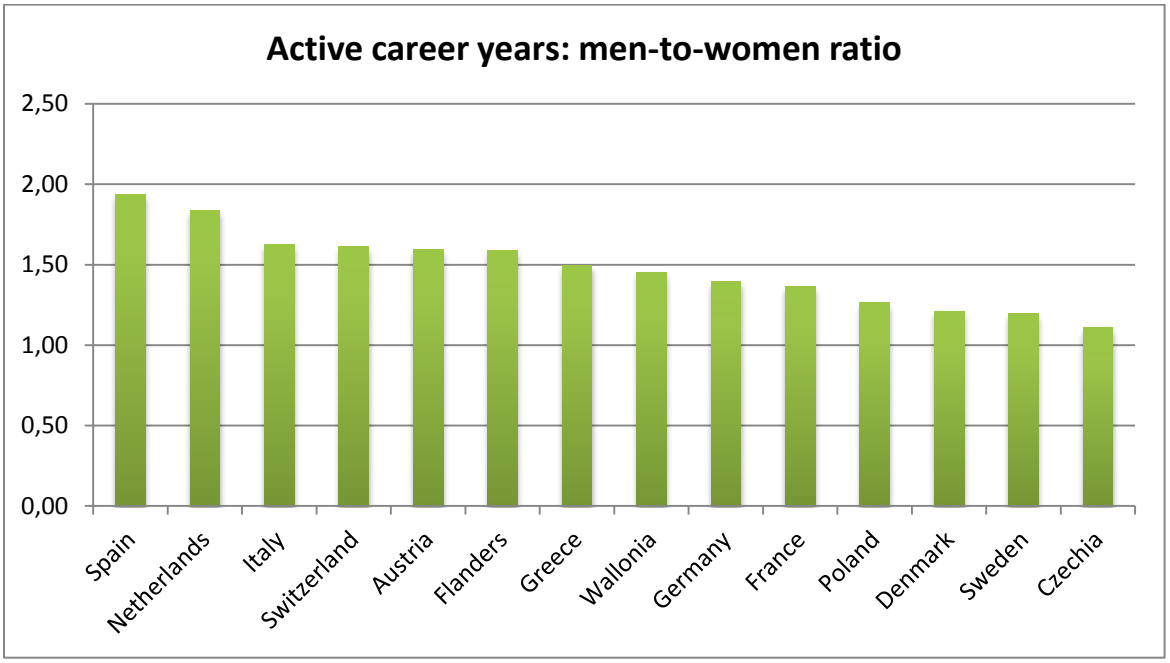
Figure 1: active career years, means per country and per gender



We see substantial variations between the countries, and more so for women than for men. As one may expect, men have on average longer career spans than women, since substantial proportions of women follow the inactive career trajectory, characterized by prolonged periods of inactivity or unemployment. Apparent are the large disparities between men and women that also vary among the countries substantially:

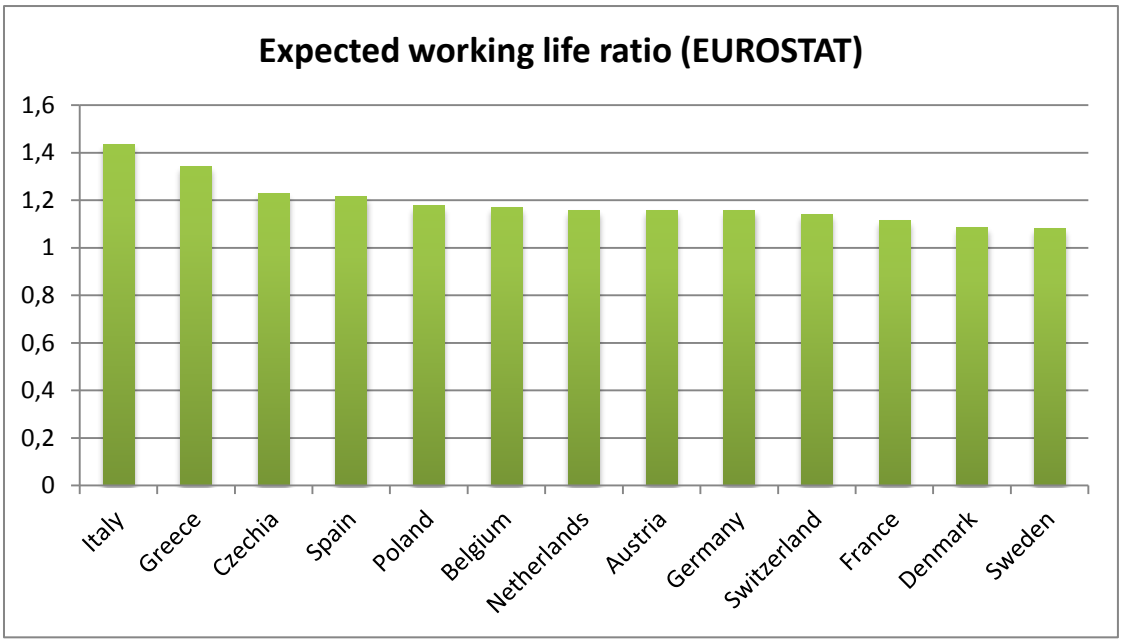
[2] For the sake of brevity we will continue referring to the resulting entities as countries, even though in fact these are 12 countries and 2 regions.

Figure 2: men-to-women ratio of mean years actively spent on the labor market



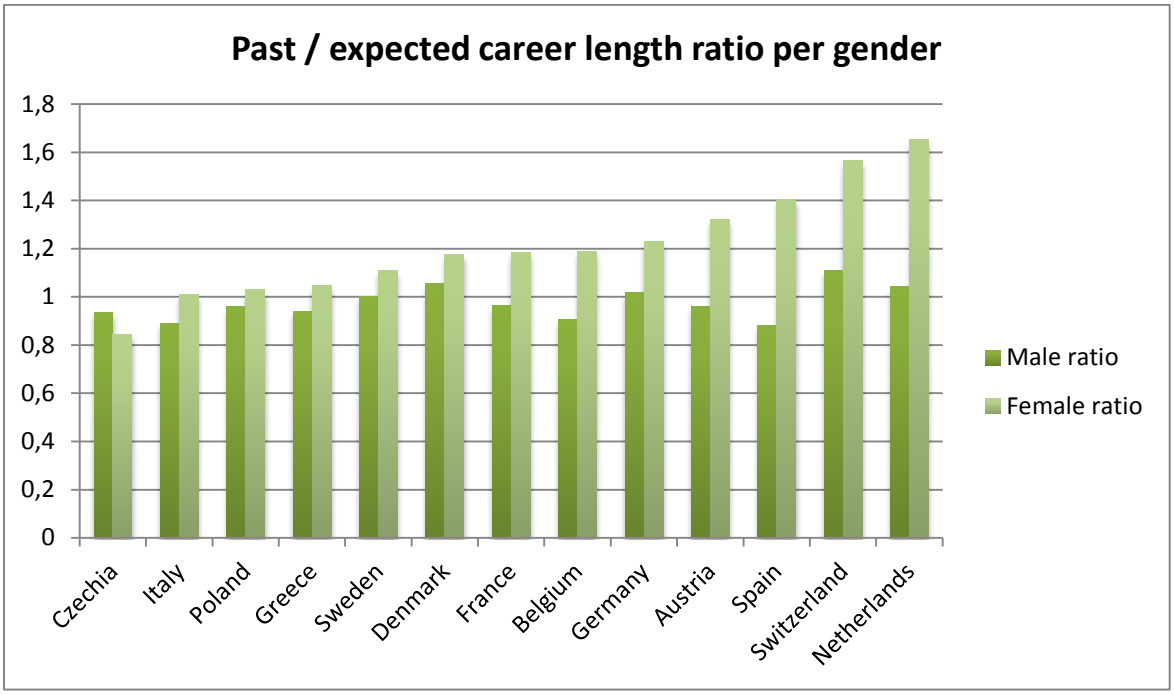
The figure above renders a ratio between the mean active career years between men and women. Values closer to one imply greater parity in terms of (self-) employment duration between both genders. Naturally, these data pertain to older cohorts, whereas the contemporary situation might be different. We compare our sample to the recent EUROSTAT data (EUROSTAT, 2010):

Figure 3: between-gender ratio of expected working life span in 2010 (own calculation)



There is a substantial overall decrease in gender disparity, and despite significant shifts in the ranking, Belgium has largely retained its middle position in relation to the other countries. It might be interesting to note how the careers of the past relate to the current projections in terms of career length. In the following figure we present a ratio of the expected working life duration for a person 15 years of age (EUROSTAT, 2010)[3] to the duration of the working life—active years on the labor market—in our sample, which pertains to the careers found in our sample.

Figure 4: the ratio between sampled career duration and the expected value in 2010

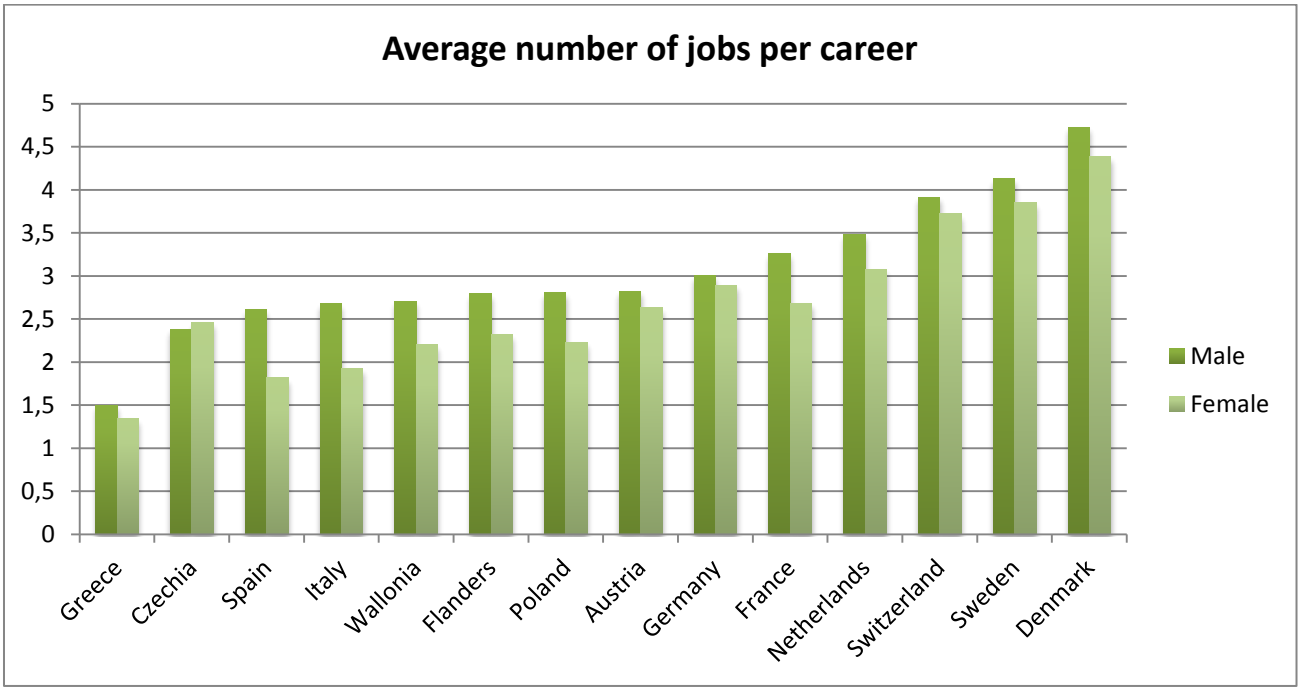


We can observe that for most countries the active career duration for men has decreased by comparison, and Belgium is ranked third in the order of that decrease (by 9.5%). The ratio for Sweden is 1, which means there was no change in duration, whereas Germany, Netherlands, Denmark and Switzerland show an increase in relative career duration for men. For women the trend is reversed. With a single exception of the Czech Republic, the activity duration for women has increased. For Belgium this increase is 18.5% percent, which puts it as sixth after Netherlands, Switzerland, Spain, Austria and Germany.

The following graph renders the amount of jobs in a career. As we have mentioned in the methodology section, as a rule it represents changes of employers, unless specifically indicated otherwise by the respondent (e.g. in case of a substantial job differences within the same organization).

[3] The duration of working life indicator (DWL) measures the number of years a person aged 15 is expected to be active in the labor market throughout his/her life.

Figure 5: average number of jobs in a career per gender, per country



The most immediate observation here is that there is a lot of variation between countries in terms of career mobility. Greece is the least mobile of all countries represented in the set with just under 1.5 jobs per respondent, while Denmark has had the most mobile labor market with about 4.5 jobs, three times the amount of the least mobile country. Women's mobility is strongly correlated with that of men, which asserts the importance of country-level structural factors pertaining to job mobility. Flanders is situated approximately in the middle of this distribution, its score for men being just under the grand mean of 2.88. Flemish labor market is marginally more mobile in this representation than that of Wallonia, but less mobile than in all neighboring countries.

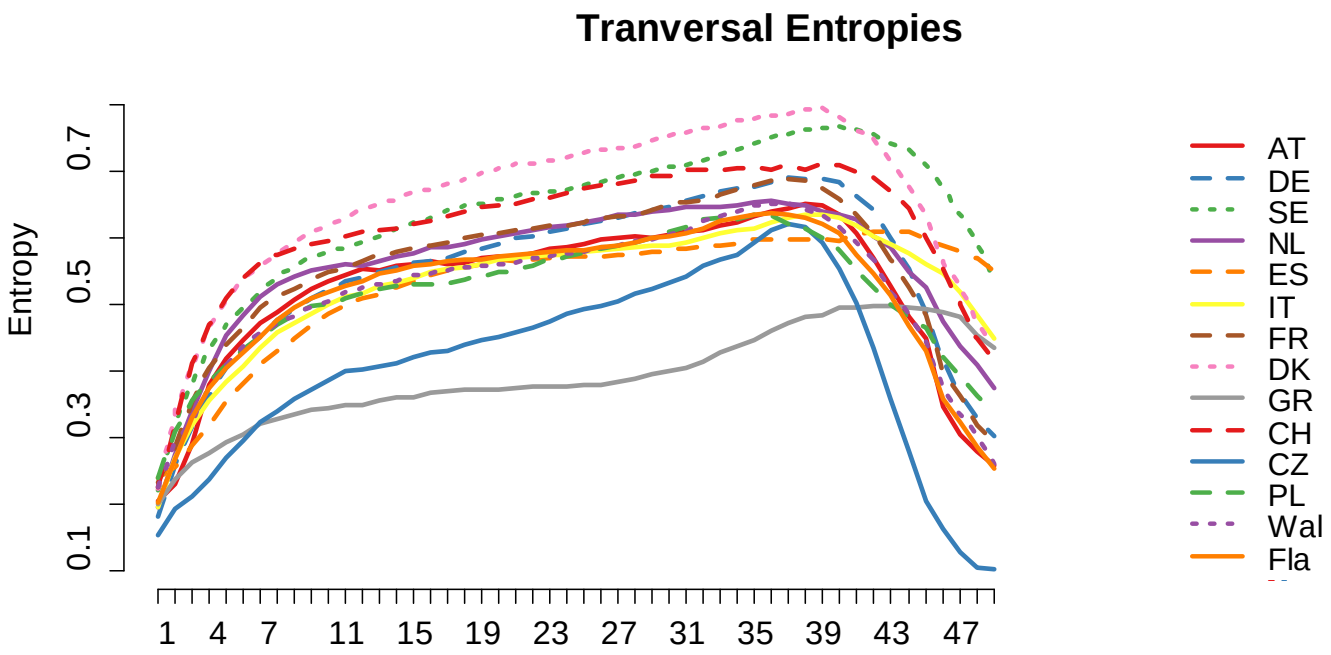
Transversal career entropy

In this section we will explore transversal characteristics of the careers at hand. In a distribution of career statuses each position in time (from the beginning of career) is typified by a number of states. For instance, we may consider a distribution of statuses in each career year, as we will do in the subsequent sections. Another measure is the sequence entropy index (Billari, 2001; Fussell, 2005), which signifies the heterogeneity of states at a given time (in our case, the career progression), and is expressed as

$$E = \sum_{1}^{S} p_s \log(1/p_s)$$

where S is the number of states and p_s is the proportion of the population in state *s*. Should all subjects find themselves in a single state at a given time, the entropy index would be equal to zero—one would be absolutely certain about that state, e.g. in terms of making predictions. If, however, state proportions would be equal—there would be maximum uncertainty about predicting the state—the entropy index would reach its maximum. A value of the entropy index is generally expressed as a percentage of its maximum value. In addition, we normalize the entropy accounting for the complexity of states in our particular case, i.e. of the state alphabet. The figure below renders the evolution of the transversal entropies for the fourteen territories in the analysis:

Figure 6: transversal entropy evolution, all careers



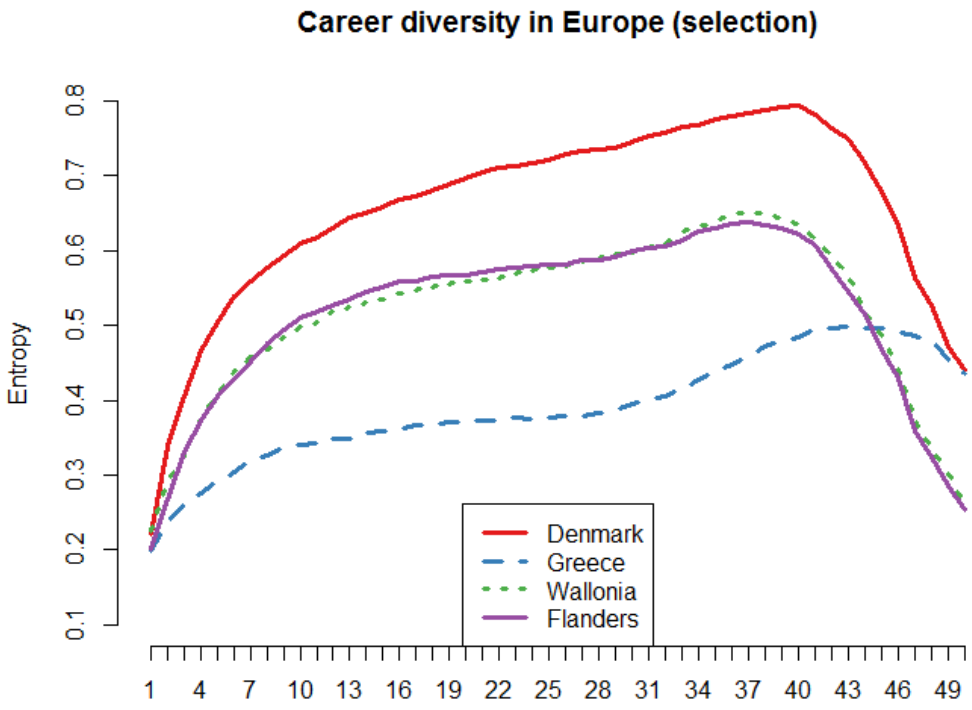
The initial entropy in the first career years is very low, implying that most careers begin similarly to each other. Some of the individual transition into temporary unemployment or inactivity, especially women, but most people find their first job. Due to the similarity of that first status the initial entropy has a common starting point. After a few years, however, the process of career diversification begins and the entropy rises very steeply until about the 10^{th} year into career. Many women give birth to children and transition into inactivity, this career pattern is present in almost all countries. Some of the workers leave their first job and move on to the next one. This initial period is the sharpest spike of diversification throughout the whole timeline. The subsequent development entails a much less steep but nevertheless steady increase in entropy, for most countries in a linear fashion. This development largely corresponds to some of the respondents progressing onto new jobs, while others remain in their secured positions in the labor market. The entropy peaks at 35

to 40 years after career start, at this point the diversity between the respondents is at its greatest. After the peak a sharp decline follows, as the move into retirement occurs.

