Mobility closure in upper class trajectories

Assessing temporality and forms of capital

Abstract

Most understandings of the ways classes become social groupings centre on processes of mobility closure whereby mutual appreciation and recognition within classes arise from homogenous experiences over time. The mapping of such structured biographies, however, remains understudied. This paper explores intra- and intergenerational mobility patterns in the upper strata of the Norwegian class structure and aims to include temporal processes and multiple forms of capital in the quantification of class trajectories. By combining multiple correspondence analysis and social sequence analysis, two important but often neglected aspects of recruitment to the upper class are emphasized: first, by introducing multiple forms of resources, different ways of maintaining mobility closure are demonstrated; second, different pathways to power are highlighted by distinguishing between divergent class careers. A key aim of the analysis is to explore internal divisions within the upper class in forms of parental capital (an 'origin space') and link these divisions to a typology of 'destination careers' in adulthood. The analysis suggests that individuals from modest origins are more likely to have careers that feature a biographically late arrival and/or short-term affiliations to upper class positions whereas individuals from families rich in capital are more likely to have stable careers in the upper class fractions from which they originate. The analysis thus reveals important divisions in the trajectories of Norwegians who reach the upper class; not only are there differences in their upbringing in terms of the availability of different amounts and types of capital but such divisions also seem linked to their own class careers later in adulthood.

Keywords: class trajectory; class formation; class mobility; multiple correspondence analysis; sequence analysis

Introduction

A key property of the Bourdieusian concept of a *field of power* is a distinct focus on divisions – rather than unity – within the dominant class (Wacquant 1993; Bourdieu 1996; Savage et al. 2015: 308). Indicating the existence of multiple forms of capital, divergent power bases are acknowledged and power struggles are emphasized. Class *fractions* that predominantly rely on different forms of capital thus become objects of sociological interest on a par with divisions between the classes themselves. Moreover, Bourdieu's emphasis on class trajectories adds a temporal dimension to the class structure. Curiously, however, different forms of capital and temporal dimensions often seem neglected by studies of power elites and class mobility; this is because research designs often rely on temporal snapshots and employ class schema that do not account for fractional divisions in the upper layers of the class structure.

This paper explores both dimensions by investigating patterns of intra- and intergenerational mobility within the Norwegian upper class. Inspired by the notion of a *field of power*, I use a class scheme that operationalizes the upper class as consisting of multiple fractions in an opposition between cultural and economic capital (Hansen, Flemmen and Andersen 2009). Thus, a cultural fraction (e.g. art directors, editors, professors) is differentiated from an economic fraction (e.g. top income earners including chief executives, financial intermediaries, rentiers) which in turn is differentiated from a fraction relying on a balanced composition of capital (e.g. politicians, judges, doctors); each fraction comprises 1.4%, 2% and 2.7% respectively of the adult population. Rather than measuring the extent to which people of different class origins achieve an upper class position at one point in time (see for instance Flemmen et al. 2017), I restrict my analysis to individuals who access these

upper class fractions at least once in a ten-year period during adulthood. I then analyse the differences in the trajectories characterizing this group.

Although it is often emphasized that the relative likelihood of gaining an upper class position is positively associated with privileged origins (for Norwegian evidence, see for instance Mastekaasa (2004); Flemmen (2009)), less is known about internal variation. A key aim here is thus to explore social divisions in terms of differences in 'inherited' stocks of capital and link these to differences in upper class careers. The analysis will thus tap into differences in the structured trajectories of the Norwegian upper class. 'Inherited' capital is defined as resources available from one's 'social background' as opposed to capital obtained from personal engagement in the labour market, the education system or property ownership. Following Savage, Warde and Devine (2005), I approach class mobility within the framework of capital/asset/resources (CARs). In the Bourdieusian understanding of CARs, multiple power resources are acknowledged; not only economic, but also cultural, social, symbolic and field-specific capitals are believed to generate privilege, though in different ways. Capital is defined as 'accumulated labour' (Bourdieu 1986) that can be invested in strategies to accumulate capital of a similar form or in conversion strategies where one form of capital derives advantages from another. Hence, this perspective draws one's attention away from a static view of the mobility process and focuses on a dynamic approach to class trajectories where mobility patterns may be versatile in the volume and forms of capital that enable privilege of varying durations in adulthood.

I pose two research questions to explore this topic. First, how is inherited capital distributed among Norwegians who obtain an upper class position at least once in a ten-year period in adulthood? Second, in which ways are divisions in inherited capital linked to different upper class careers? A two-step procedure, consisting of constructing an 'origin space' of inherited capitals and linking this to 'destination careers', allows for more specific

questions to be asked about the functions of forms of capital and temporal stability in structuring divisions in upper class trajectories. For instance, are the origins of individuals with upper class affiliations differentiated by the amount and types of capital? Do people from backgrounds rich in capital more often have stable careers in the upper class compared to those from backgrounds less rich in capital? Are there differences between types of parental capital and affiliations to specific upper class fractions?

The research strategy combines multiple correspondence analysis (MCA) with sequence analysis (SA). While the former allows for the construction of an 'origin space' of 'inherited' resources, the latter focuses on temporality and enables the construction of a typology of intragenerational 'destination careers.'[1] The attribute data applied in MCA are often measured at a given point in time; SA, however, allows for the construction of time-sensitive typologies that account for the processual duration, timing and order of events. However, SA does not account for the ways in which such careers are located in the social structure (Abbott 2001: 123-4). Accordingly, this article argues – and seeks to demonstrate empirically–that combining MCA and SA helps embed careers in social space and helps identify the principles that differentiate them.

Social divisions and forms of capital

Ever since Weber (1978: 302) distinguished between class situations and social classes, studying social mobility has been a key feature in class analysis. Indeed, it is widely believed that processes of class formation are contingent on whether mobility between class situations is 'easy and typical', including both individual mobility and mobility across generations (Goldthorpe 1987; Scott 1996). The level of demographic homogeneity within a class is traditionally seen as the crux of processes of class formation, and groups of individuals who experience wide inter- and intragenerational immobility may form a socially cohesive 'class

core' (Goldthorpe 1984). Class immobility pertains to the extent to which life experiences are reproduced within individual lives and transferred from parents to children; the effect of this homogenization of life experiences is thought to increase the likelihood of classes becoming social groupings (Giddens 1981). Processes of class structuration are thus defined by Giddens (1981: 107) as 'the degree to which mobility closure exists in relation to any specified market capacity.' While Giddens highlights different types of market capacities (ownership of property in the means of production, educational and technical qualifications and manual labour power) and thus different ways of maintaining mobility closure, the Bourdieusian framework of CARs (Savage, Warde and Devine 2005) arguably helps bring about a more complex understanding of how advantages may be accrued and monopolized in a competitive 'market.'