Most of the country lines are closely intertwined, which means that the degree of career diversity is comparable for most territories. Two countries clearly fall out of the common pattern; their entropy has a distinctly lower trajectory than the rest: Greece and Czech Republic. Countries that are situated higher than the common entropy pattern are Denmark, Sweden and Switzerland. It is not coincidental that these two groups of countries can also be found together at both extremes of the job mobility distribution (Figure 5), as in our case entropy represents career diversification in a country in terms of work-related transitions; of course the number of jobs in a career is strongly correlated with the number of transitions, which, in turn, is a source of career diversification. Both figures represent nevertheless different things: high mobility does not necessarily imply high entropy, as long is the majority of the respondents progress more or less similarly in their careers. The correspondence between the two occurs when individuals progress to different career stages at substantially different rates, skip certain states or become stopped in certain states while other individuals move on.

In order to give a clearer idea where Belgium stands in the figure above, we remove all other countries, with the exception of those defining the upper and the lower bound:

Figure 7: career entropy for select territories, Flanders and Wallonia



Here too Belgium is in the middle between the two extreme lines, both Flanders and Wallonia following an almost identical path. Even though the entropy peak is reached sooner by comparison, the same observation cannot be made in the full graph comparing all countries (Figure 6).

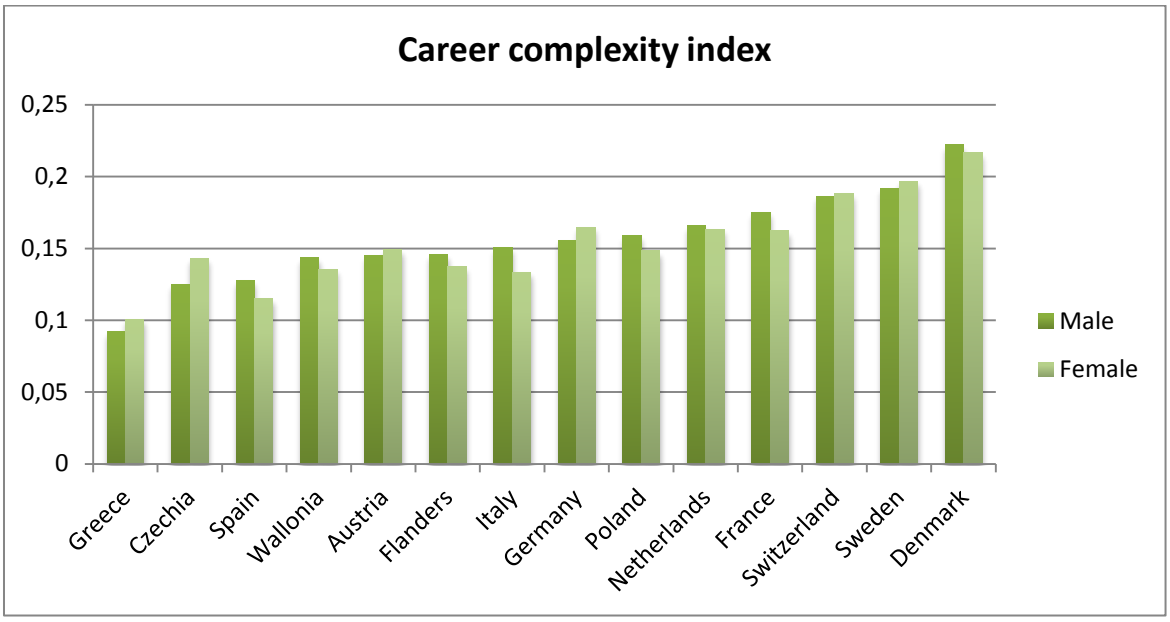
Longitudinal characteristics

Having discussed career diversity within a country, we proceed to a measure which describes longitudinal career complexity. In our case, between-job transitions are not the only constituents of career complexity. For instance, transitions from or into unemployment and inactivity are not reflected in the statistics pertaining to the average number of jobs in a career. Career complexity index (Gabadinho, Ritschard, Müller, & Studer, 2011; Gabadinho, Ritschard, Studer, & Müller, 2010) is a composite measure based on the number of transitions in a career (disregarding the substantial nature of the statuses in it) and on the longitudinal entropy (cf. supra). Mathematically it is expressed as

$$C(s) = \sqrt{\frac{h(s)}{h_{max}} \frac{(l_d(s) - 1)}{(l(s) - 1)}}$$

where *h* is entropy, l_d is the length of the distinct successive states sequence (enumeration of statuses without accounting for their duration), and *l(s)* is the length of the sequence. The sequence complexity index varies between zero and one.

Figure 8: average career complexity index, international comparison per gender



As one could expect, country estimates are here quite different from the mean number of jobs indicator, although the extremes of the distribution remain virtually unchanged. What does change substantially however, is that career complexity for women is not always lower than that of men (which was predominantly the case for the mean number of jobs). Quite to the contrary, in several countries female careers are more complex, namely in Greece, Czech Republic, Austria, Germany, Switzerland and Sweden.

Concluding this part we may state that while Flanders and Wallonia are not situated in the lowest part of the labor market mobility distribution, they tend to be placed in the lower half, together with countries such as Italy or Poland, which are characterized by rather low mobility. Aside from a purely comparative perspective, this helps us understand the local context in which transitional careers develop in each country. In the next section we will take a deeper look what careers in different countries look, and how their structure is related to the data that we have seen in this part.

Part II: Construction of the career typology

Methodological preliminaries

Having described the technical preliminaries to career sequence construction, we proceed to the specifics of how our career typology was built. In the first step we define career sequences based on the following statuses:

- Inactive (not participating in the labor market)
- Unemployed (not participating in the labor market, but looking for a job)
- Employed in the Nth sequential job in one's career (N = 1..20). For each respondent max(N) corresponds to the number of jobs he or she had in the career.
- Retired

The resulting career sequences are analyzed using Optimal Matching Analysis. OMA is a member of sequence analysis family, serving in the essence to estimate distances between sequences of states or events (Abbott & Forrest, 1986; Abbott, 1990). It has been applied successfully to constructing typologies of labor phenomena (Abbott & Tsay, 2000; Chan, 1995; Halpin & Chan, 1998). The technique allows to consider the whole sequence, including all its sub-states as an integral unit of analysis, rending it thus very valuable in the context of career research, where the researchers are not merely interested in summatory career descriptors (such as length, number of transitions etc.), but also need to consider the pattern of events and transitions.

The output of the OMA itself is in our case a matrix of distances between career sequences. The matrix will be subjected to a clustering technique which will sort all careers into groups. The goal of this step is indeed to acquire a typology in which groups of careers with similar structure will be formed. The variation of career sequence structure between groups is to be maximized, while the variation within groups is to be minimized.

In this context, the choice of algorithm for distance calculation is important (for an overview see Lesnard, 2010). In order to make a choice, the specific task at hand needs to be considered. Comparing career sequences we need to allow for time shifts, since careers vary in length. More importantly, we are interested in a general career structure, especially in the succession of jobs. As long as a career follows a certain pattern, the exact timing can vary slightly without drastically changing the interpretation of a sequence. This leaves us with Levenshtein I distance algorithm, whereby distance between career states is expressed as a function of frequency of that transition in the sample. For instance, we would never observe a transition from first to third job in a career sequence (unless under a highly unlikely set of circumstances due to the specifics of measurement), therefore these states will have a larger distance in relation to each other than a transition from the first to the second job.

In the second step distances were obtained between the previously outlined career sequences. For the calculation of these distances sequences were clustered per country and per gender. This was done to allow less frequent career types to emerge without being lost in larger sequence clusters. In addition, given the explorative nature of the analysis, this approach allowed for the possibility of having differently structured careers for both genders. Indeed, even though the main career types were largely replicated throughout all countries in the analysis, a few deviant local patterns have emerged.

An essential issue is the determination of the number of clusters, which had to be examined for each country separately. In order to be able to analyze the variation in career types, we took as a rule to start with a small number of clusters (e.g. four) and then allow for splits within these initial clusters until the last cluster produced does not yield a meaningful result, in essence replicating an already existing type with some negligible variations. The resulting split is ignored and the number of clusters is then fixed.

Subsequently, the clusters for each country were visualized and examined. All types were manually classified into larger groups based on their principal similarity. In what follows we will discuss these career types in more detail.

Career types and their distinguishing characteristics

The following career types were discerned in the 13 countries in the analysis. Some of them were found in all countries, while others were specific. A complete distribution of career countries is shown in the subsequent section (tables 2 & 3) below. Before that we provide verbal and visual descriptions of all types. Unfortunately, the legend for the visual representation of career sequences is rather cumbersome. Therefore we present it once prior to all figures, together with the status codes. The readers are welcome to revisit this section as needed[4].

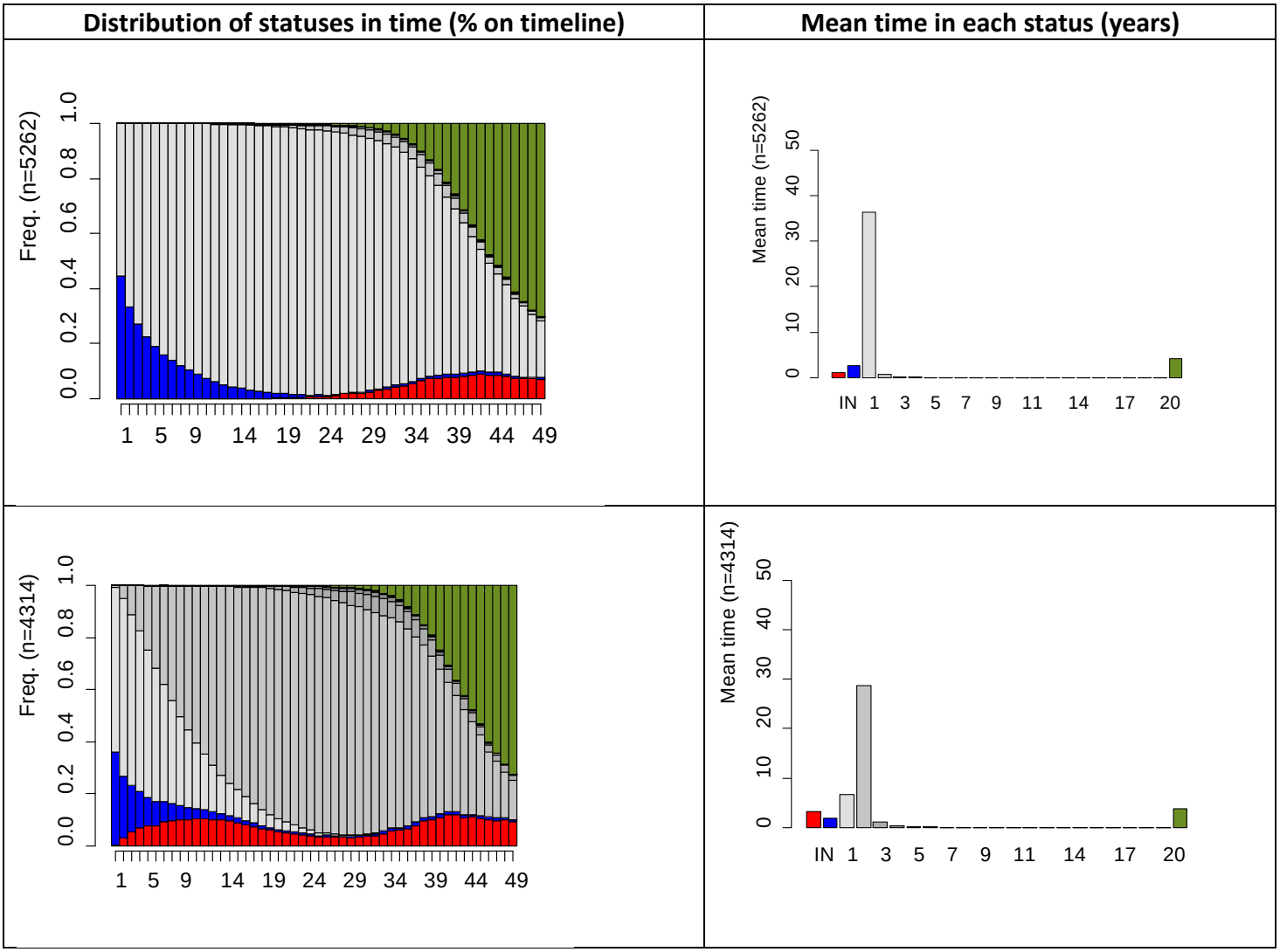
Status codes (see p. 23):	Legend
-1: inactivity 0: unemployment 1-20: job number in the career sequence 88: retirement	

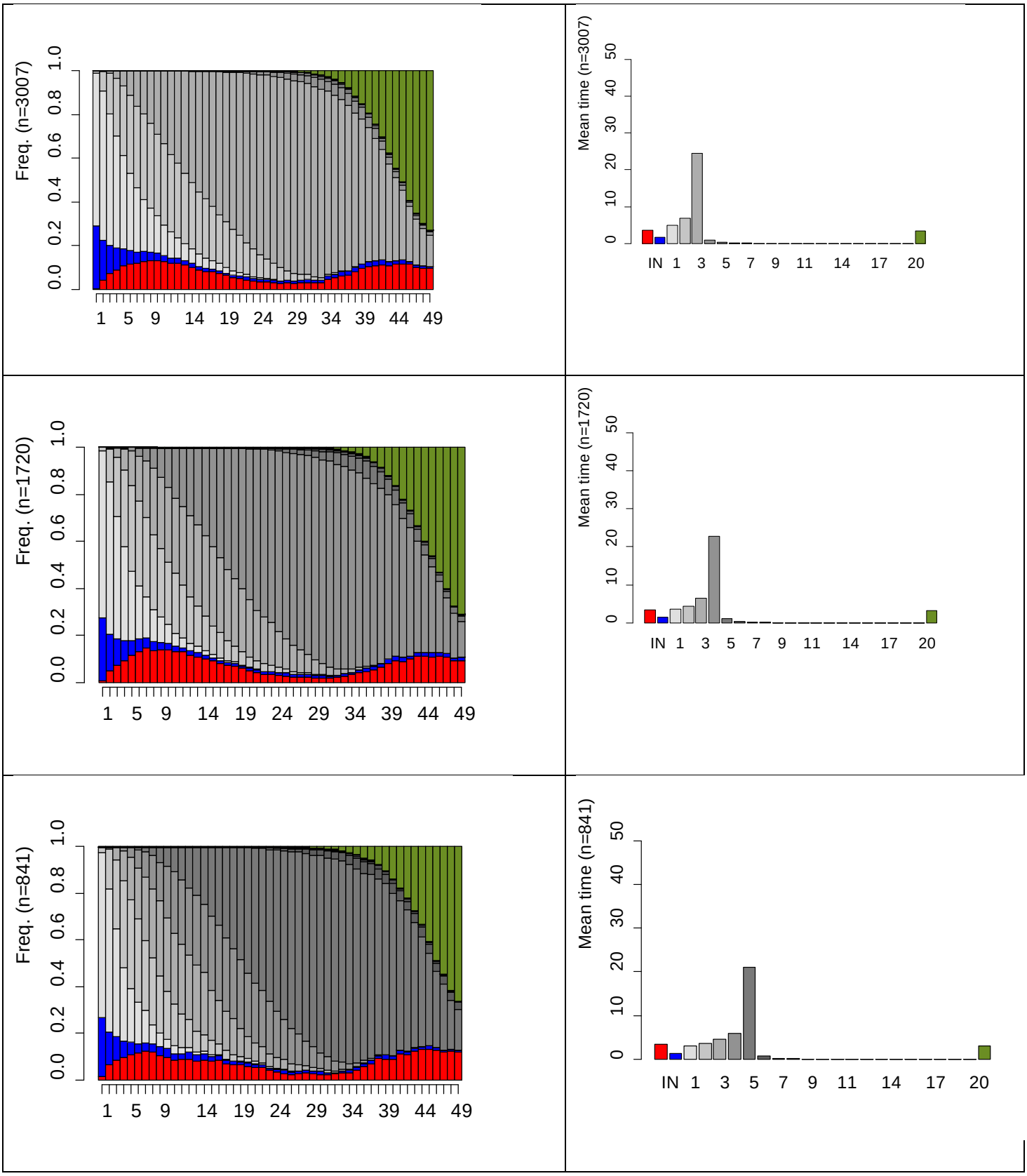
[4] It is highly recommended to view the distribution figures in this document in color, as they rely on color-coding to represent different statuses and/or career types. Grayscale rendering should nevertheless provide sufficient fidelity to be comprehensible in the combination with the verbal descriptions.

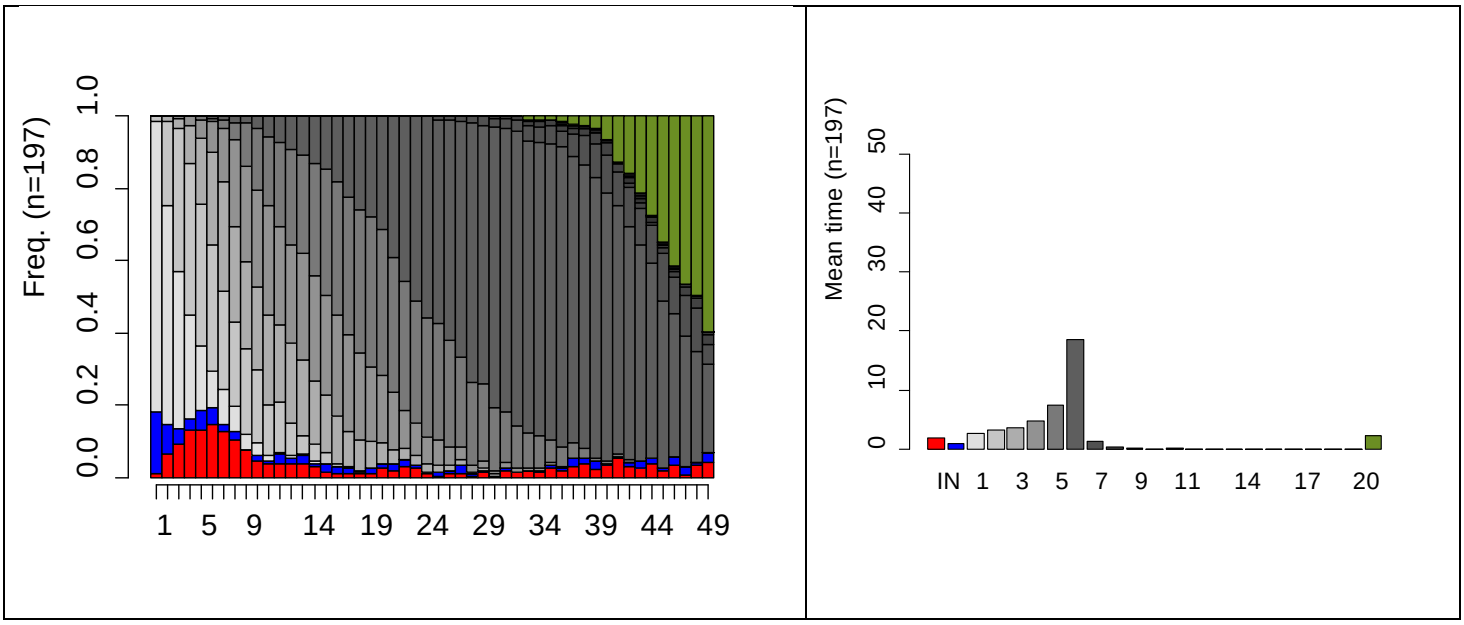
Stepping stone career.