The Bourdieusian understanding of CARs focuses on the multiple sources of capitals that are integral to the structuration of class – not only economic capital, but also cultural, social, symbolic and field-specific forms of capital are constitutive elements in the processes of class formation. According to this perspective, analysis revolves around strategies involved in the accumulation and convertibility of forms of capital that are enforced in a dynamic interplay with diversified fields (Bourdieu 1986; Savage, Warde and Devine 2005). In principle, therefore, this framework allows one to study multiple strategies through which mobility closure may be achieved. The effect of mobility closure identified by Giddens – the homogenization of life experiences – is theorized to become embodied in habitus; this pinpoints a tacit, practical dimension to ways through which structures of dominance and advantage are reproduced and maintained in a society (Bourdieu 1984).

The opposition between economic and cultural capital, however, has rarely been systematically incorporated in quantitative research as an aspect of the class *structure* and some more recent contributions have sought to bridge this conceptual gap (e.g. Flemmen,

Jarness and Rosenlund 2017; Prieur, Rosenlund and Skjott-Larsen 2008; Rosenlund 2009; Flemmen et al. 2017; Toft 2017; Cveticaning & Popescu 2011; Savage et al. 2015; Vandebroeck 2016; Atkinson 2017; see also forthcoming special issue of *European Societies* edited by Vandebroeck).[2] A couple of Scandinavian studies thematise divisions within the upper echelons, often drawing inspiration from Bourdieu (1988, 1996) and employing MCA (e.g. Hjellbrekke et al. 2007; Denord et al. 2011; Flemmen 2012; Ellersgaard, Larsen and Munk 2013).

In analysing the structural properties of a Norwegian field of power identified through survey data, Hjellbrekke et al. (2007) have documented a differentiation between (i) economic capital (ii) cultural and social capital and (iii) a division existing between organizations, politics and culture versus judicial positions. As far as inherited capital is concerned, they have found that the field of power is clearly divided between 'the newcomers' and 'the established' according to the level of privilege of one's family origin. This opposition is also evident in Flemmen's (2012) analysis of divisions within the economic upper class in Norway. In terms of institutionalized social capital (e.g. board or committee membership), Denord et al. (2011) have demonstrated widespread variation; the sectors that take part in the tripartite system have been found to be the most highly integrative element – *the core of the core* – with frequent multipositional individuals. Together, these studies demonstrate the capacity of MCA to reveal differences *within* classes. I aim to build on this by highlighting the relationship between the intergenerational accumulation of forms of capital and mature class destinations.

Although many studies focus on the possession of inherited capital, the primary interest in the literature appears to be the space of positions of individuals (e.g. Lebaron 2001; Hjellbrekke et al. 2007; Bühlmann, David and Mach 2012; Flemmen 2012) and not divisions due solely to origins. In contrast, I will restrict the MCA to capital indicators of parents and

kin as opposed to resources that are acquired from personal involvement in the labour market, the education system or property relations; this facilitates an analysis of the relationship between class *origins* and class *destinations* as is conventional in studies of class mobility. By constructing a distinct 'origin space', I tap into *intergenerational* resource accumulation, thereby adding to recent studies showing important differences in the capacity to accrue advantages as a function of class origins, even within the upper class or the privileged service class. For instance, Friedman, Laurison and Miles (2015) have shown that there is a specific 'class ceiling' for elite occupations in Britain where parental class origins stratify a pay gap within the service class, a phenomenon that Flemmen (2009) and Hansen (2001) have also demonstrated in Norway.

Variations between the privileged have also been found in *forms of capital* evident in capital-specific mobility barriers in upper class reproduction. The upper class is reproduced over generations, but children tend to be recruited to their parents' upper class fraction (Flemmen et al. 2017). Regarding social networks, Li, Savage and Warde (2008: 407) have found that second-generation members of the service class have stronger ties to high status individuals than their upwardly mobile peers. However, social capital and resources may be 'ascribed' beyond any strict transmission from parents. For instance, studies from Norway suggest that social capital may be acquired through the class position and occupation of partners and siblings (Hansen 2009) and neighbourhood contexts (Toft and Ljunggren 2016). As the sources of such potential networks are neighbours, partners or siblings, and not personal engagement in market and property relations, I have included them in the present study of 'inherited' forms of capital.

Temporality and the class structure

In addition to analysing the intergenerational accumulation of resources as indicated by divisions in class origins, a second aim of this analysis is to focus on temporal order, time and duration by approaching class destination as a sequence of class events, rather than by selecting one snapshot. Although the durable nature of structures of power and domination forges social classes, time itself appears to be consistently underappreciated in the methodological tools employed by class analysts. Studies of class mobility often rely on a snapshot approach (Halpin and Chan 1998; Abbott 2006; Bühlmann 2010), using mobility tables or regression analysis. Indeed, trajectories are often measured by proxy, for example when one or two points in time are assumed to be sufficient indicators of class destinations. For instance, Goldthorpe (1987: 70-2) suggests that the age of 35 indicates an age of 'occupational maturity' that is sufficient for class analysis as it indicates a 'marked falling off in the probability of job changes involving major shifts of occupational level.' Although this specific point in time may denote a cessation in the degree of occupational change in one's class career, the notion of occupational maturity downplays different pathways to this point and possible instability in mature careers.

In the Bourdieusian approach, however, trajectories are an essential element in how class divisions are constituted in society. This partly reflects the notion that strategies of capital conversion and accumulation are a focal point of analytical interest (Bourdieu 1986; Savage, Warde and Devine 2005) and the related theoretical importance of the embodiment of one's social experiences and milieux in habitus. However, a similar emphasis on biography is arguably also evident in the broader stream of mobility research. As Bühlmann (2010) has pointed out, Goldthorpe's early research into class mobility was guided by an understanding of processes of the 'demographic' and 'socio-cultural' identity of classes, a biographical component that is inadequately accounted for by mobility tables and log-linear models.

However, the operationalization of career paths in an MCA framework has also tended to disregard the order and timing of events (see for instance the trajectory modalities of Lebaron (2001); Hjellbrekke et al. (2007); Ellersgaard, Larsen and Munk (2013)).

In contrast, sequence analysis (SA) can trace pairwise similarities and differences between comprehensive sequences of events. It does so holistically in that it captures similarities between sequences, accounting for the whole list of states (Abbott 1995, 2001; Halpin 2014). Consider for instance two sequences, S1 and S2, measured at five points in time and consisting of three different types of states: UW (unskilled working class), MC (middle class) and UP (upper class). If S1 consists of the following: UW-MC-MC-UP-UP and S2; UP-UP-MC-MC-UW, the two share similar *types* of states of equal *duration*, yet the *order* and *timing of states* differ radically and arguably connote vastly different life experiences and life chances.

Although Halpin and Chan (1998), two decades ago, argued that SA had a promising future in studying class mobility, relatively few studies have used this tool for this purpose (but see e.g. Chan 1995; Bühlmann 2010; Bison 2011; Bukodi et al. 2016). Of particular relevance for the present study is Bühlmann's (2010) analysis of pathways to the British service class as he draws attention to different class fractions separating the careers of managers, professionals and associate professionals. He finds that the most notable feature that distinguishes service class careers is a distinction between direct and more time-consuming and tortuous pathways, and this distinction is primarily linked to gender rather than class fractions. Following the notion of class destinations as a sequence, I seek to add to this body of research by analysing how different upper class careers may be stratified by one's class origins. As noted by Andrew Abbott (2001:123-4), one of the key deficiencies of SA is its inability to *situate* different careers in the social structure.[3] Combining MCA and SA, however, allows such careers to be 'embedded' in a relational structure of difference. In

addition, I employ SA to construct indicators for the origin space when the data allow for this. Most forms of capital vary over time and I therefore utilize SA to construct typologies of 'inherited' capital, rather than having to select one point of measurement.