The stepping stone type is unique in the sense that it is an umbrella type for several subtypes (clusters), which have been combined on the basis of theoretical reasons. Later we will show that this conjunction is in fact valid based on statistical reasons. The main typifying feature of this type is that there is a main job of a prolonged duration, which is held up until retirement (with but minor exceptions). One or several job-to-job transitions may occur prior to that job, nevertheless the end of the pattern is always fixed. The number of these initial transitions can vary, ranging from zero (no transitions at all) to 5, with 6 jobs in some (but not all) countries. Figure 10 is a graphical representation of the mean time spent in each status for the stepping stone pattern; multiple clusters belonging to this type are depicted, being sorted according to the number of transitions.

Figure 10: the temporal structure of the stepping stone career




Freq. (n=3007)
0.0 0.2 0.4 0.6 0.8 1.0
1 5 9 14 19 24 29 34 39 44 49
Mean time (n=3007)
0 10 20 30 40 50
IN 1 3 5 7 9 11 14 17 20
Freq. (n=1720)
0.0 0.2 0.4 0.6 0.8 1.0
1 5 9 14 19 24 29 34 39 44 49
Mean time (n=1720)
0 10 20 30 40 50
IN 1 3 5 7 9 11 14 17 20
Freq. (n=841)
0.0 0.2 0.4 0.6 0.8 1.0
1 5 9 14 19 24 29 34 39 44 49
Mean time (n=841)
0 10 20 30 40 50
IN 1 3 5 7 9 11 14 17 20

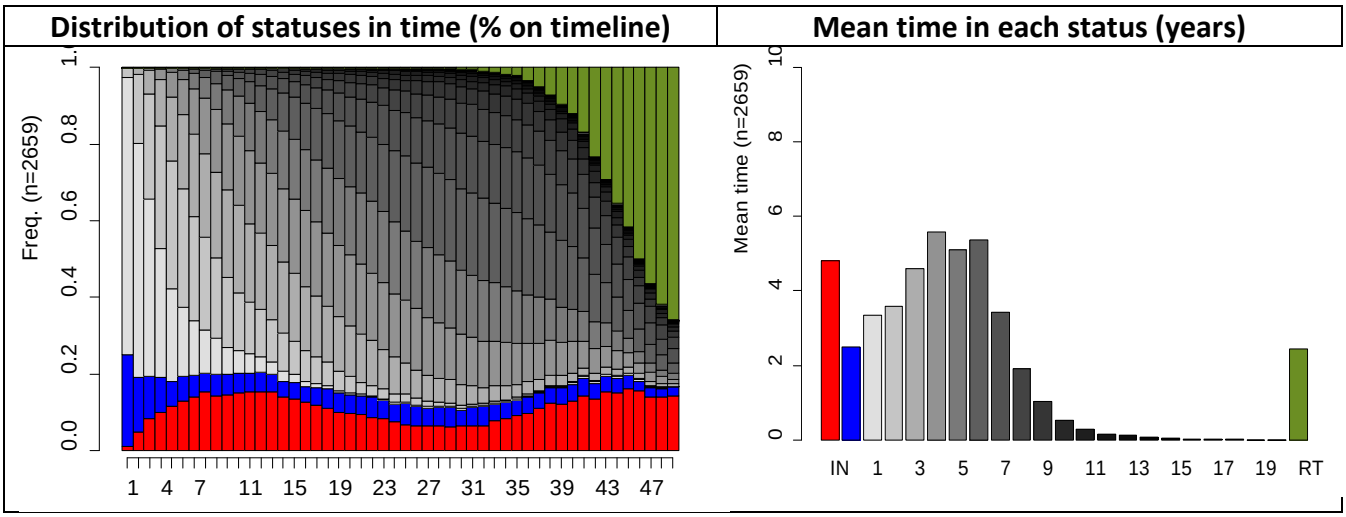


This career type is found in all thirteen countries in the sample. It also accounts for the largest proportion of all careers. Note that the number of individuals in the sub-clusters of this type diminishes as the number of jobs in the respective sub-cluster increases. In other words, simple careers are more prevalent than complex ones in this group.

Hypertransitional career

We have seen that the stepping stone pattern may entail a few transitions in the beginning of a career. There are no further transitions (except the retirement, of course) when the main job has been reached, and this is exactly where the difference with the hypertransitional type emerges. In the latter career type, transitions continue even after the main job. A graphical representation gives a better idea:

Figure 11: the temporal structure of the hypertransitional career

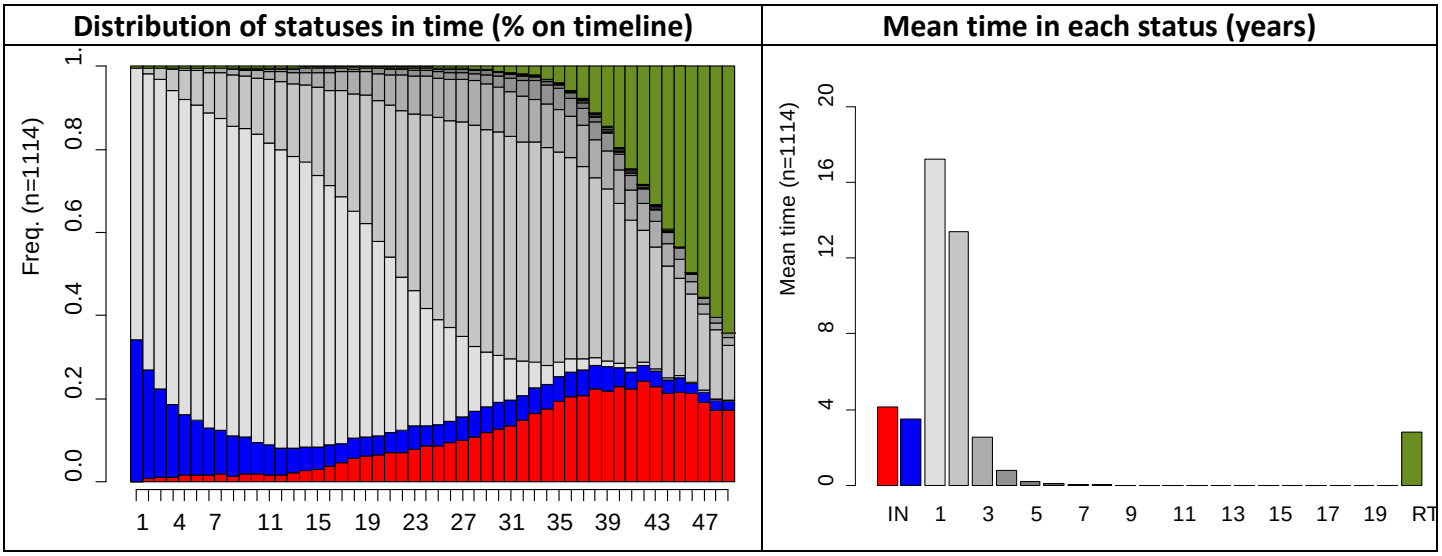


We chose to add the prefix “hyper” to the name of this type to avoid the impression of other types being static, without transitions. Labor market situation shifts occur in all career types, but are taken to a much higher degree with the hypertransitional types. This career type is present in all countries in the analysis (even though in Greece it is found only in a marginal number of men). Please note that the position of the “main” job can differ per country, therefore no single job is apparently dominant in the overall graph.

Reversed career

This career pattern is a variation of the stepping stone type. The number of transitions in a career remains low, and there is clear-cut main job, just as in the latter. However, the order is now reversed; the main job is in the very beginning of a working trajectory, followed by one or several subsequent jobs. This type is quite specific for male workers, occurring in the majority of countries, while for female workers it exists only in Poland and Czech Republic.

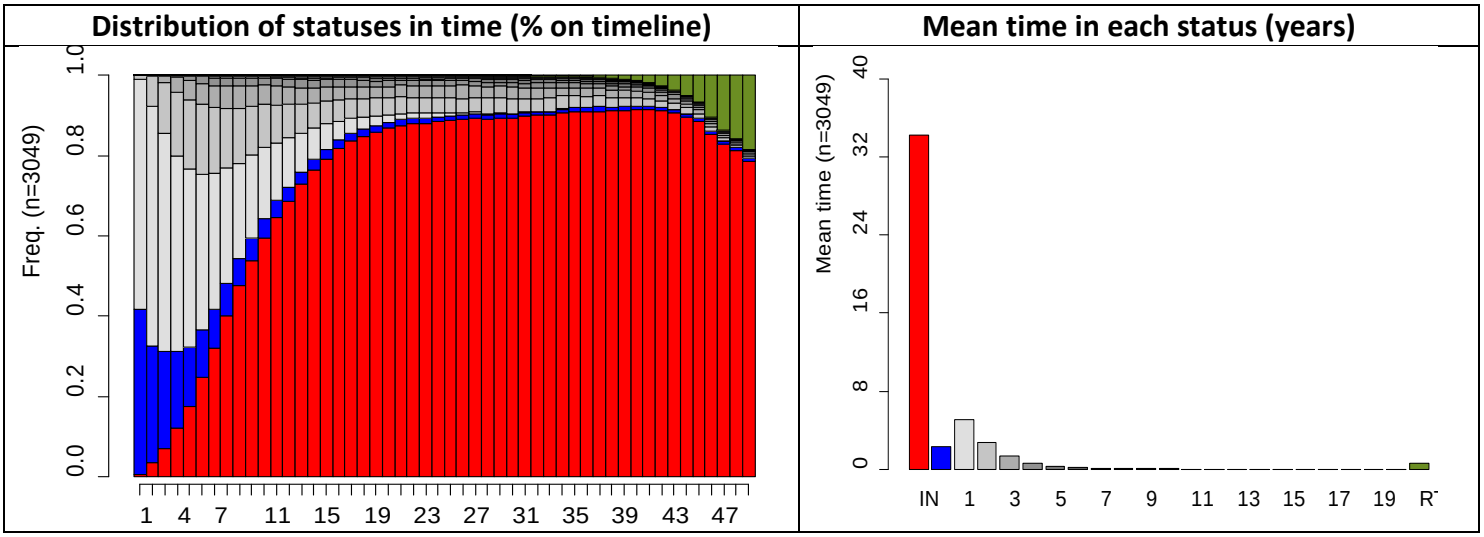
Figure 12: the temporal structure of the reversed career



Inactive career

This career type is characterized by a vast period of inactivity after a very short initial period of participation on the labor market. The type is almost exclusively specific to women, with minor exceptions for Greek and Spanish male workers. It is present in all countries:

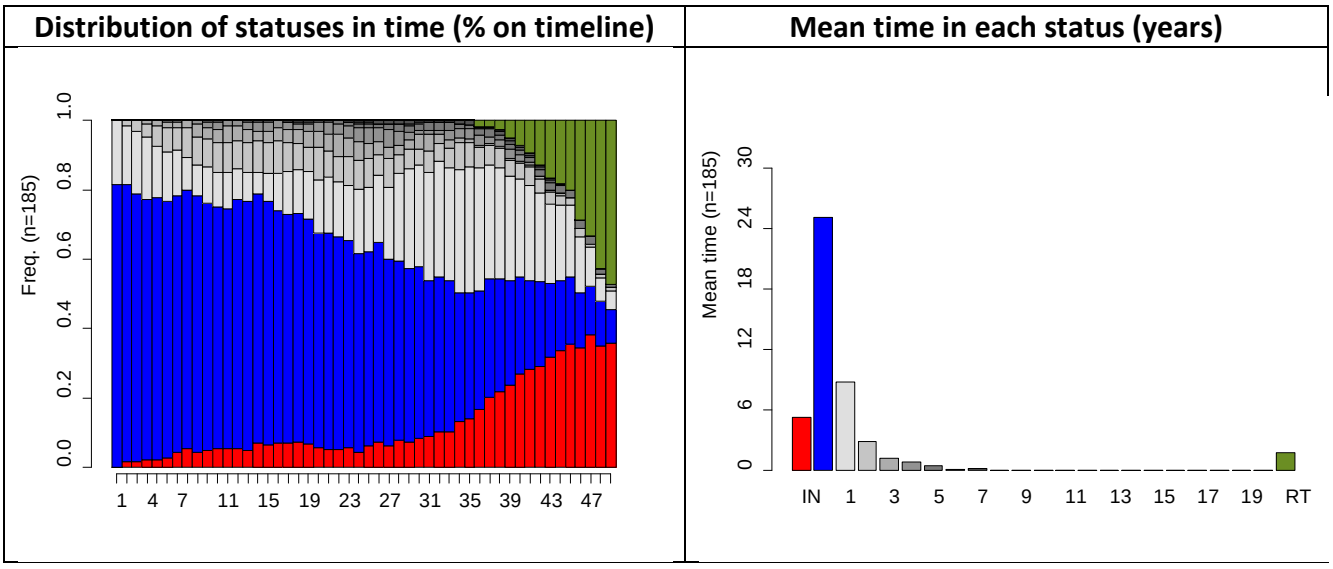
Figure 13: the temporal structure of the inactive career



Unemployed career

This type essentially similar to the inactive career, the only exception being that the respondent is unemployed and not entirely withdrawn from the labor market. Whether the respondent is inactive or unemployed is given by the respondent, and is unverified information. It may very well be that some respondent consider themselves inactive, while in fact using one or another unemployment statute, and the other way around. For our purposes this consideration does not play an important role, though we choose to explore both career types separately in order to avoid losing information. This career pattern is typical for women. A visual representation of this career type is as follows:

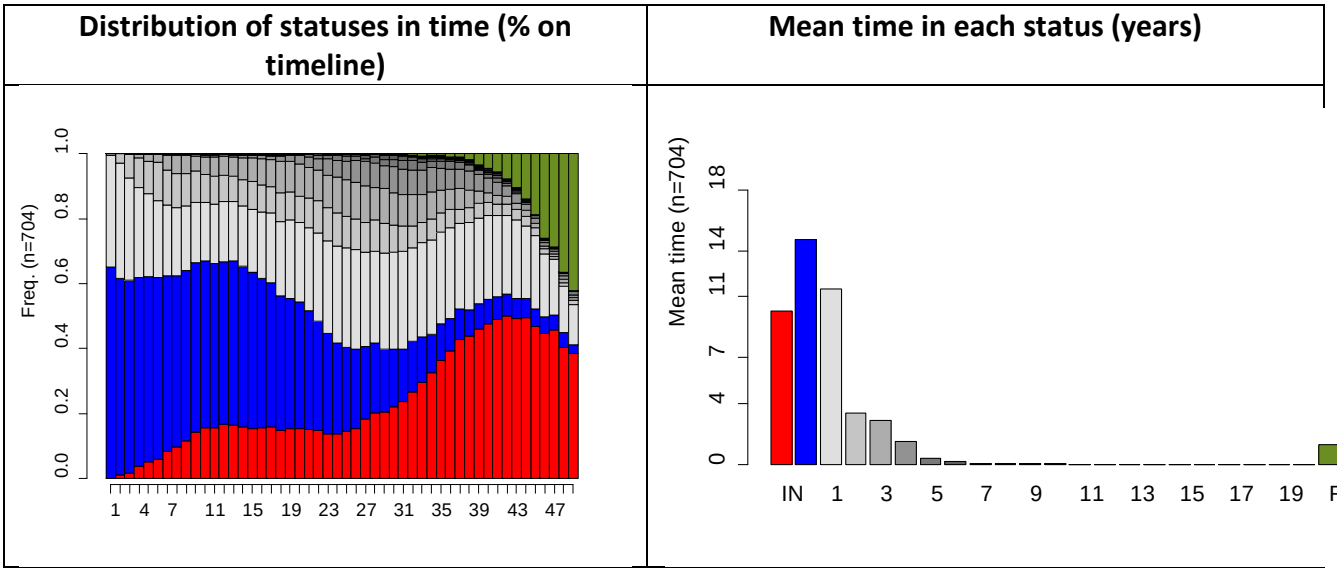
Figure 14: the temporal structure of the unemployed career



Mixed career

The mixed pattern is a combination of work with some periods of either inactivity or unemployment. This pattern is also more typical for women, whereby the labor market inactivity is generally concentrated in the first career half, and is in most cases related to childbirth and childcare. All in all, the triad of women's career trajectories we establish in our sample, is in accord with other findings in the literature on the subject (Hakim, 2006). A visual representation of this career type is as follows:

Figure 15: the temporal structure of the mixed career



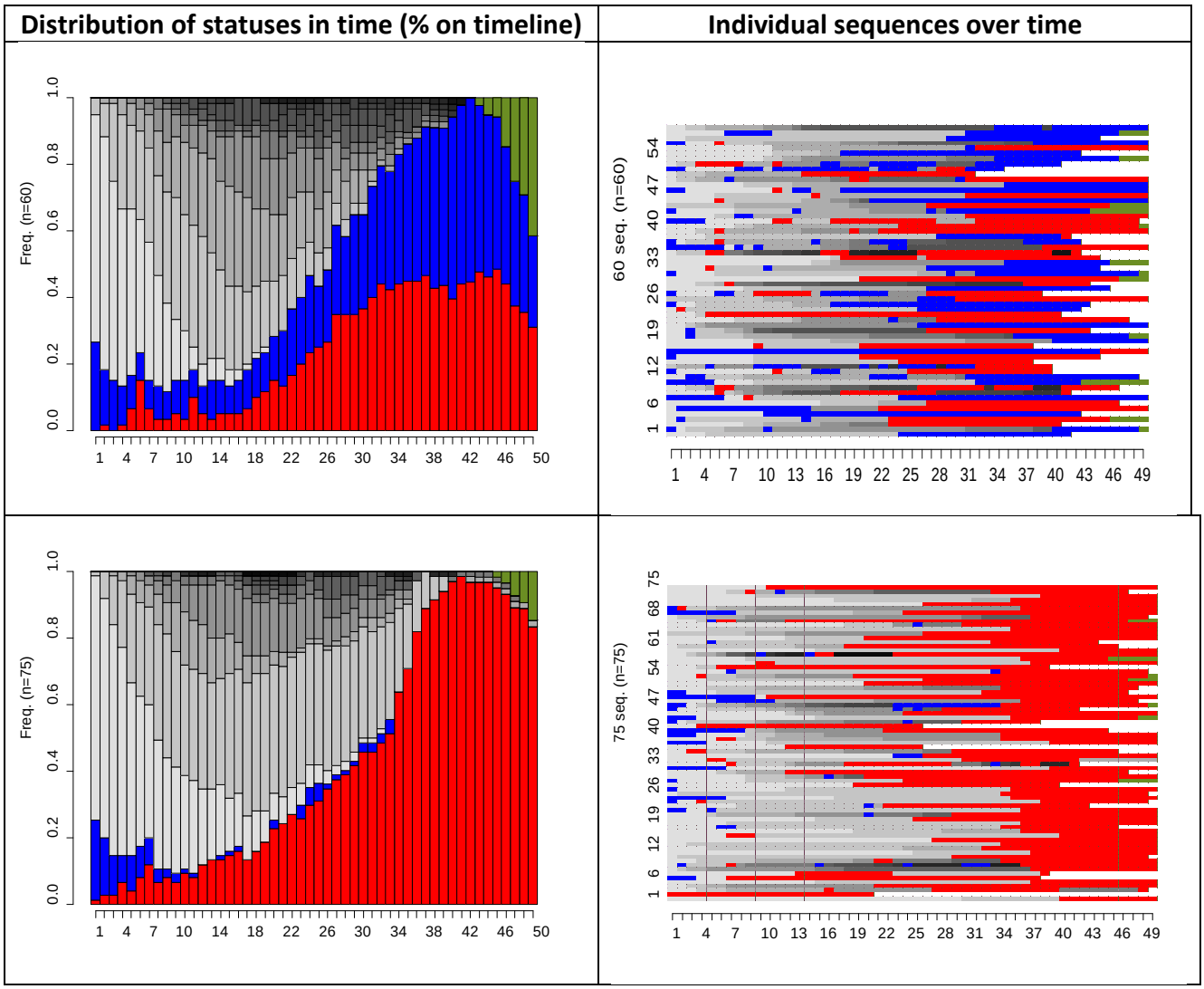
The difference between the mixed and the unemployed types is more apparent from the mean time distributions. In the mixed pattern the proportion of work is substantially larger in relation to unemployment. In addition, there is more inactivity towards the end of career.

Deviating cases

There are a few career trajectory clusters that do not fit in any of these types. Since they constitute unique cases specific to a particular country, and are represented by but a relatively minor number of individuals, we exclude them from the comparative EU-level analysis for both substantial and methodological reasons. We outline them nevertheless to provide a complete description of the taxonomy of the European careers. Thus, in Belgium and Netherlands we find the *Intermittent* career pattern, peculiar to men alone. It is a career typified by multiple breaks in employment, nevertheless without the responding exiting the labor market altogether. A more detailed discussion of this career type can be found in Kovalenko & Mortelmans (2011). One may note that the pattern is quite similar for both

countries, except in that the Belgian version has a large proportion of unemployment towards the end, about 50% at the peak, while in the Netherlands that end is comprised of inactivity.

Figure 16: intermittent career patterns



Country-level overview

Bringing all these types together results in the following distribution, we render it separately for men and women:

Table 2: career type distribution - men

%	Stepping stone	Hyper-transitional	Reversed	Inactive	Intermitt	N
Germany	75%	19%	6%			854
Sweden	82%	12%	6%			837
Poland	72%	12%	16%			817
Italy	85%	6%	9%			1113
France	80%	10%	10%			1019
Netherlands	72%	9%	12%		7%	986
Belgium	90%	5%			5%	1243
Austria	88%	5%	7%			335
Czechia	72%	14%	14%			785
Switzerland	69%	19%	12%			552
Denmark	77%	23%				1041
Spain	91%	7%		2%		889
Greece	86%	2%	10%	2%		1232

Table 3: career type distribution - women

	Stepping stone	HT	Inactive	Mixed	Unemployed	Reversed	N
Germany	53%	13%	23%	11%			941
Sweden	70%	20%	10%				1013
Poland	56%	9%	23%		5%	7%	951
Italy	42%	5%	35%	12%	6%		947
France	56%	8%	28%	8%			1233
Netherlands	39%	8%	41%	11%			1114

Belgium	44%	9%	29%	13%	6%		1334
Austria	48%	15%	35%	2%			440
Czechia	79%	8%	1%			12%	1061
Switzerland	48%	23%	29%				697
Denmark	53%	33%	14%				1140
Spain	36%	14%	40%	10%			757
Greece	73%		14%	14%			930

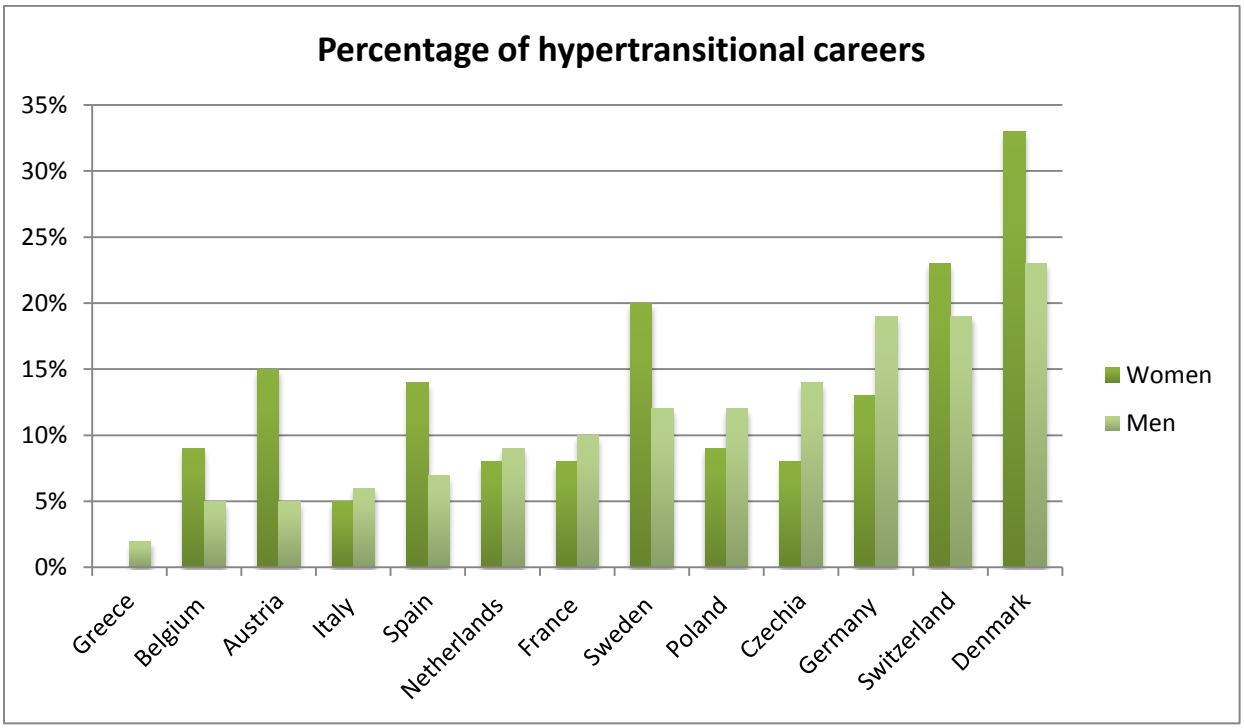
The distribution of career types is quite different between countries. One overall valid observation is that the stepping *stone* pattern is the most widespread career type for all countries without taking gender into account. For women, there are two countries with more *inactive* career followers than the *stepping stone* pattern, namely Spain and Netherlands, although the difference is not substantial.

The *hypertransitional* and *reversed* career types for men constitute the minority of the working trajectories, being represented in roughly equal proportions. Germany and Sweden feature a much large relative share of the *hypertransitional* type, while Belgium, Denmark and Spain have the *reversed* type absent from their labor markets.

For women the *inactive* trajectory forms the second largest career type for most countries, except for Sweden, and Denmark (and, of course the two exceptions noted above). Overall, the largest share of women's careers is work-oriented, followed by home-oriented careers and the minority of *mixed* careers, in which the combination of the two orientations is sought. A peculiar position is taken by the Czech Republic, in which only 1% of all women have had an *inactive* career. This doesn't imply, of course, that Czech women have enjoyed absolute full employment throughout their lives. Our sample contains respondents who have had at least one job (in order to constitute a career).

In the light of our focus on career transitionality we are interested in the share of the labor market that is characterized by extremely mobile careers:

Figure 9: between-country comparison of the proportion of the hypertransitional type, % of all careers

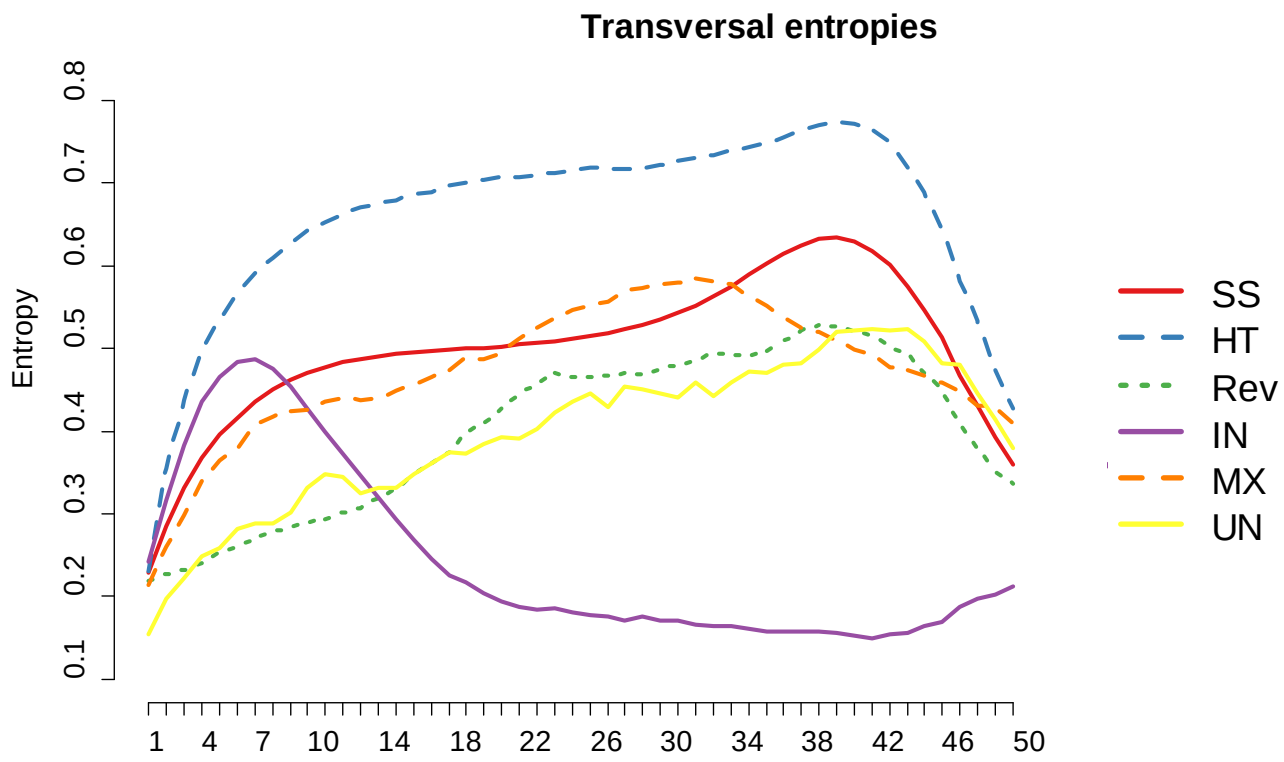


The distribution of the percentage of the labor market involved in a *hypertransitional* working trajectory differs drastically between countries, varying between 2 and 23% for men; and between 8 and 33% for women. In Belgium, Austria, Spain, Sweden, Switzerland and Denmark the proportion of this career type is higher among women, while in Italy, Netherlands, France, Poland, Czech Republic and Germany it is more prevalent among men.

Transversal characteristics of the career types

The graph below represents the evolution of the entropy indices over time for the six career types discerned above:

Figure 17: transversal entropies per career type



The most importance observation following from the graph above is that the transversal heterogeneity is by far the highest in the *hypertransitional* type, rising sharply from the beginning of career and approximating the average levels only towards the retirement period. The entropy in this career type is always higher than in all other types, including the *stepping stone* career. This finding is interesting in two respects. First, it indicates that there is indeed a sharp discontinuity between the *hypertransitional career* and the *stepping stone* meta-cluster, which itself was constructed as a collection of sub-clusters with varying degrees of mobility sharing the same time distribution pattern. That, in turn, is a supporting argument for the combination of the *stepping stone* sub-clusters into a single meta-cluster, which would be problematic in the absence of the said discontinuity.

Second, the high levels of entropy in the *hypertransitional* pattern support the thesis of career destabilization (Brousseau, Driver, Eneroth, & Larsson, 1996; Savickas et al., 2009). On one hand, in the contemporary labor market it is almost a given that the number of transitions in a career increases in comparison with the previous decades (M. B. Arthur & Rousseau, 1996; Vandenbrande et al., 2006). The workers of today must expect to switch

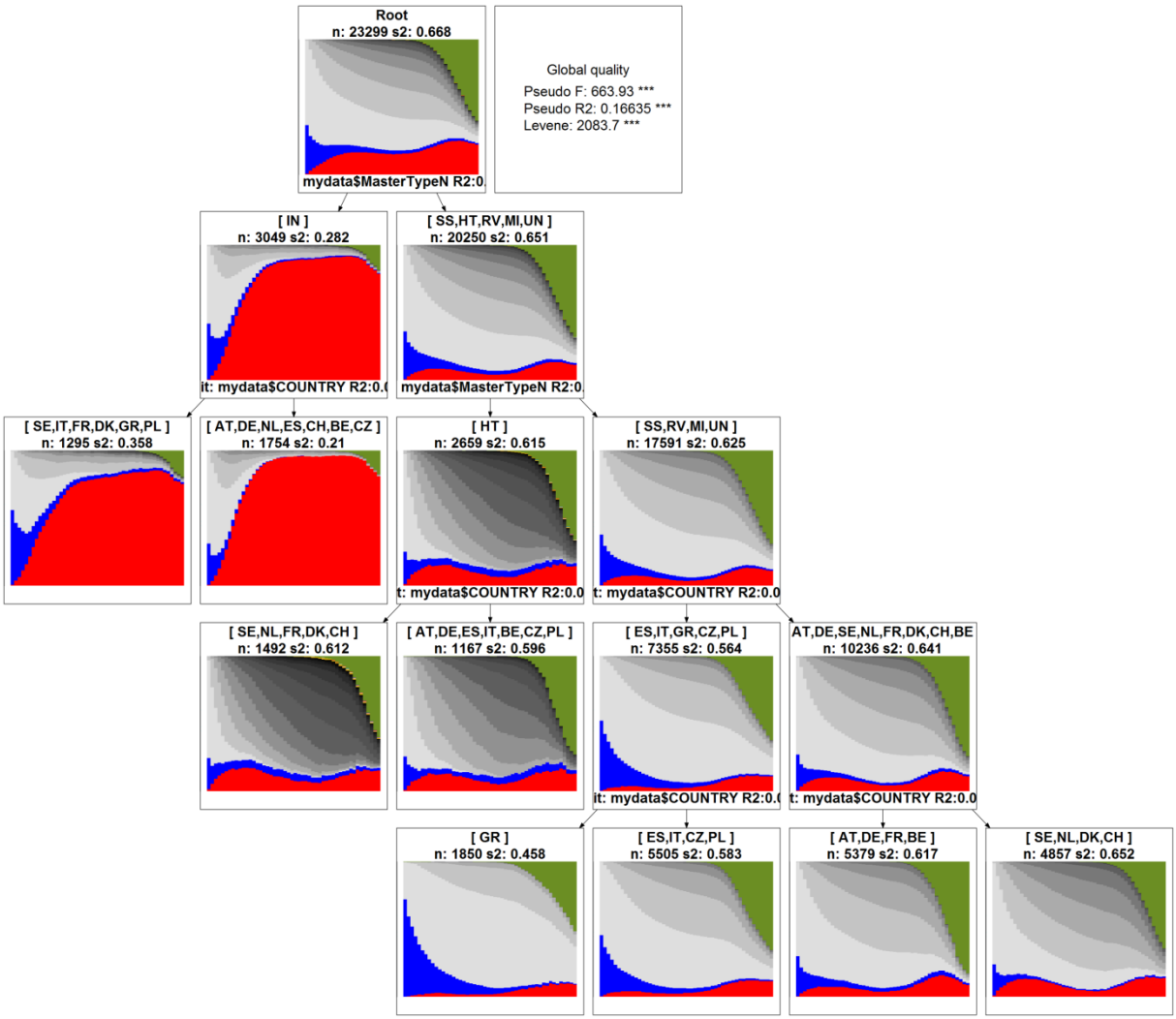
between multiple employers in the course of their career, and remaining with a single organization for life (the paragon of a career in the 20th century) is no longer even thought of as being possible (Vandenbrande et al., 2006). On the other hand, less and less careers resemble a specific pattern, and are instead *individualized*, as indicated by the high entropy levels in the *hypertransitional* pattern.

Another observation pertains to the low levels of entropy in the *inactive* career cluster. This is in accord with the nature of the cluster, as almost all respondents in it gravitate towards a single state—not being active on the labor market. The remaining four patterns follow an approximately similar entropy evolution, with a slow increase towards career end, followed by an abrupt decrease when the transition into retirement commences.

Discrepancy analysis

As the last step in the exploratory part of our analysis we review the totality of the European careers in terms of gender, career type and country, using a regression tree. The technique starts with the total set of sequences (careers), and then iteratively splits them at the factor level that generates the highest pseudo-R^2—the ratio of between-group and total discrepancy (Studer, Ritschard, Gabadinho, & Müller, 2011). In other words, at each iteration two most different groups are discerned, according to one of the three factors mentioned above. Figure 18 represents the resulting regression tree:

Figure 18: regression tree of discrepancy on gender, career type and country



Each graph in this set represents a transversal distribution of career statuses in time, which is plotted along the x-axis. At the very first level, situated at the top, is the totality of career sequences in the 13 countries under consideration. The first job constitutes the largest share of all work-related statuses, while subsequent jobs take consequentially diminishing

proportions each. That global cluster is split into the *inactive* type on one hand, and all the other career types on the other. This implies that the career type variable entails more variation at this moment, than do country or gender. The *inactive* branch is then further split per country, indicating that *inactive* careers of Sweden, Italy, France, Denmark, Greece and Poland are more resembling of each other, than careers of the same type in Austria, Germany, Netherlands, Spain, Switzerland, Belgium and Czech Republic. The former group of inactive careers is characterized by a larger proportion of unemployed individuals in the beginning of career, and a smaller proportion of employed ones during the same period. The second group, on the other hand, has a much smaller proportion of employed individuals mid- and end-career.