Aims of the study and empirical expectations

The aim of this study is twofold. First, an emphasis is placed on the intergenerational accumulation of resources by constructing an 'origin space' consisting of multiple forms of capital pertaining to kinship ties. Second, the relationship between class origin and class destination is explored by analysing whether divisions in 'inherited' capitals correspond to temporally structured class careers. Rather than relying on temporal snapshots, using SA makes visible different types of 'destination careers' according to differences in the temporal unfolding of class events. In combination, therefore, the aim is to tap into the third dimension in Bourdieu's original model of social space and thus quantitatively explore upper class trajectories.

In light of existing research, it is expected that – even among those who reach the upper class – i) there will be divisions in the inherited capital profiles in the volume and forms of capital. Moreover, as inherited forms of capital can be expected to offer the opportunity to accrue profits, it should also be expected that ii) individuals from capital-rich origins can ensure stability in their upper class career. It is also expected that there will be a tendency to iii) follow the capital-specific footprints of one's parents, where forms of parental capital are associated with capital-specific destination careers.

Methodology and research strategy

Data: Constructing the subpopulation

Comprehensive datasets are needed to assess how upper class trajectories are differentiated along inherited capitals and temporal patterns of class careers. In ordinary sampled surveys, the upper class is typically few in number or absent, but data collated from official registers in Norway allow data to be analysed about the entire population. These data also allow for the studying of temporal unfolding as they typically contain information at multiple points in time. In the following, I thus aim to exploit the advantages offered by these data. I construct a subpopulation of everyone who gained an upper class affiliation at least once between 2003–2012, as occupational information is available only for this period. To maintain a subpopulation of similar ages, the cohorts for 1962–1965 have been retained and the 'destination careers' of these individuals are measured at a mature age; this appears reasonable as upper class positions may take some time to acquire during the life course.[4] This leaves an average of 4,580 individuals from each cohort (less than 6%), 72% men and only 27% women.

(Figure I about here)

The definition of an upper class position is derived from the Oslo register data class scheme (ORDC). It provides a useful distinction between upper class fractions based on whether one's class position predominantly relies on economic or cultural capital. The classification scheme with examples of occupations is shown in Figure I. The occupational classification follows a logic differentiating between capital volume (indicated by the vertical divisions between the upper class, the upper and lower middle class, the skilled and unskilled working class and a group receiving social security) and capital composition (indicated by the horizontal divisions between class fractions among the upper and middle classes). The scheme is based on an occupational classification but is complemented with data on income from

Norwegian tax registers. This allows for the self-employed, proprietors and rentiers to be identified (as indicated by shares of capital income and self-employed income) as well as differentiating between hierarchized divisions in the economic fractions (where the relative income serves as a proxy for capital volume). Information about different forms of income is also utilized to identify recipients of social security as well as individuals involved in farming, fisheries and forestry (Hansen, Flemmen and Andersen 2009). Everyone selected for the analysis has gained an upper class affiliation at least once in the period around their forties. The analytical aim is to account for differences in the trajectories of this group by establishing differences in origins and link these to types of destination careers.

Methods: MCA and SA

I use specific MCA to explore divisions in class origins. MCA is a technique used to reveal latent structures between multiple categorical variables, depicted by a multidimensional space consisting of the fewest possible dimensions that capture the main patterns in the data. Two clouds result from this approach; one of individuals and one of categories, where distances denote dissimilarities. In the cloud of categories, this implies that categories that are close are often shared by the same individuals, while closeness in the cloud of individuals denotes individuals who tend to be characterized by similar categories (Le Roux and Rouanet 2010).[5]

The variation in the active variables affects the construction of these dimensions, while supplementary variables may be projected onto the space to visualize other characteristics that coincide with the distribution of active variables in the data. Such supplementary variables are 'weightless' in the sense that they do not affect the distribution of active points and the construction of the space. The analytical strategy is twofold; in the first step, I analyse how 'inherited' forms of capital are structured among individuals with upper class affiliations. This

question is pursued by means of specific MCA.[6] In the second step, however, I investigate how this space is related to differences in upper class careers, where the 'origin space' is read as a 'predictive map' (Lebart, Morineau and Warwick 1984: 100-8) that is correlated with a 'dependent variable' – 'destination career' – inserted as a supplementary variable. It is thus possible to assess whether individuals who typically 'inherit' different resources from their parents also tend to differ in the types of class careers they experience in adulthood.

I employ SA to construct time-varying categories in the 'origin space' and for 'destination careers'. The aim of SA is to quantify how similar each pair of sequences is in temporal ordering, timing and duration. I utilize the optimal matching procedure which is based on converting each sequence into the other through an algorithm that assigns costs for substituting, deleting and inserting elements from each sequence. These costs may be theoretically or statistically motivated. The result of the procedure is a matrix that indicates how dissimilar each sequence pair is. It is customary to employ cluster analysis as a means to create a typology from this matrix. In the present analysis, I utilize a combination of the Ward linkage and PAM (partitioning around medoids) for the cluster analyses (Studer 2013). Appendix I provides an overview of the relevant statistics that have guided the cluster solutions chosen and includes information about the substitution costs for each sequence analysis.

Variables

To construct the intragenerational class careers – the 'destination careers' – I use the 10-year period when occupational information is available in the data and utilize sequencing and clustering techniques to create a typology. The different states in the sequence analysis (the 'alphabet') consists of the three upper class fractions and the three upper middle class fractions as well as one state for all class positions that are 'vertically' lower in the ORDC

scheme (see Figure 1). I assign theoretically informed substitution costs that highlight the vertical and horizontal dimensions of the class scheme (see Toft 2017 for further details). This implies that it is more costly to substitute elements in a sequence that corresponds to class positions that are distant both vertically and horizontally in the class scheme in comparison to class positions that are adjacent in the class structure.

As the problems associated with the snapshot approach to measuring class destinations also arguably apply to operationalizing origins at one more or less randomly chosen point in time (Sørensen 1986; Abbott 2006), I attempt to capture a temporal dimension in terms of parental resources that typically change over time. I thus use sequencing and clustering techniques to distinguish between the typologies of: a) parental income between 1977–1988;[7] b) gross taxable parental wealth, fixed and financial, between 1993–2002;[8] and, c) the level of affluence in the neighbourhood between 1989–2002 based on the mean adult income within small-scale area units as constructed by Statistics Norway (1999). For these analyses, the alphabet consists of cut-off points in the annual percentile distributions at p10, p20, p50, p80 and p90. In combination, these variables reveal not only differences in the forms of resources but also differences as a function of the duration and timing of the resources available.