All (semi-)active careers, distinguished in the second step, are then further split into the *hypertransitional* working trajectory on one hand, and the *stepping stone, reversed, mixed* and *unemployed* careers on the other. This means that the *hypertransitional* path is differentiated from the rest of the (remaining) careers significantly more than any alternative divisions pertaining to country, career type or gender. Due to that significance (of pseudo-ANOVA) we can support the claim that the conjoining of the *stepping stone* sub-clusters into a single, larger category is justified not purely on the theoretical grounds, but also statistically. There is a substantial gap between the *stepping stone* meta-cluster and the *hypertransitional* career even considering all the variation that the conjoining operation introduces.

The *hypertransitional* branch is then further split into two groups of countries, the first of which has more mobility in that type. Sweden, Netherlands, France, Denmark and Switzerland belong to the first group. The second group is comprised of the remaining countries, except Greece, since the amount of *hypertransitional* careers in that country is miniscule.

The other career types also undergo a series of splits per country (steps 4 and 5 on the right side of the graph). As the result, four groups of countries are distinguished, arranged per degree of between-job mobility. Greece is the least mobile country, as we have already been able to establish from the univariate graphs hereinabove. Somewhat more mobile are Spain, Italy, Czech Republic and Poland. Belgium finds itself in the next group, together with Austria, Germany and France. Sweden, Netherlands, Denmark and Switzerland are the most mobile in the non-hypertransitional career group.

In general, high degree of mobility in the *hypertransitional* group coincides with high mobility in other career groups, which may indicate that the whole labor market has a tendency to be more or less transitional, not just a single career type. Another observation that is important in the context of this analysis is that there are no divisions by gender in the regression tree. This means that career types that we have discerned in our typology are independent from gender, e.g. that the *stepping stone* pattern is the same for men and women, a finding that supports the validity of the career taxonomy.

Cluster membership

In this section we will explore the basic determinants of career class membership by means of binomial logistic regression. For model specification a balance was sought between the number of indicators included and the proportional increase of case exclusions due to missing values. Variables with high collinearity, as well as generally insignificant variables were removed from the models. The last two career types—mixed and unemployed—contain a much smaller amount of cases in comparison with the other four types. This makes the issue of missing values much more acute, therefore the removal of the country and sector variables was warranted to avoid a large number of structural zeroes and a concomitant set of meaningless estimates.

Table 4 contains odds ratios for the respective career types and indicators. Odds ratios greater than one indicate a positive relationship between an indicator and the probability to belong to a certain career type, as opposed to not belonging to that type. Deviation coding was used in the models, so that categorical variable estimates refer to the difference between the grand mean and the mean for the respective group.

Table 4: odds ratios for binomial logistic models predicting career type membership

	SS	HT	Rev	Inact	Mix	Unemp
(Intercept)	2,897***	0,029***	0,001	0,002***	0,000	0,000
Gender (male)	1,095**	0,841***	2,245***	0,062***	0,000	0,000
Education	1,048***	0,990	0,969*	0,994	0,973†	0,920***
Divorces	0,907	1,191*	1,181	0,757*	0,957	0,930
Children	1,016	0,965	0,973	0,915*	0,906†	1,185**
Active career years	1,147***	1,033***	0,992	0,798***	0,965***	0,931***
Agriculture	1,068	1,053	0,902	0,700†		
Mining	1,351	0,941	0,937	2,337		
Manufacturing	0,824***	0,912	1,168	1,262†		
Utilities	1,060	1,229	0,795	1,103		
Construction	0,915	0,952	1,132	0,766		
Wholesale & retail	0,883	0,796†	1,214	1,247		
Horeca	0,908	0,845	0,848	0,946		
Transport & communication	1,099	1,090	0,824	1,074		
Financial intermediation	1,117	1,004	0,647	0,956		
Real estate, renting and business activities	0,596*	1,453	1,609	1,266		
Public administration	1,190†	1,014	0,965	0,586*		
Education	1,248*	1,046	1,460†	0,678†		
Health and social work	1,151	0,901	0,817	0,861		
Voluntary	0,741**	2,035***	0,469	5,239***	0,196***	0,138***
Career satisfaction	1,043	1,133*	0,957	0,910	1,034	0,702**
Disappointments	1,019	1,055	1,170*	0,907		

Age	0,984***	1,014**	0,998	1,015**	0,986*	0,996
Complexity index	0,387***	10,317***	0,686***	0,821**	1,365***	1,745***
Austria	1,146	1,455†	24,008	1,929**		
Germany	0,824*	1,871***	59,542	0,872		
Sweden	1,520***	0,511***	25,506	1,174		
Netherlands	0,872	0,521***	46,686	1,159		
Spain	0,930	2,442***	0,000	0,877		
Italy	0,886	0,644**	33,432	1,497*		
France	1,233*	0,421***	43,858	1,493*		
Denmark	1,293**	0,963	0,000	2,017***		
Greece	1,124	0,942	56,411	0,326***		
Switzerland	0,967	1,472**	33,856	0,787		
Belgium	0,897	0,902	0,000	0,826		
Czech Republic	0,760**	1,239	159,954	0,200***		

*** p < 0.001 ** p < 0.01 * p < 0.05 † p < 0.1

In regard to gender the results indicate that the *stepping stone* career is about 1.1 times more likely to be had by men than on average (1.2 times compared to women). *Hypertransitional* career*,* on the other hand, is more typical for women, who follow this trajectory 0.841^{-1} = 1.18 times more than on average (1.41 times compared to men). *Reversed* career is 2.25 times more likely to be followed by men than on average (about 5 times compared to women). The remaining three groups are almost exclusively followed by women, which makes their respective estimates close to zero (taking in account the rounding error).

Education has a positive effect on following the more stable *stepping stone* trajectory, each additional year of education increasing the probability of belonging to this cluster by 1.05. Education has no significant effect on the *hypertransitional and inactive* career paths, and has negative effects for *reversed, mixed* and *unemployed* trajectories. The effect for the *unemployment* trajectory is the strongest, each additional year of education decreasing the probability of following this career type by 1.08.

Echoing our earlier findings for Belgium (Kovalenko & Mortelmans, 2011), *hypertransitional careers* are positively associated with a higher divorce rate, each additional divorce increasing the chances for this path by 1.19. Although here we use the career type as dependent variable, the relationship between career transitionality and divorce rate can in fact be reciprocal. Career instability can take a toll on a marriage, as well as life changes caused by divorce can force an individual to alter a career trajectory. Kalmijn (2005) finds that after divorce men experience an increased chance of becoming downwardly mobile. *Inactive* career, on the contrary, is associated with a much lower divorce rate than on average (by 1.32 times), which is consistent with the fact that this trajectory is for the largest part followed by women with work orientation geared towards household.

A counterintuitive result is found in regard to children, where followers of the inactive path have less children than one would on average. The reason is that for this model there is an interaction effect between gender and the number of children. For inactive men (even though their number is very low) the average number of children is lower than the average, while for inactive women it is higher than the average, according to the mentioned expectations. When the interaction effect is added to the model, the relationship with children becomes positive. The probability to follow an *unemployed* career path is positively related to the number of children.

In terms of active career years the relationships are positive for the *stepping stone* and *hypertransitional* patterns, the former having the highest odds ratio of all types. For the *inactive, mixed* and *unemployed* types, the probability of the respective cluster membership decreases with the increase of labor market activity history. This is consistent with the nature of the types. What is of interest here is that the estimate for the *stepping stone* career is higher than that for the *hypertransitional* type. A separate ANOVA analysis shows that this difference is statistically significant, the number of years actively spent on the labor market being lower in the hypertransitional career, a finding that holds after controlling for gender. We will return to this issue in the subsequent sections.

The impact of sector is not substantial in the practical sense, even though the model including the sector variable is preferable in statistical terms. The *stepping stone* pattern is less likely to be found in manufacturing, as well as in the sector of real estate, renting and business activities. It is more likely to be found in education and in public administration. The *hypertransitional* pattern is less likely to be found in the wholesale and retail trade, care repairs, repairs of personal and household goods. The *reversed* career is more likely to be found in the educational sector. Taking this finding together with the effects for the *stepping stone* career, we may note that the educational sector positively influences the chance to follow a stable career pattern. The inactive career is more likely to be encountered in manufacturing, and less likely to be found in agriculture, public administration and education.

An important finding is that career voluntariness is lower than the average in the *stepping stone* career trajectory. Considering the overall pattern of transitions in this pattern (with multiple transitions in the beginning and the stable ending) we can conclude that the search for the main job is connected to a larger extent with forced transitions, such is an expiration of a temporary contract or a company ceasing to exist, than it is with self-initiated moves. This finding is somewhat at odds with the image of the steady and stable promotion-based career in its traditional gestalt, at least for the majority of workers. Of course, we need to consider the interpretation of the odds ratio estimate, which provides a probability change of class membership, when the voluntariness index is increased by one. Now, the range of the voluntariness index is by definition [0,1], which means that the probability deviation of 0.741 from the average is for someone who has a completely voluntary career in comparison

to someone who has a completely involuntary career. A negative association with the voluntariness index is not surprising for the *mixed* and *unemployed* career types, which per definition entail a great share of unemployment or inactivity.

Our earlier findings for the relationship between career satisfaction and career type for Belgium (Kovalenko & Mortelmans, 2011) are only partially replicated in this study. *Hypertransitional* career enjoys a higher than average career satisfaction than other clusters, in which the respective effect is not significantly different from zero. The exception is the *unemployed* career, where career satisfaction is lower. What was not replicated is the relationship between having experienced major disappointments in a course of career on one hand, and career type on the other. Here we find that those who follow the *reversed* pattern have the said experience more than the rest, while for other three career types for which the indicator is present, do not exhibit a significant deviation from the mean.

The *stepping stone* pattern has a negative relationship with age, odds of the respective participation decrease by 1.016. A similar situation is found in the *mixed* cluster. On the other hand, both *hypertransitional* and *inactive* career types contain slightly older respondents, albeit the absolute value of the effect is not large considering that the majority of the respondents belong to the older age cohorts.

The complexity index is significantly related to all career types, being extremely low in the *stepping stone* pattern, and followed in the magnitude of the negative relationship by the *reversed* and the *inactive* types respectively. Career complexity is significantly higher than average in the *mixed* and *unemployed* clusters and peaks in the *hypertransitional* career.

Finally, odds ratios pertaining to countries reflect the distribution of the countries within each career type, accounting for the missing values in the dataset (cfr. tables 2 and 3).

Part III: Career transitionality and retirement timing

Differences in career type effects between countries

In the previous sections we have constructed a global career taxonomy based on longitudinal development of work-related transitionality, and explored its basic properties, as well the univariate distribution of career mobility characteristics between the 13 European countries in the analysis. In this section we will proceed to the main subject of our analysis, namely the influence of the sum total of the career transitionality events, expressed as a career type, on the retirement timing. Aside from the presence of the effect in itself, we are also interested in the differences between countries, as there is an enormous diversity

between the European countries in terms of labor market mobility and career structures, which we have seen in the preliminary analysis.

To this end we fit separate regressions per country for both categorical and continuous expression of career transitionality as independent variables with a range of control variables. Both indicators have their advantages and disadvantages. The categorical division between career types offers the easiest interpretation of the results, and pertains directly to perceivable real-life phenomena. Its drawback is that a categorical variable entails a set of dual comparisons in a regression, which can be methodologically problematic in the light of the unbalanced design in our data, i.e. when some career types are not present in certain countries or are specific to a single gender. Another methodological issue pertains to the multicollinearity issues, when we consider accounting for the differences between careers using control variables, for instance the total time actively spent on the labor market. This control is necessary to account for drastic inequalities in the pension rights accumulation between the career patterns, but is of course highly correlated with them and cannot be included for methodological reasons, namely to avoid meaningless estimates and significance levels. The continuous variable is devoid of that problem, and is also better suited for the linear methods. It also pertains to the individual level, thus circumventing any potential clustering issues. Its direct interpretation is nevertheless not as straightforward since the indicator represents an abstract measure of career complexity.

The first set of country-level models includes the categorical measure, whereby we contrast the three career types with no systemic periods of inactivity or unemployment: the *stepping stone*, the *hypertransitional* and the *reversed* career. Aside from the outlined methodological reasons the choice is warranted by our theoretical interest in the contrast between the *hypertransitional* and the *stepping stone* career. It is clear that the latter was the dominant career patterns in the second half of the 20th century, whilst most career scholars today agree that it is being replaced by more flexible and mobile career forms, which in our case is represented by the former type.

We must note that even though theoretically relevant, financial indicators were omitted from the country-level models to avoid shrinking the basis for the analysis due to missing values, whereas the inclusion of these variables does change the models substantially (especially in regard to our effect of interest). In this way we obtain more reliable estimates for the remaining indicators.

Table 5 renders the models:

Table 5: country-level regressions of retirement age, categorical independent for career transitionality

	AT	DE	SE	NL	ES	IT	FR	DK	GR	CH	BE	CZ	PL
(Intercept)	55,33***	60,00***	60,46***	60,59***	59,57***	58,47***	58,54***	60,23***	57,72***	61,48***	58,26***	57,35***	57,27***
Reversed career	-3,42***	-0,06	-1,82**	-0,99†	///	-0,32	-1,26**	///	1,45†	0,40	///	-0,03	0,28
Hypertransitional	1,75*	0,35	1,26**	1,04†	-0,79	0,31	0,90**	1,21**	-3,19*	-0,60	1,82**	0,00	0,30
Gender (male)	1,31***	0,71***	0,43*	0,05	1,16*	0,31	-0,29†	0,31	1,13*	0,51	0,66**	1,93***	1,34***
Education	0,11*	0,07	0,09†	0,03	0,02	0,20**	0,14***	0,02	-0,03	-0,05	0,14*	0,15**	0,07
Health issues	0,42	0,33	0,40†	-0,40	1,04**	0,04	0,13	0,87***	0,24	0,65†	0,11	0,57***	-0,36
Marital status	0,51	0,45	0,00	-0,46	1,20	0,92†	0,23	-0,08	0,51	-0,17	0,18	-0,03	0,34
# divorces	-0,44	-0,64	-0,53	1,86*	-2,56	-0,37	-0,14	0,40	-0,27	0,59	-0,30	0,66†	-0,77
# children	0,37	-0,10	-0,10	0,10	0,18	0,01	0,10	0,13	0,42	0,05	0,02	-0,85***	0,06
Agriculture	1,67	0,67	1,83†	1,13	0.00	-0.22	-0,09	0.47	0.70	1,31	4,35***	-0,20	1,49*
Mining	-7,59*	-1,86	-5,28†	-3,21	-1.53	0.10	-1,42*	///	-0.06	-1,61	-2,15	-1,19	-3,68**
Manufacturing	-0,14	-0,66	0,36	0,64	-0.63	-0.75†	-0,16	-0.28	0.00	0,86	-1,19*	-0,40	-0,17
Utility services	-0,32	-0,52	0,66	-0,22	-1.11	-0.09	-1,37	0.62	-0.42	-0,84	-1,21	-1,20	0,39
Construction	2,86*	-1,59*	1,11	0,48	-0.83	1.12*	0,56	0.19	0.08	-0,35	-0,09	-0,30	0,08
Wholesale, retail	1,29	1,29*	0,29	1,77**	0.64	0.48	0,89**	-0.46	0.38	0,04	0,39	-0,15	-0,44
Horeca	-11,22*	-0,30	2,24	-0,37	1.44	1.96†	2,87	-0.39	0.68	0,05	-2,35	-0,13	0,38
Transport & com	-0,95	-0,91	-1,02	-1,06	1.08	-0.56	-1,16*	-0.97†	-0.76	-2,42*	-0,82	-0,48	-0,40
Financial	2,86	0,67	-0,20	-0,43	-1.67	-0.67	0,67	-0.97	-3.75†	-1,51	1,19	0,57	1,00
R.estate&business	7,36*	1,18	-1,71	0,62	///	///	0,59	0.32	///	5,41†	-0,09	1,34	-0,04
Public admin.	1,18	0,50	-0,29	-1,67**	-0.65	-0.68	-0,82	0.01	-0.83	-1,03	0,07	-0,22	-0,25
Education	-0,35	-0,24	0,40	0,58	4.74†	0.02	-0,75	-0.07	1.06	0,84	-0,80	1,23	-0,84
Health & social w.	2,52†	1,26	1,17*	0,64	-0.20	-0.21	-0,82	0.51	2.61*	0,24	0,66	0,98	0,81
Vol. Index	1,78	-0,60	0,82	0,44	-1,25	-1,84*	-0,79	-0,02	-0,55	0,20	-0,57	1,00	-0,96
Career satisf.	-0,56	0,32	0,07	-0,31	0,34	0,01	0,17	0,50	0,52	-0,32	0,30	0,10	0,16
Disappointment	-0,23	-0,51*	-0,57	-0,23	-0,23	-0,34	-0,06	0,13	-1,09	0,27	0,48*	-0,16	0,01
Achievements	0,45	-0,58†	-0,37	0,76	0,41	-0,07	-0,20	0,65†	-0,11	-0,47	0,24	-0,18	-0,31
Sacrifices	0,16	-0,10	-0,21	0,00	-0,31	0,57*	0,13	0,03	1,19**	-0,43	0,62*	-0,21	-0,31
Age	0,09*	0,09***	0,13***	0,10**	0,22***	0,18***	0,12***	0,16***	0,29***	0,15***	0,13***	0,04†	0,21***

*** p < 0.001 ** p < 0.01 * p < 0.05 † p < 0.1

In the interpretation of the estimates in the table above we need to consider that these are unstandardized coefficients for the respective linear models, their interpretation is different from the log-linear model we have discussed hereinabove.

The most important finding pertains to the effects of both career types—*reversed* and *hypertransitional*—as opposed to the mean of all three career types. The *stepping stone* career is an implied reference category. The *reversed* pattern has been found to have a negative effect on the retirement age in Austria, Sweden, Netherlands, France and Greece. In other countries the effects are insignificant. In Spain, Denmark and Belgium the *reversed* career pattern is not present, hence the indicator is omitted from the table.