Table I presents an overview of the substantive content of each sequence typology constructed for the 'origin space'. Typical features of each cluster are shown by using three sources of information: i) the medoid, denoting the most central sequence in the cluster (i.e. the sequence that is the least distant from all others in the set); ii) the mean maximum and minimum occurrence of each state; and, iii) the median complexity of each cluster. This third point indicates the level of diversity within each cluster; this is based on the sequences displaying differences in transitions between the various states and differences in the time spent in them. The complexity index has a value of 0 when a sequence consists only of one

state and has a maximum value of 1 (Gabadinho et al. 2011). These sequence typologies are hierarchized, as their labels allude to (e.g. neigh: bottom, neigh: 2, neigh: 3 and so forth).

(Table I about here)

In addition to the time-varying variables, I include variables that are only measured at one point in time; parental occupational industry is collected from the 1980 census, parental education (length and fields of study) is measured when the child was 16 years of age, and resources made available through siblings and/or a partner are measured in year 2003. The indicators in the 'origin space' consist of 14 variables with 60 active categories. These are heuristically differentiated into different forms of capital along blocks of economic capital (17) cultural capital (15) and social capital provided by parents (13) and one's extended social milieux (15). I define parental occupational industry as social capital and suppose that it acts as a proxy for the availability of specific networks and acquaintances. Naturally, these categories also point to some level of embodied cultural capital and are not 'exclusively' related to social capital. Table II shows the frequencies and percentages for each variable.

(Table II about here)

Figure II depicts the temporal dimension of the analytical design and highlights the cohort-specific ages when different capitals are measured. Note that the availability of data limits the time period for the observation of these resources.

(Figure II about here)

Descriptive statistics for the 'destination careers'

The destination careers may be depicted by a typology of seven.[9] About half of these careers are characterized by stable affiliations to each upper class fraction (see Figure 1). Such careers typically involve academic tracks in the cultural fraction (cultural: stable), elite professions in the balanced fraction (balanced: stable) and highly paid executives or proprietors in the economic fraction (economic: stable). Table III shows the defining features of each career type with substantive examples.

(Table III about here)

The proportion of women in each cluster testifies to the dominance of men in the economic fraction, which is especially evident in comparison to the cultural upper class. The cultural upper class is also characterized by the least turbulent careers as seen in the complexity index. Note that some diversity in the stable careers in the economic fraction of the upper class may be an artefact of the model due to the relative income criterion applied in the class scheme (see Toft 2017 for a further discussion). The next career types denote both short-range and long-range career mobility as also shown by the complexity index. Short-range mobility between the upper class and the upper middle class is identified for the balanced (balanced: mobile) and the economic fraction (economic: mobile).

The long-range mobility careers feature a longer time spent in the lower regions of the class structure, primarily connoting either long-range upward mobility (late arrival) or more discontinuous and/or short spells of upper class affiliations (short-term affiliation). The 'late arrival'-cluster typically reflects a career progression from electricians or machine operators to engineering positions. Given the biographical timing during which these careers are measured, this cluster signifies late entry into the upper class. The 'short-term affiliation' cluster is primarily characterized by short spells of upper class affiliation and a longer time spent in the lower regions of social space. Substantively, this cluster is more heterogeneous

and includes for example an unstable affiliation to the economic upper class – possibly reflecting an inability to secure long-term economic profits in the business sector – but also more temporary positions such as senior officials in political and interest organizations who tend to hold positions of limited tenure or who rely on re-election for prolonged affiliation. Arguably, this cluster is also the most likely to include sequences that are vulnerable to misclassification in the class scheme or inaccuracy in the registers. Such deficiencies, however, are likely to underestimate, rather than exaggerate, the association between parental capital and destination careers.

In sum, then, the destination careers reflect mobility barriers vertically – separating long-range and short-range career mobility from more stable careers – and horizontally, pertaining to fraction-specific careers (see also Toft 2017).

The 'origin space' of the upper class

Which divisions structure the origins of individuals with upper class affiliations in adulthood? A space consisting of two dimensions manages to capture the main patterns in the data as these dimensions combined amount to 75% of the modified rates.[10] However, the first dimension alone reaches a modified rate of 61%, reflecting that it is dominant in the structuring of the space.

The dimensions are interpreted by means of categories that contribute above averagely to the construction of the given axis. Figure III depicts these categories for the first dimension, while Figure IV displays the key contributing categories for the second dimension. Along the first axis, the visible categories have a cumulated contribution of 74%, while the categories in Figure IV contribute 83%.

(Figure III about here)

The first dimension, depicted horizontally in the graph, represents an opposition along the *capital volume* of either type of capital; on the left-hand side, there are low levels of parents' education but also low levels of economic capital. As one moves from the left-hand to the right-hand side, one can see for instance that fixed wealth, income and the length of parental education increase correspondingly. As a visual aid, lines for the ordered categories have been drawn and help illustrate how the first dimension reflects a division along capital volume. The categories for parental fields of study and occupational industries suggest that this division is entwined with a distinction between primary and secondary industries on the left-hand side and tertiary industries on the right. The right-hand side of the graph thus differentiates between individuals whose parents typically have favourable income and wealth trajectories and who tend to have, specialized educational qualifications and work in the tertiary industries. To the left-hand side, there are individuals whose parents typically do not have higher education, who have relatively modest incomes and who tend to be involved in the primary and secondary industries.

A closer examination reveals that the first dimension largely reflects differences in parental cultural capital (a contribution of 48%) – primarily as a function of parents' length of education (34% contribution) – and secondly economic capital (23% contribution). Parental social capital contributes 18% and extended social capital 11% (see Appendix III for details of the categories that contribute above average). Accordingly, the most important difference between Norwegians who reach the upper levels of the class structure is between those whose origins were characterized by large volumes capital and those whose did not.

(Figure IV about here)

The second dimension differentiates between *types of capital*, i.e. between holdings of economic and cultural/balanced capital. It separates individuals whose parents and siblings are involved in the economic domain; they typically have top levels of income, high financial and fixed wealth; they also tend to have shorter educational qualifications in business and administration and employment in banking and finance or commerce and the distributive trades. Such individuals also tend to have spent the period from their mid/late twenties to their forties living in persistently affluent neighbourhoods.

Arguably, the clustering in the top section of this space reveals a diversification of each form of capital that pertains to the economic domain, whether economic capital (top level wealth and income trends), social capital (industries of finance and distributive trades, siblings in the economic upper class and affluent neighbourhood trajectory) or cultural capital (business and administrative qualifications). However, individuals whose origins are typically affiliated to the economic domain are relationally distinct from those whose origins seem affiliated to the cultural or balanced domain. Although fathers with lower secondary schooling can also be found in the lower segments of the space, there is a clear tendency for there to be parental cultural capital consisting of higher education in the humanities, social science, law or pedagogy and industrial origins in the educational and health sector. Arguably, this dimension also partly reflects a sectorial division between the private sectors (in the upper regions of the space) and the public sector (in the lower regions).

The 'economic logic' behind the vertical dimension is corroborated by the lines showing parental accumulation of financial wealth and the affluence of the neighbourhood trajectory, as well as by the fixed wealth and income lines in Figure III. Interestingly, parental income trends contribute only relatively modestly compared to wealth; whereas the combined contribution of both wealth trends amounts to 23% along the second dimension, parental income trends contribute only 7%. In combination, economic capital contribute 30% along

axis 2, whereas cultural capital contributes 36%. Rather than parental educational length, however, educational fields (21%) contribute the most to the dimension along the indicators of cultural capital.

The 'origin space' is therefore patterned along two dimensions. First, there is a clear distinction between those whose kin possess low levels of capital and those whose parents and siblings possess high volumes of resources. On the right-hand side of the space, there are top level educational qualifications, financial assets associated with tertiary industries and siblings in upper class networks; such capital profiles are relationally distinct from the categories of low capital volume and parental origins in the primary and secondary industries on the left-hand side. The second dimension separates individuals typically originating in the economic domain from the other types of capital. Accordingly, although each individual included in the analysis gains an upper class position at some point, there are important differences in their origins. How is the structure of this 'origin space' linked to different types of 'destination careers'?

Mobility closure in upper class trajectories

In Figure V, the typology of different 'destination careers' is projected onto the 'origin space'. This projection means that these career modalities do not affect the structuring of the space but demonstrate the mean position of each class career given the divisions in origins. The projection therefore unveils whether individuals who typically have origins with different levels and types of capital tend to experience different upper class careers. Along the horizontal dimension that differentiates between origins in terms of the volume of capital, there are stable, upper class careers in each class fraction to the right, whereas discontinuous or mobile upper class careers are to the left. Along the vertical dimension that differentiates

between origins in terms of the composition of capital, careers in the economic fraction are at the top, whereas careers that dominate the other fractions are at the bottom.

(Figure V about here)

Test values allow one to judge whether each class career is statistically associated with each dimension (Lebart 2006). The destination careers are significantly structured in the origin space ($p = 0.001$), apart from the 'short-term affiliation' career that is insignificantly associated to the second dimension. The capital volume dimension is most clearly associated with the 'short-term affiliation' career ($t = –19$) and thereafter with the stable careers in the balanced fraction ($t = 16$) and the cultural fraction ($t = 16$). The capital composition dimension is most clearly associated with the stable career in the economic fraction ($t = –20$) and thereafter with the stable career in the cultural fraction ($t = 11$). There is thus a statistically significant relationship between the origin space and the destination careers.

To assess how large the distances *between* the destination careers are, I follow the rule of thumb proposed by Le Roux and Rouanet (2010: 59) which suggests that distances between categories are 'notable' if they are greater than 0.5 standard deviation and 'large' when greater than 1 standard deviation. Thus, the 'short-term affiliation' career is notably distinct from the mean points of all stable upper class trajectories within the economic (0.6), cultural (0.8) and balanced (0.7) fractions along the first dimension. Similarly, the 'late-arrival' career type is notably distinct from the stable careers (0.6 from the balanced, 0.7 from the cultural and 0.5 from the economic fraction). This suggests that the volume of inherited capital tends to differentiate between those who have stable positions within the upper classes in adulthood and those whose careers are characterized by long-range career mobility and thus more work experience in the lower regions of social space. In addition, the typical career that

is predominantly located in the economic upper middle class (economic: mobile) is also notably distant (0.5) from a typical career in the cultural upper class (cultural: stable).

Along the capital composition dimension, there are notable distances reflecting careers in different class fractions; those who experience stable careers in the economic fraction of the upper class are notably distinct from those in the cultural fraction (0.5) but they are also notably distinct from those whose careers are typically within the balanced upper middle class (0.5) and the balanced upper class (0.5). In other words, people from families rich in economic capital tend to be the most likely to experience stable careers in the economic upper class rather than involvement in the cultural or balanced fractions and vice versa.[11]

Discussion and conclusion

This paper has explored the trajectories of the Norwegian upper class in terms of their 'inherited' resources and upper class careers. This extends the conventional approach to studying upper class reproduction by establishing a relationship between class origins and class destinations. In contrast to most earlier work, the analytical strategy emphasizes the existence of a relational structure of parental capital that may stratify class destinations. Rather than measuring destination in a snapshot manner, class careers have been identified and the combination of MCA and SA has allowed for an 'embedding' of the upper class careers in a social space. This helps elucidate the principles that differentiate them and taps further into patterns of mobility closure.

The analysis has revealed key divisions in the origins of those who reach the upper class, the most important of which is the opposition between volumes of parental capital – between 'the newcomers' and 'the established', as shown by earlier studies (Hjellbrekke et al. 2007; Denord et al. 2011; Flemmen 2012). Along a second dimension, origins in the economic fraction are differentiated from those in the cultural/balanced fractions.

Accordingly, Norwegians with upper class affiliations in adulthood are not only stratified by the amount of 'inherited' resources possessed but also by the *types* of capital possessed. Linking such divisions to intragenerational 'destination careers' reveals that divisions in 'inherited' forms of capital are associated with different destination profiles, in terms of both temporality and capital specificity. This is not a clear-cut relationship, although notable and statistically significant differences can be observed along both dimensions.

First, patterns of mobility closure – as indicated by a relationship between one's origin and destination career – are evident along the dimension of *capital volume*. The likelihood of experiencing stable careers as opposed to careers that involve work experience in the lower regions of the social space is notably associated with differences in family volumes of capital. 'The established' tend to have more stable careers in the upper regions of social space than the class careers of 'the newcomers'. This draws attention to an important temporal dimension in patterns of class mobility; it seems as though the inherited capital given to 'the established' enables them to ensure prolonged, stable attachment to the upper class. This may reflect economic inheritance in the economic domain (especially since upper class affiliation partly denotes high income), but it also probably reflects additional advantages 'inherited' through privileged upbringings such as profitable networks and embodied dispositions that increase the likelihood of stable careers.

'The newcomers' to the upper class, however, are more likely to have had work-life experience in the lower regions of social space and careers that feature either biographically late arrival into the upper class – typically having to 'work up the ladder' in the chain of command within technical work – or discontinuous and short-term upper class affiliations. The discontinuous affiliations possibly signify that 'the newcomers' seem disproportionately likely to access powerful positions through representative bodies but also that there is a tendency for failed attempts at prolonged success within the business sector. A recent study of

the Forbes rich lists has found, for instance, that newcomers are less likely to remain on the list in successive years compared to inheritors of wealth (Korom, Lutter and Beckert 2017). Thus, the notion of a 'class ceiling' at the top of the class structure as emphasized by existing research (Friedman, Laurison and Miles 2015) also seems to be reflected in a temporal patterning of upper class destination careers. The *temporal logics* to such 'class ceiling' mechanisms are hard to detect with conventional understandings of class mobility, especially when measured by temporal snapshots. Importantly, the division between the stable careers of 'the established' and the late arrival/short-term affiliations of 'the newcomers' remains neglected in research designs that rely on 'occupational maturity' in one's mid-thirties. Although occupational changes may be less frequent in mature careers, career stability nonetheless seems to signify important differences in the biographical experiences of the upper class (see also Toft 2017).