The *hypertransitional* career type has, on the contrary, the opposite effect in most countries. People following this career retire later than on the average in Austria, Sweden, Netherlands, France, Denmark and Belgium. The effect is the most strong in Belgium, the retirement age in the *hypertransitional* group is higher by 1.82 years. Note that the effects of both career types occur in the same countries (under the condition of both being present). Greece constitutes the only exception, where the estimate for the *hypertransitional* group is negative. This contrast with the general trend can be explained by an exceptional status of the *hypertransitional* pattern in that country. While in other countries the said pattern constitutes a small but substantial proportion of all careers, in Greece it is extremely marginal. Greece is characterized by careers with very low mobility, and the *hypertransitional* pattern is rather an abnormal deviation than a socially valid career trajectory, which is expressed in a very low percentage of respondents in the respective category (see tables 2 & 3). It is plausible that as such it involves a different set of circumstances than that of other countries, where heightened mobility can be associated with positive outcomes.

Gender has a positive effect in most countries, implying that men retire later than women, keeping other factors in the model constant. Education also has a positive effect on the labor market exit timing, even after controlling for age. Health issues prior to retirement have a negative influence, conform the expectations, although the effect is not significant in all countries.

With a few exceptions the family-related set of control variables does not have a significant influence on the retirement age. Sector also does not have any systematic relationship with the dependent variable, showing only sporadic significance. Several of those are due to a small number of respondents in the corresponding category, so that large values need to be interpreted with caution.

The voluntariness of career transitions has little impact on the labor market exit timing, with a single exception of Italy, where someone in a career with transitions that are all voluntary retires almost 2 years earlier than someone with no control over his or her career transitions.

Subjective career success indicators also do not have any systematic relationship with the retirement age. Thus, career satisfaction could not be shown to have significant effects in any country. Having experienced a major disappointment in one's career has a negative impact in Denmark, and a positive effect in Belgium. Having made sacrifices for one's career has a positive effect Greece and Belgium. Finally, age has a positive effect in all countries. In interpreting this effect we need to consider a possible bias in regard to that variable. Relatively younger respondents, who have not yet retired, are not included in the analysis since the value of their retirement age is absent. This may entail a slight overrepresentation of the early retirees in relation to relatively older respondents, which would explain the strong significance of the relationship with the age variable. Therefore we cannot draw any substantial conclusions from this variable, merely using it as a controlling factor in order to separate the effects of its variation from the other indicators.

In table 6 below identical models are run for with the continuous indicator of career transitionality. Here too the data are based on the three "active" career types, namely the *stepping stone*, *hypertransitional* and *reversed*[5]. From the results in table 6 it becomes apparent that the relationship between career complexity and retirement age is relatively consistent for the active careers. Austria, Sweden, Netherlands, France, Belgium, Czech Republic and Poland show a positive association between career complexity and retirement age, predominantly with high levels of statistical significance. We must note that while there is a certain correspondence with the models including the categorical independent (career type), a few differences emerge. The effects for Netherlands, Czech Republic and Poland are now strongly significant, while the effects for Denmark and Greece is that no longer. The difference between the categorical and continuous indicators of mobility is apart from what has already been mentioned is that the continuous variable accounts somewhat better for the variation of mobility patterns in the non-hypertransitional patterns.

Gender in this model has a negative effect in Sweden, Netherlands, France and Belgium, although in the latter the significance thereof is marginal ($p < 0.1$). This implies that in these countries, women on average retire later, *considering career complexity and other factors in the model constant*. This finding may be explained by the fact that since not all respondents in our sample are retired, women who retire earlier contribute to the analysis sample, while men of the same age do not, as they are not retired yet. Our goal, however, is merely to exclude the variation attributable to gender (i.e. to control for it), not to estimate its population effects, which we know from the official statistics. Considering that the effect of career complexity on the retirement event itself (as a condition of the analysis sample membership) is virtually absent, this phenomenon should not distort the models significantly.

[5] A table with the same analyses for the entire career taxonomy can be found in the Appendix I. Its results indicate that an overall comparison is less consistent in terms of effects of career complexity on retirement, which can signify differential causal mechanisms for "active" career types and the other three.

Table 6: country-level regressions of retirement age, continuous independent for career transitionality

	AT	DE	SE	NL	ES	IT	FR	DK	GR	CH	BE	CZ	PL
(Intercept)	55,01***	58,42***	59,00***	58,99***	57,80***	56,44***	57,75***	59,36***	57,46***	60,30***	56,45***	55,23***	56,04***
Complexity	1,30***	0,20	0,33*	0,76**	-0,25	0,19	0,64***	-0,14	-0,14	0,08	0,76***	0,76***	1,37***
Gender (male)	-0,15	-0,04	-0,65***	-1,80***	-0,31	-0,33	-0,71***	-0,11	-0,65	-0,49	-0,34†	1,04***	0,71**
Education	0,07	0,18**	0,24***	0,24***	0,06	0,32***	0,21***	0,09**	0,26**	0,04	0,29***	0,23***	0,11
Health issues	0,58†	0,28	0,20	-0,37	0,86**	0,10	0,05	0,32†	0,40	0,40	-0,17	0,41**	-0,57*
Marital status	0,78*	0,37	0,08	-0,12	0,56	0,98*	0,13	-0,08	-0,10	0,06	0,27	0,04	0,05
# divorces	0,25	-0,45	-0,91**	1,62*	-1,92	-1,40	-0,15	0,52†	1,56	0,35	-0,18	0,17	-0,83
# children	0,61**	0,00	0,30†	0,41*	-0,05	0,13	0,19†	0,15	0,26	0,17	0,22†	-0,36*	0,08
Active career years	0,42***	0,25***	0,32***	0,36***	0,32***	0,48***	0,22***	0,32***	0,42***	0,28***	0,53***	0,42***	0,38***
Agriculture	0,70	0,23	0,89	0,46	-0.08	-0,22	-0,46	0.42	0.68	0,20	1,47†	-0,08	0,84
Mining	-4,46*	-1,69	-4,15	-1,75	-1.57	-0,24	-1,03†	///	0.00	-0,78	-1,83	-1,29	-2,53*
Manufacturing	0,08	-0,41	0,54	0,80	-0.64	-0,78	-0,34	-0.27	-0.04	0,76	-0,84*	-0,46†	0,01
Utility services	-0,04	0,11	0,27	-0,40	-1.14	-0,16	-1,48	0.55	-0.38	-1,03	-1,51†	-0,40	-0,14
Construction	1,21	-1,29†	0,22	-0,13	-0.85	1,03†	0,27	0.18	0.07	-0,49	-0,31	-0,45	0,09
Wholesale, retail	0,55	0,98†	0,48	1,46*	0.66	0,46	0,95**	-0.45	0.38	-0,27	0,65	0,00	0,08
Horeca	-7,13***	-0,47	0,80	-0,08	1.49	1,76	2,95†	-0.29	0.54	-0,57	-2,02	-0,09	-0,33
Transport & com	-0,79	-1,02†	-0,98	-0,37	1.05	-0,81	-1,16*	-0.97†	-0.77	-1,68	-1,43*	-0,43	0,17
Financial	3,87†	0,32	-0,01	-1,02	-1.72	-0,89	1,00	-0.96	-3.74†	-0,59	1,51†	0,34	-0,40
R.estate&business	3,38	0,55	-1,42	-0,30	///	1,22	0,41	0.28	///	3,60	3,38	0,67	0,94
Public admin.	1,41†	0,74	0,66	-1,38**	-0.65	-0,70	-0,72*	0.01	-0.83	-0,60	-0,55	-0,25	0,01
Education	0,42	0,19	0,70	0,82	4.83†	0,25	-0,90†	-0.05	1.12	1,14	-0,47	1,09*	-0,40
Health & social w.	-0,03	1,29†	1,17†	0,53	-0.15	-0,39	-0,48	0.52	2.66	1,00	0,87	0,87†	0,09
Vol. Index	0,94	-0,80	-0,18	0,46	-2,21*	-1,62*	-0,78	-0,59	-0,56	0,22	-1,13*	0,41	-0,96
Career satisf.	-0,42	0,19	-0,17	-0,19	0,12	0,09	0,10	0,25	-0,24	-0,36	0,29	0,01	0,08
Disappointments	-0,24	-0,26	-0,39	-0,02	-0,04	-0,03	-0,01	0,36†	-0,52	0,39	0,45*	-0,08	0,12
Achievements	0,17	-0,55†	-0,30	0,52	0,44	-0,27	-0,15	0,47	0,16	-0,19	-0,18	-0,12	-0,40
Sacrifices	0,22	-0,22	-0,20	0,14	-0,30	0,19	-0,03	-0,26	0,62†	-0,46	0,06	-0,01	-0,58*
Age	0,08*	0,10***	0,14***	0,12***	0,16***	0,11***	0,11***	0,12***	0,18***	0,14***	0,08***	0,05***	0,16***

*** p < 0.001 ** p < 0.01 * p < 0.05 † p < 0.1

The remainder of the indicators pertaining to this set of models is similar to those in the set with the categorical dependent, and therefore requires no additional discussion. The only exception pertains to estimates of the effect of the voluntariness index. Voluntariness of career transitions has a negative impact on the retirement age in Spain, Italy and Belgium.

The European analysis: multi-level models

In this section we (1) review the effects of career transitionality on the European level, again considering both indicators, career type and career complexity; (2) consider the effects of country-level indicators related to retirement and labor markets.

Table 7: multilevel regressions of the difference between legal and effective retirement ages in the 13 European countries

	Model 1	Model 2	Model 3
(Intercept)	-13,326***	-10,690***	-10.557**
Reversed career	-1,501*		
Hypertransitional	1,555***		
Complexity		1,678**	1.648**
Gender (male)	-0,528***	-0,938***	-0.910***
Education	0,053***	0,107***	0.119***
Health issues	0,053	0,048	0.031
Marital status	0,293***	0,325***	0.293***
# divorces	-0,182	-0,216	-0.183
# children	0,059	0,141**	0.121*
Last salary	-0,071***	-0,041†	-0.039†
Active career years		0,160***	0.197***
Agriculture	1,148***	0,971***	0.951***
Mining	-2,365***	-1,941***	-2.007***
Manufacturing	-0,105	-0,084	-0.058
Utility services	-0,580*	-0,536†	-0.489†
Construction	0,647**	0,474*	0.509**
Wholesale, retail	0,528**	0,365*	0.439*
Horeca	0,581	0,420	0.024
Transport & comm.	-0,529*	-0,532*	-0.455*
Financial	-0,306	-0,296	-0.220
R.estate&business	0,424	0,240	0.328
Public admin.	-0,261	-0,285†	-0.223
Education	0,215	0,271	0.389*
Health & social w.	0,130	0,404*	0.319†
Voluntariness index	-0,210	-0,221	-0.256

Career satisfaction	-0,121	-0,143	-0.010
Disappointments	-0,123	-0,066	-0.060
Achievements	-0,027	-0,072	-0.041
Sacrifices	0,038	-0,001	-0.018
Age	0,225***	0,194***	0.187***
Retirement benefits	0,173***	0,117***	0.118***
Median income ratio 65+	-0,928	-3,463	-2.556
Aggr. replacement ratio	1,063	1,904	0.317
Poverty risk pensioners	-0,013	-0,011	-0.008
Total pension exp (%GDP)	0,002***	0,001***	0.001***
Employment 55-64	0,114***	0,079***	0.072***
Long term unemployment	0,016	0,025*	0.024*
Rev * Emp 55-64	0,033*		
HT * Emp 55-64	-0,030**		
Complexity * Emp 55-64		-0,021*	-0.020**
Complexity * LT unemp.		-0,012	-0.011

Analogous to the country-level sets of models, three multi-level models are presented in table 7. The first model includes the categorical independent variable for one of the three active career types (*stepping stone*, *hypertransitional* and *reversed*). The second model includes the career complexity index, and is estimated on the total sample (i.e. including all career types). The third model also includes the career complexity index, but is estimated only on active careers (cfr. supra).

In order to account for the variation in legal retirement age between the countries, we now take the difference between legal and effective retirement age as our dependent variable. The interpretation of it stays essentially the same, higher values correspond to later retirement, and vice versa; with the difference that the reference point is now legal retirement age instead of zero for natural age.

Since country-level variables have been introduced into the model without centering, model intercepts refer now to an abstract case instead of the mean.

Overall, the models for the larger part re-iterate the findings that have already been established in the country-level models. The *reversed* career is characterized by lower retirement age, while those who follow the *hypertransitional* career trajectory, retire later. Complexity also has a positive effect in both models.

Women retire closer to their legal retirement age than men. Of course, we need to take into account the retirement event issue discussed hereinabove. Higher levels of education are associated with higher retirement age, and so is having a partner or a spouse at the year of retirement. In models two and three the number of children is significantly and positively related to the dependent variable, whereas in model one the difference is without

consequence. Income in the last job is slightly negatively associated with the retirement age, meaning that those with higher levels of income retire somewhat earlier. This corresponds to the existing research (Hayward et al., 1998). The amount of the first retirement benefit is also positively related to the retirement age.

Except for the general effects of the career types and career complexity, country-level indicators are the most relevant feature of the model, where three of them have significant effects. The percentage of GDP spent on pensions has a statistically significant, but practically negligible effect. The employment rate of workers in the pre-retirement cohort (55-64) has a more pronounced effect. Higher levels of employment in this age category are associated with relatively later labor market exit. In a certain sense countering that finding we observe that long-term unemployment at the moment of retirement is also positively associated with later retirement age (all other factors kept constant), even though the effect is quite small. In addition, the interaction effects between both indicators of career transitionality (both categorical and continuous) and the employment rate of the pre-pension cohort (55-64) are statistically significant, even though the practical value of these effects is negligible.

Differentiated effects of mobility

In this section we consider a more tangible aspect of career transitionality, namely the number of jobs the respondent has had in his or her career. Here, however, we are interested in how job mobility effects differ between various career types. To this end we again run three multi-level models, including the country-level indicators that have rendered to be significant in the previous models.

Table 8: multi-level regression of the difference between legal and actual retirement age

	Stepping stone	**Hypertrans.**	**Reversed**
(Intercept)	-9,857***	-10,657***	-8,665***
Number of jobs in the career	0,120**	-0,110*	0,091
Gender (male)	-0,848***	0,394**	-0,087
Education	0,144***	0,063*	0,020
Health issues	0,031	0,113	-0,133
Marital status	0,374***	0,237	0,202
# divorces	-0,238	0,162	-0,098
# children	0,173***	0,078	-0,416*
Last salary	-0,008	-0,020	-0,249***
Active career years	0,191***	0,153***	0,066*
Agriculture	0,766***	0,500	-0,471
Mining	-1,554***	-2,761*	-0,890
Manufacturing	-0,099	-0,187	0,237

Utility services	-0,442	0,532	-1,818
Construction	0,452*	0,169	0,936
Wholesale, retail	0,534**	0,694*	0,898
Horeca	0,512	-1,014	-0,838
Transport & comm.	-0,502**	-0,847†	-0,623
Financial	-0,196	-0,055	0,632
R.estate&business	-0,025	1,710†	1,367
Public admin.	-0,186	-0,118	-0,573
Education	0,204	0,610	0,093
Health & social w.	0,359†	-0,431	0,498
Voluntariness index	-0,496*	-1,349*	-0,131
Career satisfaction	-0,065	0,108	0,460
Disappointments	0,042	0,047	0,316
Achievements	0,018	-0,124	0,188
Sacrifices	-0,050	-0,025	-0,033
Age	0,173***	0,143***	0,119***
Employment 55-64	0,112***	0,120***	0,083*
Long term unemployment	0,009	0,044*	0,028

*** p < 0.001 ** p < 0.01 * p < 0.05 † p < 0.1

The first of the three models in table 8 pertains solely to the respondents in the *stepping stone* pattern, the second to those in the *hypertransitional* trajectory, and finally the *reversed* one. The remaining three types are excluded due (1) to the fact that within these types there is no relationship between the variable of interest (the number of jobs in career) and the retirement age difference, as well as (2) the same theoretical and methodological grounds outlined hereinabove.

While in general the interpretation and the findings within these models occur parallel with the previous ones, there is one essential point of interest. Namely, the effect of the number of jobs in career *differs per career type*, not only in value *but also in the direction*. When the number of jobs increases in the *stepping stone* cluster, it is associated with an increase in retirement age. On the other hand, the same increase in the number of jobs in the *hypertransitional* cluster results in the decrease in the dependent variable. Those in the *reversed* cluster experience no effects, probably because the variation of the number of jobs variable is limited. Both effects for the *stepping stone* and *hypertransitional* career types are sufficiently large to be interpreted in their own right, even considering the sensitivity of the respective significance tests to large sample size.

Discussion and conclusion

Exploration of European careers

In the course of the analysis we have predominantly focused on two aspects. First, an exploration of the transitionality structure of the careers in 13 European countries was carried out. This exploration was initiated by a general overview of basic characteristics of mobility and labor market activity. Different indicators were employed, including the number of active career years, number of jobs per respondent, transversal career entropy, career complexity. International comparisons were made for both genders (if appropriate), where certain patterns have emerged, related to the general state of labor market mobility. Very roughly the resulting spectra can be summarized as follows. In terms of mobility the southern countries present in our sample (Greece, Italy, Spain) can be described as "slow", in regard to the number of transitions their (self-)employed inhabitants undergo in the course of their careers. The set is augmented by an addition of the Czech Republic, which shares the same characteristic, albeit the extension cannot be made to include both Eastern European countries in the analysis, since Poland is substantially more mobile, finding itself around the average for the 13 countries present. The countries mentioned do not, however, suffer of the short(er) career duration, at least for men.

On the other side of the spectrum with high levels of job mobility and career complexity are the Scandinavian countries in our sample: Sweden and Denmark, followed by continental countries. The similar reflection can be made based on the distribution of career types in the respective countries presented in tables 2 & 3. For example, Denmark features the highest proportion of *hypertransitional* careers both for men and women, while Sweden has a substantial proportion of the same type for women alone. Nevertheless, there are some discrepancies as well. Czech Republic, for instance, while having overall simple career structure, low number of jobs per career and low transversal entropy, still has a substantial proportion of *hypertransitional careers* for men. This result is not contradictory, as the *hypertransitional* type is based not on the number of transitions as such, but rather on the pattern of having additional jobs after the main (longest) one. As consequence, the overall complexity index may be influenced by a relatively low number of transitions in the *stepping stone* type. Note that Greece has a drastically low percentage of *hypertransitional* careers, and only for men at that. It is an exceptional case, as the type assumes a significant share of the career taxonomy in the remaining countries. All in all there is a substantial variation in the country-level characteristics pertaining to careers and labor market mobility.

Belgium takes a position close to the median in the rankings of career mobility and active career years, as well as career diversity. It has, however, a very low share of *hypertransitional* careers for men, while being once again close to the median for women. According to the indicators reviewed, Flanders and Wallonia have a very similar career structure, the former being just slightly more mobile and scoring marginally higher on career

complexity. The transversal entropy, reflecting the gradually occurring career diversification throughout lifetime (and linked to the cumulative growth of individual (dis)advantage in a career), is characterized by virtually identical development curve in both regions.

The similar partitioning of the countries can be observed in the discrepancy analysis, where Belgium finds itself in the group of the continental countries together with Germany and Austria. As such, Belgian labor market (for the respective cohorts) could be described as more transitional than that of the Southern and Eastern European countries in the analysis, but still being more rigid than most of the Western European and Scandinavian countries in the sample.