Second, mobility closure appears to be patterned not only by the *volume* of inherited resources; it is also evident along the dimension of *capital composition*. When following the vertical opposition between origins in the economic as opposed to the cultural/balanced domain, there are notable, statistical differences in the likelihood of having stable careers in the economic fraction as opposed to stable careers in the cultural and balanced fractions of the upper class; this indicates tendencies for capital-specific mobility closure *among* 'the established'. This distinction seems to echo a cementation of class cores that are characterized by what Goldthorpe – following Sorokin – has identified as having both a '"hereditary" and a "lifetime" affiliation' (Goldthorpe 1984: 37). However, the mobility patterns suggest the existence of multiple *capital-specific cores* rather than one integrated upper class core. This pinpoints the sociological significance of capital composition as an important dynamic in class structuration in contemporary societies. Different types of parental capital seem to serve as specific 'market capacities' – to use the words of Giddens – that enable privilege in

different societal domains (see also Flemmen et al. 2017). Class-fraction homogeneity in the biographical experiences of 'the established' may also amount to divisions between the cores of the upper class at an associational level, given that class fractions have been shown to be differentiated by their tastes and lifestyles (e.g. Flemmen Jarness and Rosenlund 2017; Atkinson 2017). Whether the biographical differences observed – evident in the upper class cores that separate 'the established' or the temporal patterning that differentiates 'the newcomers' from 'the established' – become manifested in the habitus, thus facilitating different forms of position-taking, calls for further study.

Research into upper class reproduction should recognize class (im)mobility as a *process* that unfolds over time (Sørensen 1986; Abbott 2006). Thus, the Bourdieusian emphasis on trajectory serves as a reminder that life chances flowing from different forms and types of capital structure distinct life biographies. It not only allows one to identify the tendencies for late arrival/short-term careers among 'the newcomers', but also allows one to identify *multiple* cores of the upper class that seem patterned by the lifelong attainment of privilege in different societal domains. Hence, merely registering accessing the top segments of the class structure downplays the extended reach and durability of a *capital-specific logic* in contemporary societies. Arguably, understanding how privilege is maintained and reproduced over time by focusing on a lifelong accumulation of forms of capital should be a key task in analysing the social make-up of power.

Notes

[1] The MCA was performed with the SPAD 9.0.26 software (www.coheris.fr) whereas the SA was performed with the R-package TraMineR (Gabadinho et al. 2011).

[2] Within the tradition of status attainment, de Graaf and Kalmijn (2001) have emphasized cultural and economic resources as constituting a two-dimensional occupational hierarchy.

[3] A similar warning against neglecting the structural properties of biographies is voiced by Bourdieu (2000).

[4] For example, stable careers in the economic fraction have been found to occur later in the life course than stable careers in the balanced fraction of the upper class (Toft 2017).

[5] Due to limitations of space, I present only the cloud of categories as a means to interpret divisions in class origins, but the cloud of individuals is available upon request.

[6] I use specific MCA that allows redundant or missing values to be set as passive, while retaining the sociologically meaningful information in the active variables. Here, this includes all missing values, such as being an 'only child' or 'single'. In addition, the values for educational fields in 'general studies' are set as passive due to a complete overlap with the lowest educational level.

[7] The years chosen reflect the rates of missing observations. In successive years, parents are more inclined to be retired.

[8] Fixed wealth includes fixed assets such as real estate, land and ownership of unincorporated businesses, whereas financial wealth indicates stocks, bonds and bank deposits.

[9] The construction of this typology closely follows the procedure in Toft (2017). However, some differences are evident; here, the cohorts are pooled in one analysis and I include one additional cluster in the typology that allows for the differentiation of two types of long-range career mobility.

[10] The modified rates can be seen as an index of the departure from the situation where all eigenvalues are equal (Le Roux and Rouanet 2010: 40). See Appendix II for the eigenvalues and the modified rates. The third axis also suggested a Guttman effect (the cloud resembles a horseshoe), meaning that the 1-3 plane must be interpreted globally, i.e. that the axes describe a rank-order, unidimensional hierarchy.

[11] Post hoc ANOVA tests of the coordinates reveal statistically significant differences between the categories highlighted for both dimensions in the cloud of individuals (results available upon request).

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Table I Description of each sequence typology for the 'origin space'

Label	Medoid sequence† (state,#years)	Mean state† (max)–(min)	Median complexity	Substantive example
Neighbourhood trajectory 1989–2002				
neigh: bottom	(B,3)–(A,11)	(A,58%)–(F,1%)	0.39	Relatively impoverished neighbourhoods
neigh: 2	(C,14)	(C,56%)–(F,1%)	0.43	Persistent residency in below-median areas
neigh: 3	(D,14)	(D,66%)–(A,2%)	0.36	Persistent residency in above-median neighbourhoods
neigh: 4	(E,1)–(F,3)–(E,3)–(D,7)	(D,33%)–(A,2%)	0.48	Less affluent neighbourhoods at the end of one's thirties
neigh: 5	(D,7)–(F,2)–(E,1)–(D,4)	(E,33%)–(A,2%)	0.49	From above-median to more affluent areas during one's early thirties
neigh: top	(F,14)	(F,68%)–(A,0%)	0.30	Persistent residency in very affluent areas
Parental income trajectory 1977–1988				
inc: bottom	(A,9)–(B,1)–(A,1)–(B,1)	(A,68%)–(E,1%)	0.31	Persistent spells of relatively low income
inc: 2	(B,1)–(C,1)–(B,5)–(C,1)–(B,2)–C,2)	(B,51%)–(F,1%)	0.43	Upwardly income trajectory from low income to below median income
inc: 3	(C,9)–(D,1)–(C,2)	(C,75%)–(F,0%)	0.27	Persistent spells of below median income
inc: 4	(D,12)	(D,77%)–(C,1%)	0.25	Persistent spells of above median income
inc: 5	(E,1)–(D,2)–(E,2)–(D,1)–(E,6)	(E,57%)–(B,1%)	0.40	Upwardly income trajectory from above median income into p80-90.
inc: top	(F,12)	(F,80%)–(A,1%)	0.21	Persistent spells of top income
Parental fixed wealth trajectory 1993–2002				
fixed wealth: bottom	(A,10)	(A,78%)–(F,1%)	0.25	Low levels of fixed wealth over time
fixed wealth: 2	(B,2)–(C,1)–(B,4)–(C,1)–(B,2)	(B,65%)–(F,1%)	0.37	Below-median fixed wealth accumulation
fixed wealth: 3	(C,10)	(C,76%)–(F,0%)	0.28	Persistent levels of below-median fixed wealth
fixed wealth: 4	(D,10)	(D,79%)–(F,1%)	0.27	Above-median fixed wealth
fixed wealth: 5	(E,1)–(D,1)–(E,2)–(D,1)–(E,2)–(D,1)–(E,2)	(E,57%)–(B,1%)	0.46	Fixed wealth trajectories in the regions of above-median to top level wealth holdings
fixed wealth: top	(F,10)	(F,81%)–(B,0%)	0.23	Persistent spells of top fixed wealth
Parental financial wealth trajectory 1993–2002				
financial wealth: bottom	(A,7)–(B,1)–(A,1)–(B,1)	(A,60%)–(F,0%)	0.42	Low levels of financial wealth over time
financial wealth: 2	(C,10)	(C,64%)–(F,1%)	0.41	Below-median financial wealth accumulation
financial wealth: 3	(D,10)	(D,70%)–(B,1%)	0.36	Above-median financial wealth accumulation
financial wealth: 4	(E,10)	(E,63%)–(B,1%)	0.44	Financial wealth trajectories in the regions of above-median to top level wealth holdings
financial wealth: top	(F,10)	(F,82%)–(B,0%)	0.24	Persistent levels of above-median financial wealth