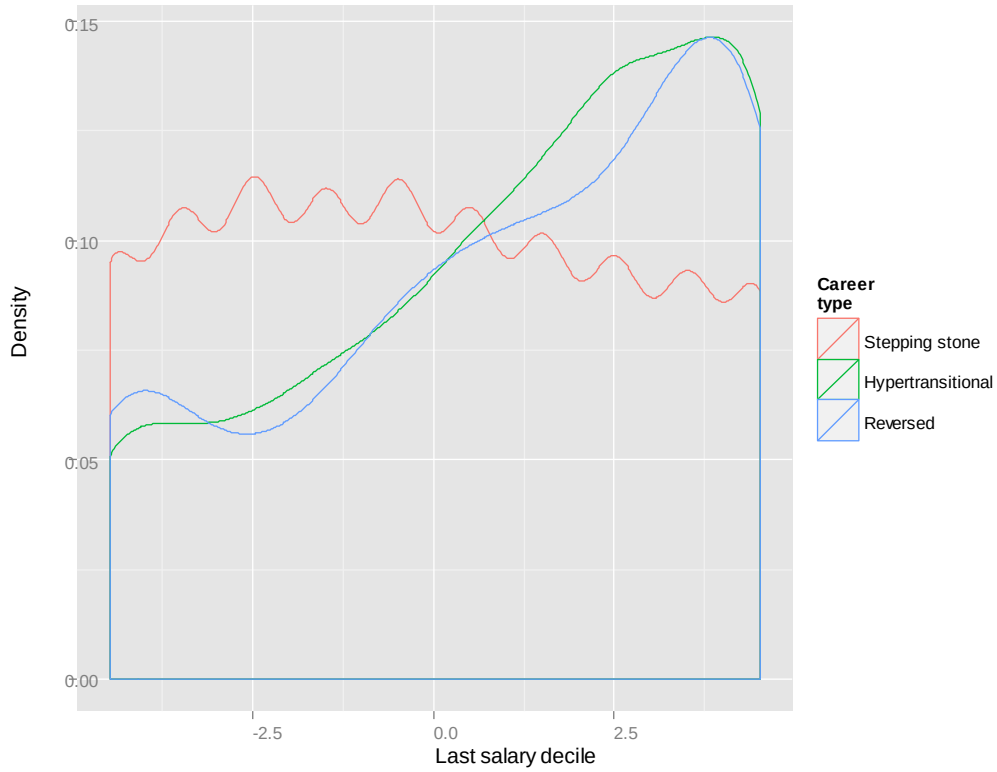
In the second step of the exploratory analysis we have constructed a career taxonomy based on the transitionality patterns. Six global career types were distinguished, where three are of peculiar importance in the light of our focus on the distinction between stable and transitional careers. The main difference between the types can be located in the second half of career trajectory. Some individuals remain in the same job until retirement (the *stepping stone* pattern), some experience a single transition towards a second job (the *reversed* pattern), while some workers find themselves in a series of transitions which continues until the retirement (the *hypertransitional* pattern). Two observations can be made here. First, the second half of careers in our sample can be temporally situated starting from the late 70s, when the socio-economic underpinnings of the contemporary *new careers* started to come in place. In a certain sense it can therefore be said that the *hypertransitional* careers found in the sample are the forbearers of the mobile or boundaryless (M. B. Arthur & Rousseau, 1996; DeFillippi & Arthur, 2001) careers the literature speaks of today. Perhaps the features of the late modernity, that came to full development in careers of today, are not present to the same degree in the careers of our sample. Nevertheless it is not unreasonable to assume a certain level of continuity between the two, rendering the study of the *hypertransitional* type relevant for the understanding of the labor markets today.

The second observation pertains to the nature of the mobility in late career of the *hypertransitional* workers. We have established, that on one hand highly mobile workers experience several types of obstacles that increase the likelihood of earlier retirement (Fournier et al., 2011). On the other hand, the literature postulates that external (financial) rewards from a job influence the timing of labor market exit significantly (cfr. supra). Hayward et al. (1998) make a distinction between career building and career unraveling speaking of the processes that occur mid-career. In short, career building or advancement refers to a positive (or upward, using the traditional career terminology) development of the working trajectory, whereas career unraveling pertains to an uncontrolled, destabilizing (downwards) path. These dynamic career qualities have a corresponding impact on retirement. Career unraveling is naturally associated with diminished preference to continue

paid work, and as consequence with an earlier retirement (idem); career building has an opposite effect.

This distinction is clearly of relevance here. What happens in the *hypertransitional* type after the main (longest) job has been completed? What is the significance of the transitions thereafter? While these issues are a subject of analysis that falls outside the scope of this text, we are able nevertheless to provide a preliminary answer. There are two indicators that may help provide an insight in regard to what the *hypertransitional* careers entail *on average* (aside from any potentially existing internal discrepancies). There indicators are career voluntariness, referring to the degree of control over the development of one's career; and the decile of the last salary in reference to the respective country, indicating the level of individual objective career success. In our class membership models we have already established that the *hypertransitional* type is associated with a much higher level of voluntary transitions (cfr. table 4), indicating that on average in this career type career transitions are more self-initiated, which is a part of the career building notion. Figure 18 on the other hand, shows the probability density function for income distribution with respect to the three career types: *stepping stone, hypertransitional* and *reversed.*

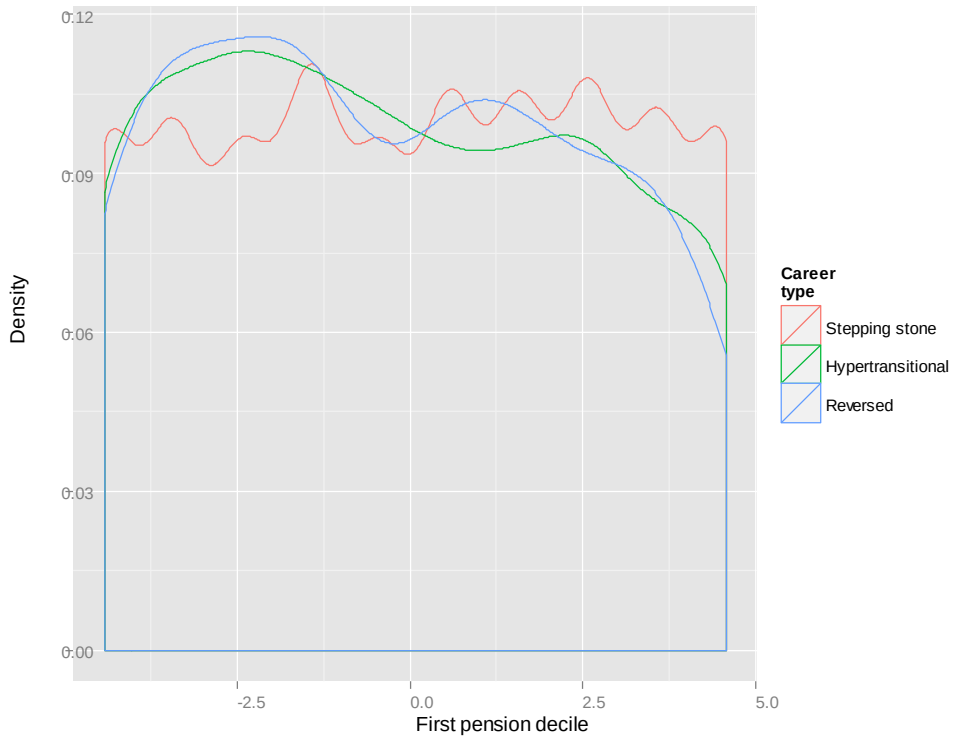
Figure 19: probability density function for the decile of last salary



These graphs indicate, that *reversed* and *hypertransitional* career followers have a larger probability to be at the higher half of the income distribution (please recall that the variable has been centered). The income for the stable *stepping stone* type is distributed quite

evenly, with a slightly higher chance for the lower half. The pension distribution presented in the figure 20 has the opposite logic:

Figure 20: probability density function for the decile of first pension



Here the differences between the *stepping stone* and the two other career types are less pronounced. Nevertheless, it is clear that in regard to pension the *reversed* and the *hypertransitional* types are somewhat lacking in comparison to the *stepping stone* trajectory. Values in the first half of the distribution are more widespread for the *reversed* and *hypertransitional* types, than for the *stepping stone,* while for the second half the opposite is true.

All in all, this short post-hoc exploration indicates that indeed the majority of the complex and highly transitional careers are associated with career building, resulting in later retirement age. The financial aspect of retirement can be crucial, as staying on the labor market in general provides an incentive that is stronger than for the individuals in the stable career pattern (which constitutes the majority of the population under study). Interestingly, the post-hoc multilevel models did not show a significant relationship with replacement ratio. This can mean that even though the mentioned differences in regard to the financial aspects of retirement are in themselves insufficient to explain the observed effects of retirement delay, they can nevertheless indicate the nature of mid-career processes (building of unraveling), which in turn influences the retirement processes as described above.

The findings in regard to the cumulative advantage/disadvantage theory are in line with the research on the subject (van der Heijden, Schalk, & van Veldhoven, 2008). The steadily

increasing career entropy values are found in all countries. The same phenomenon can be perceived for each career type separately, with the single exception of the inactive career. This implies that even controlling for career type, individual working trajectories become more and more diversified with the flow of time; and we can expect that both external and internal rewards will be assigned to these differentiated statuses in a stratified fashion, in accord with CAD.

In the next step we have reviewed the characteristics of the discovered career types on the basis of logistic regression of the type membership. The career taxonomy is rather heavily gendered. The *hypertransitional* type is more prevalent for women, in accord with the literature on mobile careers describing the contemporary labor markets (Briscoe, Hall, & Frautschy DeMuth, 2006; Eby, 2001; Marler & Moen, 2005; Reitzle, Körner, & Vondracek, 2009; Segers, Inceoglu, Vloeberghs, Bartram, & Henderickx, 2008; Valcour & Tolbert, 2003; Valgaeren, 2008). This is another characteristic that links the *hypertransitional* careers in our sample to the *new career* of today (the higher degree of transition voluntariness may be added to the list as well).

Two essential findings in regard to the determinants of the career class membership are pertinent to the discussion of the consequences of the transitional careers. Namely, beside a (relatively) optimistic finding of delayed labor market exit, there are negative covariates of the transitional careers that cannot be neglected. First the number of divorces for the workers in the latter career type is higher than for the other groups. We have already mentioned that the direction of causality in this regard is ambivalent; nevertheless the association remains problematic in the light of the increasing proliferation of this career type. Another critical characteristic of the *hypertransitional* career is the somewhat smaller amount of years actively spent on the labor market, meaning gainful employment alone (without any inactivity or unemployment periods). To explore the issue to a greater extent we have run post-hoc country level models with active career years as the dependent variable, whereas the selection of independent variables was made on the basis of relevance. The results are presented in table 9 below.

With an exception of two countries—Netherlands and Switzerland—there is a substantial relationship in both practical and statistical terms between career complexity and number of career years. From these models several variables were excluded, since they make no meaningful connection in terms of causality to the dependent variable. Although these results are lateral in relation to the main thrust of our analysis focused on retirement, their practical meaning is equally essential. It is apparent that transitional career patterns can be associated with differentiated sets of characteristics that may be interpreted as being positive or negative. For instance, we may recall the increased transition voluntariness or somewhat higher levels of objective career success. Nevertheless there are substantial drawbacks as well, as these results may attest. From the existing research it is also known that transitional careers can involve additional stress, uncertainty, income instability and

other issues related to career unraveling (Gerber, Wittekind, Grote, & Staffelbach, 2009; King, Burke, & Pemberton, 2005; Van Buren, 2003). In the literature this is labeled as the "dark side" of the transitional careers (Gerber et al., 2009). As the general context of the contemporary labor markets increasingly moves towards further flexibilization of work, the negative consequences of transitional careers may become more mitigated, following the shift in norms, practices as well as individual adaptational mechanisms.

Table 9: country-level regression models of the number of active career years

	AT	DE	SE	NL	ES	IT	FR	DK	GR	CH	BE	CZ	PL
(Intercept)	4,02***	3,10***	5,16***	2,29***	1,32	3,69***	3,47***	5,44***	0,04	1,13	3,90***	5,11***	0,40
Complexity	-1,07†	-1,09**	-0,60*	-0,33	-1,76***	-0,80*	-1,59***	-0,61*	-4,23***	0,46	-0,72*	-1,59***	-1,23**
Gender (male)	3,20***	3,32***	3,01***	5,43***	5,27***	1,27**	1,32***	1,69***	4,56***	5,05***	1,63***	1,93***	0,59†
Education	0,12	-0,42***	-0,50***	-0,52***	-0,16	-0,21*	-0,32***	-0,22***	-0,50**	-0,29**	-0,34***	-0,16†	-0,12
# divorces	-1,57	-0,24	0,95†	-0,98	-0,35	2,84†	-0,24	-0,59	-1,05	0,69	-0,51	0,85†	0,06
# children	-0,41	-0,55*	-1,34***	-1,12***	0,43	-0,48†	-0,62**	0,00	0,68	-0,29	-0,37*	-0,90***	-0,30
Agriculture	3,40*	-0,58	2,96†	3,20*	2,80*	-0,77	0,85	2,12*	0,80	0,83	4,34***	-0,37	1,51†
Mining	-9,13**	1,15	-3,81	-2,70	1,18	-2,81	-1,92†	///	-2,17	0,03	-0,78	0,69	-3,03†
Manufacturing	-0,97	-1,34†	0,04	0,11	3,07*	-0,20	0,70	-0,60	1,50	0,53	-0,65	0,15	-0,49
Utility services	0,53	-2,15	1,55	0,27	2,41	-0,80	0,76	-0,85	-4,31	0,86	0,82	-2,03	2,44†
Construction	3,01	-1,88	3,64**	0,52	0,28	0,22	0,98	0,48	-2,35	-1,02	0,34	-0,15	-2,79*
Wholesale, retail	0,81	0,81	-0,43	-0,13	3,23*	0,19	0,23	0,05	-0,59	0,39	-0,56	-0,92	-1,03
Horeca	-7,99*	0,71	-1,15	0,99	-3,05	3,83†	-3,95	-2,96†	1,04	2,93	-1,60	0,10	0,60
Transport & comm.	0,10	0,39	0,33	-2,66*	1,43	-1,77	0,81	0,72	0,56	-3,72†	0,85	-0,01	-0,74
Financial	-0,04	0,57	0,42	1,28	-0,17	-0,59	-0,66	1,22	4,25	-1,70	-0,05	1,35	3,80
R.estate&business	11,18**	3,02	0,41	-1,52	-7,07	2,89	0,52	2,27	///	4,38	-4,32	1,73	-0,02
Public admin.	-0,21	-0,47	-2,59**	-0,04	1,80	0,95	0,45	1,81*	3,64	-0,44	1,01	0,20	0,32
Education	-2,89	-0,52	-0,60	-0,18	-4,68	0,26	1,61†	-0,94	-4,95	-0,70	-0,51	0,31	-0,02
Health & social w.	2,37	0,20	-0,01	0,38	-0,02	-0,65	-0,68	-2,58***	2,97	-0,84	-0,87	-0,39	0,04
Vol. index	1,40	0,84	4,42**	1,37	0,41	0,00	2,14*	1,79	-0,01	3,43	2,29***	2,50***	1,80†
Career satisf.	0,47	1,46**	0,76	0,48	1,00	0,20	0,46	1,14†	1,53	0,59	0,26	0,00	1,36**
Disappointment	0,23	-0,68*	-1,07†	-0,69	-0,33	-0,48	-0,59*	-0,70†	-1,28	-0,54	-0,12	-0,54	-0,28
Achievements	0,11	-0,19	0,05	0,22	-0,25	1,16*	-0,07	0,49	-0,34	-0,80	0,74†	0,32	-0,27
Sacrifices	-0,12	0,44	0,03	-0,34	1,08*	1,19***	0,81***	0,93**	1,14†	0,18	0,96***	-0,41	0,71*
Age	0,07	0,22***	0,03	0,11**	0,22***	0,25***	0,10***	0,21***	0,24***	0,23***	0,14***	0,02	0,30***

In other words, becoming more normal may render the transitional careers less susceptive to disadvantageous circumstances typical for more stable labor markets (of the 20th century). To a certain degree this is reflected in the aforementioned results, as the highest negative estimates are predominantly found in countries with less mobile labor markets, while more transitional Scandinavian countries have less penalty in terms of active career years. This observation is, however, not universal and requires further research.

Career transitionality and retirement

The second aspect of our analysis refers to the relationship between career transitionality and retirement age. The former is expressed through a continuous variable (career complexity) as well as a categorical indicator (career type). In general, we find the said relationship to be positive and statistically significant, although there is substantial variation between countries in regard to its magnitude. The relationship is found in countries with very different background characteristics, including Eastern European, Southern European, Scandinavian and continental countries. From the analysis it does not immediately follow, what defines the absence or presence of the statistical link; it may in fact be possible that the outcome is achieved by a convergence of different sets of reasons in each country. It is clear, however, that the relationship is not attributable solely to the differences between stable and transitional careers in terms of income (as outlined above). Countries with similar income structures for the three active career types have different outcomes in regard to the presence of the relationship between career transitionality (in either form). In addition, the relationship between career transitionality and retirement timing remained significant on the European level after controlling for income, as well as country-specific indicators pertaining to financial aspects of retirement and unemployment. To explain the issue we may need to consider the context of the labor market in terms of mobility of its careers, in order to understand how career transitions are rewarded (or penalized) in that context. For instance, in Greece the *hypertransitional* pattern is clearly an exception rather than a socially valid career trajectory. As the result, it may be a less advantageous career path than in countries where such careers are a part of normal labor market practices.

The results based on the whole dataset are different from those obtained from the three “active” career types alone (*stepping stone, reversed* and *hypertransitional*). The relationship between career transitionality and retirement timing is more consistent for the limited dataset, supporting our initial presupposition that the logic of career development for active careers and other career types is different enough, thus warranting a certain degree of caution in regard to direct comparisons between these two groups. On the other hand, according to the results of the discrepancy analysis, the career types obtained are universally applicable to both men and women. Together with little gender-specific deviation in bivariate relationships between career complexity and retirement timing, this warrants the use of common models for both genders, simply controlling for it.

It needs to be noted, that in all reviewed models the relationship between career transitionality and retirement is persistent in terms of statistical significance for Belgium (for the active career group). When the categorical indicator of career transitionality is concerned, the established effect is the strongest positive estimate among all the thirteen countries.

Finally, we have considered the differential effects of career mobility for different career types taking the number of jobs in a career. It appeared that retirement timing is delayed with an increase in the number of jobs for the *stepping stone* trajectory, while the opposite (negative) effect is true for the *hypertransitional* career. The choice of the independent variable here is due to its ease of direct interpretation (in contrast with career complexity). The finding shows that there is a "sweet spot" past which any additional career mobility may be detrimental to the career development process, and as consequence, leading to earlier retirement. Of course, we need to understand, that *hypertransitional* careers already contain a much greater number of transitions than other career types, which explains the non-linear relationship.

Concluding the analysis, we cannot but arrive to the statement that career transitionality is an ambivalent phenomenon. Today we live in the world were the economic realities require enhanced flexibility both from workers and organizations. Global labor markets, extreme fluidity of capital, knowledge-intensity of the Western economies are at odds with the rigidity of the stable careers of the previous centuries. Everyone must adapt. This does not however entail that highly mobile careers should be necessarily perceived as a welcome change. The results of this study indicate, that unharnessed career mobility is quite a mixed blessing, unlikely to become the *panacea* to solve the issues of contemporary employment, at least without the inclusion of new support mechanisms designed to deal with the increased rate of change. As the traditional structures of social support become weakened, the responsibility for making it through transitions falls on the shoulders of individuals, who may or may not be equipped to handle them. Any new supporting mechanisms need to take the diversity of career structure into account and avoid a one-size-fits-all measures.

Policy relevance

As the labor markets of today become more and more mobile, as stable careers become replaced by transitional careers, and as individuals are forced to an increasing degree to face the consequences of economic flexibilization, the study of these consequences becomes important for both social sciences and policy makers.

Transitional career paths entail both positive and negative consequences that should be considered by policy makers. On the positive side we have established that retirement age is higher for those whose careers consist of multiple transitions, which continue well past mid-career. Both the categorical indicator of career complexity, namely the hypertransitional career

type, as well as its continuous counterpart--career complexity--show a significant relationship with retirement timing. The coefficient magnitude is relevant in practical terms as well. For instance, the difference in labor market exit timing between stable and transitional careers amounts to one year and ten months, the largest effects of all countries.

In this sense measures stimulating job mobility can help achieve the increase of the labor market exit age, a goal rather prominent on the European political agenda. However, two issues must be considered, that can potentially offset the positive effect of transitions. First, we find that the number of years actively spent on the labor market (thus not in unemployment or withdrawal from work) is smaller for those in careers with larger amount of transitions. One of the most obvious reasons for this would relate to having time gaps between jobs, which can accumulate over the course of the career. Individuals in mobile career patterns (akin to those that are commonplace today) require additional effort to eliminate the gaps and make job changes as seamless as possible. Considering that it is essentially the second part of the career that distinguishes between the stable and the transitional types, that effort needs to be concentrated in the same period. Career counseling or relevant coaching in regard to job search support may prove effective for this group.

The second issue pertains to the differential effects of career transitionality on retirement timing. Stable careers benefit from additional mobility, while careers that already contain a lot of transitions show negative effects in terms of retirement timing, when additional transitions are made. This means that whatever approach is taken to stimulate job mobility in the rigid labor markets, it cannot be uniform for everyone. Any such measure must take the specifics of individual careers into account, considering previous career history in regard to transitions between jobs, as well as between employment and unemployment/inactivity.

Another point needs to be made in regard to potential internal sub-classifications in the hypertransitional type. Even though according to our data this career type on average fares quite well in the sense of income and career voluntariness, there might be two different subgroups in that cluster. One which has successfully used multiple job changes to build career over time, whereas the other with no real control of these transitions, no security of future work and destabilized financial rewards. Although this subtype has not emerged in our analysis directly, there are theoretical reasons to expect an unequal distribution of objective and subjective career success within the hypertransitional type (Gerber et al., 2009). Consequently, policy measures must take into account whether an individual career is in the process of building or unraveling, and support job mobility accordingly.

Employment in the pre-retirement cohort (55-64) also plays a role in postponed retirement, and any supporting policy will as consequence have a positive effect on the retirement timing.

Finally, we find that Flanders and Wallonia exhibit similar patterns of career diversity and mobility, and might therefore benefit from similar policy approaches.

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Appendix I: country-level models for all six career types

	AT	DE	SE	NL	ES	IT	FR	DK	GR	CH	BE	CZ	PL
(Intercept)	55,97***	59,43***	59,72***	60,45***	59,30***	58,57***	59,06***	59,98***	59,14***	61,15***	60,15***	55,23***	56,63***
Complexity	1,08**	-0,13	0,26	0,16	-0,71†	-0,23	0,22	-0,38*	-1,61**	-0,16	-0,25	0,76***	0,74*
Gender (male)	-0,09	0,01	-0,57**	-1,49***	-0,88†	-1,10***	-0,76***	-0,26	-0,16	-0,39	-0,74***	1,04***	0,61*
Education	0,07	0,15*	0,17	0,12*	0,02	0,24***	0,12**	0,03	0,11	0,00	0,09†	0,23***	0,03
Health issues	0,48	0,28	0,27	-0,40	0,68†	0,24	-0,09	0,50*	0,40	0,39	0,13	0,41**	-0,64*
Marital status	0,61	0,48†	0,06	-0,32	0,28	1,40***	0,18	-0,16	0,53	-0,09	0,28	0,04	0,02
# divorces	-0,16	-0,65	-0,86**	1,82**	-2,10	-1,86†	-0,52	0,33	0,56	0,21	-0,23	0,17	-0,48
# children	0,61**	0,05	0,27†	0,30†	0,02	0,18	0,29*	0,46**	0,12	0,18	0,21†	-0,36*	0,13
Active career years	0,29***	0,16***	0,24***	0,17	0,19	0,29***	0,07***	0,19***	0,23***	0,19***	0,02	0,42***	0,20***
Agriculture	1,36	0,68	1,21	0,53***	1,44	-1,26†	-0,55	0.38	1.45	0,44	2,08**	-0,08	0,92
Mining	-5,86**	-1,94	-5,29**	-2,52	-0.97	-0,30	-1,26†	///	-0.26	-1,17	-2,59†	-1,29	-2,30†
Manufacturing	-0,24	-0,39	0,41	0,85	-0.80	-0,78	0,45	0.04	0.45	0,77	-0,50	-0,46†	0,04
Utility services	-0,43	-0,13	0,11	-0,26	-1.42	-0,68	-1,12	0.54	-1.67	-1,12	-1,39	-0,40	0,39
Construction	1,39	-1,49*	0,31	0,05	-1.06	0,97	0,31	0.50	-0.20	-0,25	-0,23	-0,45	0,39
Wholesale, retail	0,02	1,26*	0,75	1,36*	0.05	0,97†	0,96*	-0.31	0.70	-0,33	1,32**	0,00	0,34
Horeca	-4,36*	-0,99	2,65†	0,65	1.30	2,67	2,67	-1.17	1.05	1,04	0,59	-0,09	-0,64
Transport & com	-1,16	-0,99	-1,13†	-0,66	-1.62	-1,05	-0,65	-0.76	-1.12	-1,97†	-1,15†	-0,43	-0,24
Financial	3,39	0,34	-0,33	-1,09	-1.60	-0,56	-0,52	-0.95	-3.62†	-1,03	0,90	0,34	0,02
R.estate&business	4,13	1,16	-1,25	0,78	///	2,51	0,79	0.06	///	3,92	1,35	0,67	-0,29
Public admin.	1,18	0,67	0,28	-1,80***	0.54	-0,76	-0,75†	0.11	0.45	-0,95	-0,53	-0,25	0,12
Education	-0,46	-0,20	0,43	0,74	5.13*	-1,03	-0,58	0.08	-0.03	0,75	-1,59**	1,09*	-0,33
Health & social w.	0,19	1,69*	1,14**	0,69	-0.31	-0,54	-0,70	0.43	2.58†	0,69	0,39	0,87†	-0,05
Vol. Index	1,58	-0,09	0,18	0,45	-0,94	-1,70†	-0,39	-0,15	-0,28	0,42	-0,08	0,41	-1,24†
Career satisf.	-0,48	-0,04	-0,20	-0,31	0,18	-0,07	-0,11	0,25	-0,28	-0,50	-0,39	0,01	-0,05
Disappointments	-0,16	-0,39	-0,37	-0,20	-0,20	-0,44	-0,11	0,33	-0,95†	0,34	0,13	-0,08	0,06
Achievements	0,26	-0,57†	-0,29	0,64	0,34	-0,60	-0,09	0,32	0,33	-0,23	0,41	-0,12	-0,31
Sacrifices	0,14	-0,16†	-0,32†	-0,20	-0,34	0,15	0,09	-0,17	0,78*	-0,35	0,21	-0,01	-0,49†
Age	0,09*	0,09**	0,14***	0,13***	0,18	0,13***	0,08***	0,15***	0,20***	0,13***	0,11***	0,05***	0,19***

Appendix II: Nederlandse samenvatting

1. *Abstract*

In deze studie besteden wij aandacht aan het verband tussen arbeidsmobiliteit en de timing van arbeidsmarktuittrede. Op basis van SHARELIFE data worden de volledige loopbanen van respondenten uit 13 Europese landen onderzocht. Een loopbaantypologie op het Europese niveau wordt opgesteld, voor elke loopbaan wordt telkens een complexiteitsindex berekend. Determinanten van alle loopbaantypes worden onderzocht. Vervolgens stellen we vast dat arbeidsmobiliteit een positieve invloed heeft op de timing van uittrede, hoewel deze bevinding niet voor alle landen geldt. Dit effect verschilt echter naargelang de loopbaantype. Zo blijft het positief voor stabiele loopbaanpatronen met weinig transities, terwijl voor complexe transitionele trajecten het verband negatief wordt. Bovendien is de totale loopbaanduur gemiddeld korter voor complexe loopbaanpatronen.

2. *Introductie en theoretisch kader*

De moderne arbeidsmarkten worden meer en meer mobiel. De doorsnee werknemer verwacht meermaals van werkgever te moeten veranderen in zijn of haar loopbaan. Een aanzienlijk deel van de Europese bevolking gelooft zelfs niet meer dat men in één job kan blijven gedurende de levensduur. Flexibiliteit en aanpassing worden verwacht van iedereen, zowel bedrijven als individuen. Een andere ontwikkeling die een uitdaging vormt voor het beleid binnen vrijwel alle Europese landen, is de vergrijzing van de bevolking. Omdat dit fenomeen met een toenemende levensverwachting gepaard gaat, wordt er een ernstige druk op de betaalbaarheid van pensioenen en gezondheidszorg gelegd. Als resultaat komt de verhoging van de wettelijke (en feitelijke) pensioenleeftijd hoog op de beleidsagenda van Europa. In deze analyse focussen wij op de problematiek die op het kruispunt van beide kwesties staat. Met name bestuderen wij de effecten van (hoge) arbeidsmobiliteit op de feitelijke leeftijd waarop men uit de arbeidsmarkt treedt. Theoretisch kaderen onze analyses in de *cumulative advantage/disadvantage* theorie. Deze visie stelt dat (in onze geval werk-gerelateerde) ervaringen een wezenlijke impact kunnen hebben op gebeurtenissen later in het leven. De afwijkingen in deze ervaringen leiden tot een differentiële verdeling van verschillende kapitaalvormen (bijvoorbeeld geld of opleiding). Deze creëert op zijn beurt uiteenlopende mogelijkheden en kansen voor de toekomst. Deze verschillen accumuleren zich met verloop van tijd, waardoor kleine initiële afwijkingen tot aanzienlijke ongelijkheden later in het leven kunnen leiden. Arbeidsmobiliteit rond de middenloopbaan kan bijgevolg het proces van arbeidsmarktuittrede beïnvloeden. Volgens de literatuur kan dit op meerdere manieren gebeuren. Arbeidsmobiliteit is immers verwant met de financiële aspecten van werk, gezondheid, subjectieve loopbaanervaringen en attitudes, werkomstandigheden en andere modaliteiten met betrekking tot arbeid. Al deze modaliteiten kunnen de timing van de uittrede meebepalen.

De hoofdvraag van deze studie is of (het bevorderen van) arbeidsmobiliteit positieve of eerder negatieve gevolgen met zich meebrengt. De analyses geschieden in drie fasen: (1) beschrijving van de Europese loopbanen in termen van mobiliteit en gerelateerde loopbaankenmerken, (2) constructie van de Europese loopbaantypologie met het oog op arbeidsmobiliteit en (3) causale analyses die arbeidsmobiliteit in verband brengen met pensionering.

3. Data

De analyses zijn uitgevoerd op basis van SHARELIFE gegevens. Volledige loopbanen van de respondenten die ooit gewerkt hebben, zijn opgenomen in de sequentieanalyse (*Optimal Matching*). De respondenten behoren tot de oudere cohorten (ze waren 50 jaar of ouder in 2004, de eerste golf van de SHARE-survey). De analyses hebben betrekking op 13 Europese landen, inclusief België.

4. Bevindingen

4.1. Exploratieve analyses

In het beschrijvende gedeelte plaatsen wij België (of Vlaanderen, waar mogelijk) in de Europese context op het vlak van loopbaantransitiekenmerken. Wij vergelijken de loopbaanlengtes voor mannen en vrouwen (Figuren 1-3) en bekijken ze in het historische perspectief (Figuur 4). Loopbaanmobiliteit uitgedrukt in aantal jobs per respondent wordt tevens vergeleken tussen de 13 landen (Figuur 5). Hierbij stellen we vast dat hoewel de Belgische arbeidsmarkt niet als het meest rigide van de 13 landen in de analyse beschreven kan worden, deze toch in de categorie van lage arbeidsmobiliteit moet worden geplaatst. Ten slotte worden de transversale kenmerken van loopbaansequenties gepresenteerd (Figuur 7), die de diversiteit van loopbanen per land weergeven. Op dit vlak scoren Vlaanderen en Wallonië gemiddeld.

4.2. Europese loopbaantypologie

Op basis van de sequentieanalyse bepalen wij 6 loopbaantypes op het Europese niveau. De verdeling van deze types is te vinden in tabellen 2 en 3 (voor mannen en vrouwen). De loopbaantypes kunnen als volgt worden beschreven:

1) *Stepping stone* patroon (Figuur 10): enkele transities totdat men de hoofdjob (job van de langste duur) bereikt. Deze job wordt tot het pensioen behouden.
2) *Hypertransitioneel* patroon (Figuur 11): de loopbaan begint zoals in p.1, maar de transities stoppen niet na het verlaten van de hoofdjob.
3) *Reversed* patroon (Figuur 12): de eerste job in de loopbaan heeft de langste duur, opgevolgd door één of meerdere kleinere jobs.
4) Inactieve loopbaan (Figuur 13): een korte periode van tewerkstelling gevolgd door inactiviteit op de arbeidsmarkt.
5) Werkloos patroon (Figuur 14): gekenmerkt door aanzienlijke periodes van werkloosheid
6) Gemengde loopbaan (Figuur 15): zowel werkperioden als inactiviteit zijn in dit loopbaantype te vinden.

Niet alle zes loopbaantypes zijn in elk land aanwezig. Als alternatieve indicator van mobiliteit nemen wij een wiskundige maat van loopbaancomplexiteit. Met behulp van discrepantie- en entropieanalyse stellen we vast dat (1) de gevonden loopbaantypes universeel voor beide genders gelden en (2) het hypertransitioneel patroon fundamenteel van andere actieve loopbaantypes verschilt. Dit bevestigt de validiteit van de typologie. Vervolgens onderzoeken wij basisdeterminanten van de gevonden loopbaantypes (Tabel 4). Alle loopbaanpatronen zijn scheef verdeeld in termen van gender. De stabiele stepping stone loopbaan is iets meer typisch voor mannen dan voor vrouwen, terwijl het omgekeerde geldt voor het hypertransitioneel traject. Transitievrijwilligheid is aanzienlijk hoger in het hypertransitioneel patroon, evenals subjectieve

loopbaantevredenheid. Opmerkelijk is dat het aantal actieve jaren op de arbeidsmarkt lager ligt voor de hypertransitionele loopbaan in vergelijking met het stepping stone patroon. Ten slotte, gaan de hypertransitionele loopbanen gepaard met een hogere echtscheidingsgraad.

4.3. Loopbaanmobiliteit en pensioenleeftijd

De relatie tussen loopbaanmobiliteit en pensioenleeftijd wordt onderzocht op basis van zowel de categoriale (loopbaantypes) als continu (loopbaancomplexiteit) indicator. In de meeste landen (waaronder België) wordt er een positief verband gevonden (Tabellen 5 & 6). De schattingen zijn groot genoeg om een praktische waarde te hebben. Het resultaat geldt ook op het Europese niveau (Tabel 7). Deze positieve bevinding moet echter genuanceerd worden. Hoewel individuen in hypertransitionele loopbaanpatronen later uit de arbeidsmarkt treden, is de actieve loopbaanduur bij deze groep gemiddeld korter. Deze negatieve bevinding is eveneens in de meeste landen geldig (Tabel 9). Ten tweede zijn de effecten van loopbaanmobiliteit op pensioenleeftijd niet lineair. Het positieve effect wordt vastgesteld voor actieve loopbanen met lage complexiteit (stepping stone), die het grootste deel van alle loopbanen vormen. Het effect voor complexe loopbanen met hoge transitionaliteit is echter negatief (Tabel 8).

5. Conclusie en beleidsrelevantie

De drie belangrijkste bevindingen van de studie hebben te maken met de vraag of arbeidsmobiliteit een goed middel is om de courante beleidsdoelstellingen inzake loopbaanactivering te (helpen) realiseren. Namelijk langere loopbanen en later op pensioen gaan (cfr. Pact 2020). En het antwoord is neen, of toch niet zonder meer. Wij stellen wel vast dat loopbaanmobiliteit een positieve invloed heeft op de pensioenleeftijd. Maar toch niet voor iedereen. Voor diegenen die al veel transities gemaakt hebben in hun loopbaan, resulteert verder van job veranderen juist in een vroegere uittrede. Bovendien is de totale loopbaanduur gemiddeld korter voor mensen met een complexere loopbaanstructuur. Een bijkomend negatief nevenverschijnsel van de transitionele loopbaan is een hoger aantal echtscheidingen. Blindelings arbeidsmobiliteit stimuleren in gelijke mate voor iedereen is een zeer ambivalente piste volgens deze bevindingen.

Toch kunnen individuen in stabiele loopbaanpatronen profiteren van mobiliteitstimulerende maatregelen, zolang er tegelijkertijd de aandacht is voor het ondersteunen van transities zodat de totale loopbaanduur niet verminderd wordt. Er zijn immers positieve bevindingen in verband met de financiële aspecten van de transitionele loopbaantrajecten. Ook de controle over de loopbaanontwikkeling ligt hoger bij deze individuen. Bijkomende mobiliteit in complexere loopbaanpatronen zou integendeel afgeremd moeten worden, hoewel de praktische haalbaarheid hiervan problematisch kan zijn. In ieder geval moet hier aandacht voor zijn in het kader van loopbaanbegeleiding.

De resultaten van onze studie zijn niet op iedereen van toepassing. Onze steekproef heeft vooral betrekking op de oudere cohorten. Het lijkt ons redelijk de assumptie te maken dat de loopbaanpatronen van individuen die in de komende 5-10 jaar op pensioen zullen gaan, niet drastisch gaan verschillen van deze in onze steekproef. Loopbaantransitionaliteit van jongere mensen kan wellicht andere gevolgen hebben.