†Alphabet:	A	B	C	C	C	D	D	D	E	F
Annual percentile distribution:	0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	90–100

Table II Capital indicators in the MCA. Passive categories in italics and abbreviations for variable labels used in the figures in parentheses

ECONOMIC CAPITAL	**Freq.**	**%**
Income trajectory 1977-1988 (Inc)		
Inc: bottom	1,800	9.82
Inc: 2	1,908	10.41
Inc: 3	5,078	27.71
Inc: 4	4,902	26.75
Inc: 5	1,864	10.17
Inc: top	1,707	9.32
Missing	*1,066*	*5.82*
Total	18,325	100.00
Wealth trajectory: finance 1993-2002 (Finance wealth)		
Finance wealth: bottom	2,046	11.17
Finance wealth: 2	5,935	32.39
Finance wealth: 3	5,427	29.62
Finance wealth: 4	1,434	7.83
Finance wealth: top	1,572	8.58
Missing	*1,911*	*10.43*
Total	18,325	100.00
Wealth trajectory: fixed 1993-2002 (Fixed wealth)		
Fixed wealth: bottom	1,391	7.59
Fixed wealth: 2	1,817	9.92
Fixed wealth: 3	5,314	29.00
Fixed wealth: 4	4,741	25.87
Fixed wealth: 5	2,105	11.49
Fixed wealth: top	1,742	9.51
Missing	*1,215*	*6.63*
Total	18,325	100.00

CULTURAL CAPITAL	**Freq.**	**%**
Length of education: father (Edulength_f)		
Lower secondary	3,550	19.37
Upper secondary	8,313	45.36
Bachelor	3,199	17.46
Ma/Phd	2,832	15.45
Missing	*431*	*2.35*
Total	18,325	100.00
Length of education: mother (Edulength_m)		
Lower secondary	4,801	26.20
Upper secondary	9,623	52.51
Higher education	3,717	20.28
Missing	*184*	*1.00*
Total	18,325	100.00
Field of education: father (Edu_f)		
General studies	*5,610*	*30.61*
Humanities, socscience, law, pedagogy	1,997	10.90
Business & administration	1,879	10.25
Natscience, technical, health	6,009	32.79
Primary industries	960	5.24
Transport & communication	1,397	7.62
Missing	*473*	*2.58*
Total	18,325	100.00
Field of education: mother (Edu_m)		
General studies	*9,363*	*51.09*
Humanities, socscience, law, pedagogy	2,317	12.64
Business & administration	2,629	14.35
Natscience, technical, health, transport	3,804	20.76
Missing	*212*	*1.16*
Total	18,325	100.00

SOCIAL CAPITAL	**Freq.**	**%**
Industry: father (Ind_f)		
Oil, hydraulic, primary ind & construction	3,296	17.99
Manufacturing	3,919	21.39
Distributive trades & restaurants	2,445	13.34
Transport & communication	1,726	9.42
Bank, finance & insurance	1,319	7.20
Public admin: judicial & penal	2,210	12.06
Education & health	2,932	16.00
Missing	*478*	*2.61*
Total	18,325	100.00
Industry: mother (Ind_m)		
Oil, hydraulic, primary ind & construction	1,963	10.71
Manufacturing	1,307	7.13
Distributive trades & restaurants	3,024	16.50
Bank, finance & insurance	852	4.65
Public admin: judicial & penal	1,594	8.70
Education & health	5,799	31.65
Missing	*3,786*	*20.66*
Total	18,325	100.00

SOCIAL CAPITAL (non-parental)	**Freq.**	**%**
Sibling in upper class: culture (Sib culture)		
None	16,619	90.69
Yes	972	5.30
No siblings	*734*	*4.01*
Total	18,325	100.00
Sibling in upper class: balanced (Sib balance)		
None	15,778	86.10
Yes	1,813	9.89
No siblings	*734*	*4.01*
Total	18,325	100.00
Sibling in upper class: economic (Sib economic)		
None	16,398	89.48
Yes	1,193	6.51
No siblings	*734*	*4.01*
Total	18,325	100.00
Partner's class (Partner)		
Upper class	1,453	7.93
Upper middle class	3,157	17.23
Other class	5,387	29.40
Partner: missing class	*3,594*	*19.61*
Single	*4,734*	*25.83*
Total	18,325	100.00
Neighbourhood trajectory 1989-2002 (Neigh)		
Neighbourhood career: bottom	1,872	10.22
Neighbourhood career: 2	6,589	35.96
Neighbourhood career: 3	4,614	25.18
Neighbourhood career: 4	1,374	7.50
Neighbourhood career: 5	1,627	8.88
Neighbourhood career: top	1,214	6.62
Missing	*1,035*	*5.65*
Total	18,325	100.00

Table III Characteristics of the destination careers

Label	Freq.	%	♀ %	Medoid sequence† (state,#years)	Mean state† (max)–(min)	Median Complexity	Example careers
Cultural: stable	2252	12	46	(A,10)	A(83%)–C(0.4%)	0.00	Professors and other academics, architects
Balanced: stable	3890	21	33	(B,10)	B(83%)–D(0.9%)	0.14	Elite professionals; law, medicine and civil engineering
Economic: stable	2820	15	13	(C,10)	C(78%)–D(0.2%)	0.19	High income chief executives, financial intermediaries, rentiers
Balanced: mobile	2585	14	33	(E,9)–(B,1)	E(60%)–C(3%)	0.26	Careers among technicians and engineers
Economic: mobile	4223	23	21	(F,8)–(C,1)–(F,1)	F(65%)–A(0.8%)	0.34	Business professionals securing only modest success and economic rewards
Late arrival	1143	6	31	(G,5)–(F,1)–(B,4)	G(45%)–B(22%)	0.34	Machine technicians or electricians becoming civil engineers
Short-term affiliation	1412	8	32	(G,2)–(C,1)–(G,7)	G(72%)–D(0.9%)	0.29	Fall from grace in the economic domain, senior officials in political and interest organisations

†Alphabet: A=cultural upper class, B=balanced upper class, C=economic upper class, D=cultural upper middle class, E=balanced upper middle class, F=economic upper middle class, G=other/lower class

Appendix I Cluster statistics for different cluster solutions for each sequence typology. Chosen solution in bold

	PBC	HG	HGSD	ASW	ASWw	CH	CHsq	R2	R2sq	HC
Parental income trajectory 1977–1988*										
Cluster 4	0.75	0.91	0.91	0.43	0.43	4529	11343	0.44	0.66	0.05
Cluster 5	0.73	0.91	0.91	0.41	0.41	3922	10203	0.48	0.70	0.06
Cluster 6	**0.73**	**0.94**	**0.94**	**0.42**	**0.42**	**3811**	**10819**	**0.52**	**0.76**	**0.04**
Cluster 7	0.68	0.93	0.92	0.38	0.38	3528	10096	0.55	0.78	0.05
Cluster 8	0.64	0.92	0.92	0.38	0.38	3238	9361	0.57	0.79	0.06
Cluster 9	0.63	0.92	0.92	0.37	0.37	2976	8717	0.58	0.80	0.06
Parental financial wealth trajectory 1993–2002**										
Cluster 4	0.60	0.80	0.80	0.36	0.36	4384	12747	0.44	0.70	0.08
Cluster 5	**0.61**	**0.87**	**0.87**	**0.35**	**0.36**	**3975**	**12494**	**0.49**	**0.75**	**0.05**
Cluster 6	0.59	0.86	0.86	0.32	0.32	3398	10776	0.51	0.77	0.05
Cluster 7	0.53	0.85	0.85	0.28	0.28	3023	9661	0.53	0.78	0.06
Cluster 8	0.53	0.87	0.87	0.27	0.27	2767	9017	0.54	0.79	0.05
Cluster 9	0.51	0.87	0.87	0.27	0.27	2526	8303	0.55	0.80	0.05
Parental fixed wealth trajectory 1993–2002*										
Cluster 4	0.74	0.89	0.89	0.44	0.44	4660	10914	0.45	0.66	0.06
Cluster 5	0.73	0.91	0.91	0.44	0.44	4359	10982	0.50	0.72	0.05
Cluster 6	**0.75**	**0.95**	**0.95**	**0.47**	**0.47**	**4300**	**12733**	**0.56**	**0.79**	**0.03**
Cluster 7	0.69	0.93	0.93	0.42	0.42	4022	12119	0.59	0.81	0.04
Cluster 8	0.67	0.94	0.93	0.41	0.41	3622	11040	0.60	0.82	0.04
Cluster 9	0.65	0.94	0.94	0.41	0.41	3283	10124	0.61	0.83	0.05
Neighbourhood trajectory 1989–2002**										
Cluster 4	0.54	0.71	0.71	0.26	0.26	3263	9032	0.36	0.61	0.11
Cluster 5	0.54	0.76	0.76	0.25	0.25	2765	7930	0.39	0.65	0.09
Cluster 6	**0.53**	**0.79**	**0.79**	**0.24**	**0.24**	**2492**	**7325**	**0.42**	**0.68**	**0.08**
Cluster 7	0.47	0.77	0.77	0.21	0.21	2267	6734	0.44	0.70	0.09
Cluster 8	0.44	0.78	0.78	0.20	0.20	2094	6299	0.46	0.72	0.09
Cluster 9	0.41	0.78	0.78	0.19	0.19	1937	5849	0.47	0.73	0.09
Destination career 2003–2012†										
Cluster 4	0.58	0.75	0.74	0.32	0.33	3360	7472	0.35	0.55	0.12
Cluster 5	0.60	0.81	0.81	0.37	0.37	3626	8439	0.44	0.65	0.09
Cluster 6	0.61	0.88	0.87	0.40	0.40	3699	9144	0.50	0.71	0.07
Cluster 7	**0.61**	**0.90**	**0.89**	**0.40**	**0.40**	**3366**	**8608**	**0.52**	**0.74**	**0.06**
Cluster 8	0.59	0.90	0.89	0.39	0.39	3184	8249	0.55	0.76	0.06
Cluster 9	0.59	0.91	0.91	0.39	0.39	2955	7722	0.56	0.77	0.00

*substitution costs based on observed transition rates

**substitution and indel costs that emphasise common future

†theoretically informed substitution costs (see Toft 2017)

Appendix II Eigenvalues and Benzécri's modified rates

	Axis 1	Axis 2	Axis 3	Axis 4
Eigenvalue	0.253	0.150	0.128	0.111
Modified rate	61%	14%	8%	4%
Cumulative modified rate	61%	75%	83%	87%

Appendix III Contributions of explaining categories, ordered by contribution for positive and negative coordinates

AXIS 1

Positive coordinate	Contribution	Coordinate
Mother's length of education: higher education	10.382	1.346
Father's length of education: master/PhD	9.321	1.461
Father's occ. industry: education & health	7.064	1.250
Mother's ed. field: humanities, socscience, law & pedagogy	6.235	1.321
Father's ed. field: humanities, socscience, law & pedagogy	4.791	1.248
Parental income trajectory: top	4.360	1.287
Mother's occ. industry: education & health	3.518	0.627
Father's length of education: bachelor	2.871	0.763
Parental trajectory of fixed wealth: top	2.642	0.992
Sibling in the balanced upper class: yes	2.194	0.886

Negative coordinate	Contribution	Coordinate
Father's length of education: lower secondary school	4.791	-0.936
Mother's length of education: lower secondary school	4.576	-0.786
Father's occ. industry: oil, hydraulic, primary industries & construction	2.193	-0.657
Father's length of education: upper secondary school	1.872	-0.382
Parental income trajectory: bottom	1.862	-0.819
Parental income trajectory: 2	1.669	-0.753

AXIS 2

Positive coordinate	Contribution	Coordinate
Father's occ. industry: education & health	5.911	0.881
Father's ed. field: humanities, socscience, law & pedagogy	5.774	1.055
Mother's occ. industry: education & health	4.283	0.533
Mother's ed. field: humanities, socscience, law & pedagogy	4.200	0.835
Mother's length of education: higher education	3.836	0.630
Father's length of education: lower secondary school	2.977	0.568

Negative coordinate	Contribution	Coordinate
Parental trajectory of finance wealth: top	8.428	-1.437
Parental trajectory of fixed wealth: top	7.240	-1.265
Father's occ. industry: distributive trades & restaurant	6.324	-0.998
Father's ed. field: business & administration	5.931	-1.102
Mother's length of education: upper secondary school	4.050	-0.403
Parental income trajectory: top	3.969	-0.946
Mother's ed. field: business & administration	3.959	-0.761
Father's occ. industry: bank, finance & insurance	3.219	-0.969
Mother's occ. industry: distributive trades & restaurant	3.129	-0.631
Sibling in the economic upper class: yes	2.969	-0.979
Father's length of education: upper secondary school	2.767	-0.358
Neighbourhood trajectory: top	2.245	-0.844
Mother's occ. industry: bank, finance & insurance	2.085	-0.971