Trends and patterns of spatial polarization in Sweden 2000-2019: Is there increasing spatial polarization in Sweden?

Abstract

In this paper we explore the extent to which distinct types of life course trajectories are spatially sorted and how this sorting changed over the course of 19 years between 2000 and 2019. The analysis is based on a classification of all individuals aged 16-69 living in Sweden in the 1990-2019 period, using life-course data for five overlapping life-phases: 16-29, 25-39, 35-49, 45-59, and 55-69. In every year, the life course position of each individual is assessed on the basis of an age-relevant selection from 15 indicator variables that track educational progression, household status, economic status of the household, employment, retirement, and life status. Using information on these indicator variables a trajectory of up to 14 consecutive years, individuals have been classified into different life-course trajectory types with help of latent class analysis. Subsequently, the trajectory composition of local neighborhoods has been explored using individualized neighborhood approach that identifies the nearest 400 neighbors relative to 225,000 inhabited grid cells, and the computes the proportion belonging to different life-course trajectories. In the last step, the degree of spatial sorting is explored using the separation index, a measure of exposure. Much research looked at ethnic or socio-economic segregation, this paper offers a unique insight into spatial sorting along the life-trajectory lines.

Keywords: Life course trajectory, polarization, latent class analysis, longitudinal register data

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Background

A fundamental concern with respect to spatial polarization is its potential effects on social cohesion. One indication of negative effects on social cohesion are the electoral maps of the UK referendum and the US presidential elections (Johnston, Jones, & Manley, 2016; Johnston, Pattie, Jones, & Manley, 2017). These maps suggest that spatial polarization is connected not only to divergent socio-economic trends but also to divergent attitudes, values and world views. If this is the case, spatial polarization could make it difficult to reach agreement on fundamental policies in ways that could be harmful to, for example, well-functioning welfare-systems. Such concerns, thus, point to a need to address questions on the effects of spatial polarization on social cohesion (Magnusson & Andersson, 2005).

The way in which spatial polarization is conceptualized and measured also has implications for understanding its influence on social cohesion. Thus, there is a need to understand how differences in individual characteristics influence spatial sorting. Also, how the formation of attitudes, norms and perceptions is affected by the social composition of different residential communities. More specifically, we will analyse if there is a tendency for individuals who following similar life-course trajectories to cluster in space, and if individuals living in such trajectory-based clusters will tend to develop worldviews that set them apart from individuals in spatial clusters with a different social composition. An argument for adopting a life-course trajectory approach to spatial sorting is that residential decisions are strongly influenced by life-course considerations (Clark, 2013). But it is also the case that life-course trajectories are closely linked to one's social background, one's lifegoals and one's self-image. Trajectory-based spatial sorting, thus, can be expected to produce local communities of people that follow similar social careers and who also tend to think in the same way. The adoption of a life-course perspective, thus, can make it possible to cast new light on how spatial polarization can endanger/affect social cohesion.

Data and Methods

The literature on residential segregation has focused on ethnic segregation and income segregation. In this paper we analyze segregation between groups that follow different types of life course trajectories, that is we look at life trajectory-based segregation or how people following different life paths live together or apart. Our life course trajectory classification is generated using data-driven approach. We use longitudinal register with indicators on educational attainment, family structure, household economic status and labor market attainment, selecting indicators which are most relevant to different life phases. The reason for looking at multiple domains since one domain quite often is not sufficient to capture affluence or disadvantage – for example individuals who own their homes do not necessarily belong to most economic affluent class as housing prices vary significantly across the country. Similarly in our data we also observe very different trajectories leading to top income, where one difference is between single individuals and those who are married with children.

There are different motivations for focusing on the spatial sorting of individuals based on the type of life course trajectory they follow. First, by definition, a life course trajectory that an individual follows does not change from year to year. Instead, a specific trajectory represents a more permanent characteristic of an individual than, for example, cross-sectional indicators

of unemployment, social assistance recipiency, and even income or poverty, which in principle, can change from year to year. Being more permanent, it could be expected that a specific trajectory type may more strongly influence an individual's sorting into a specific residential neighborhood, compared to characteristics measured in a single year. This is so since a single year of high income or a single spell of unemployment will not necessarily result in a residential relocation to a high-income area, or to an area where the unemployment rates are high. It is more probable residential mobility is influenced by more permanent feature such as weak labor market attachment or having a secure high-income occupation. That is, analyzing segregation patterns for life course trajectory types brings the measurement of socio-demographic segregation closer to a theoretical conception of the way segregation processes are supposed to work.

In this paper we analyze to what extent there has been increased spatial polarization in Sweden during the 2000 to 2019 period using a classification of the Swedish adult population into typical socio-demographic, life course trajectories. The focus will be on individuals that are between 16 years and 65 years old, and we will use longitudinal register data that covers the 1990-2019 period. With this data, an individual can be followed for a maximum of 29 years, but we have chosen to look at 14-year long overlapping life phases, see Table 1.

Table 1 Life phases and their age spans.

Life phase	**Age span**
Transition to adulthood, TA	16 years to 29 years
Young middle aged, YM	25 years to 39 years
Middle middle aged, MM	35 years to 49 years
Late middle aged, LM	45 years to 59 years
Transition to retirement, TR	55 years to 69 years

In longitudinal register data, the life course of an individual is represented by the binary values that different indicator variables take at different points in time. In this study, we have selected indicators for the different life phases from a set of 15 variables that cover educational progression, household status, household economic status, employment and income, retirement, and life status. In each life phase, indicators have been selected in such a way that they are relevant for the specific life phase. See Table 2. The number of indicators per life phase is between 9 and 14, the highest number for the earliest life phases. In each life-phase, every indicator is observed once per each year, so that each indicator/age pair becomes one variable.

Table 2 Indicators

Indicator	**Definition**	**Life phases where used**
Educational progression		
Lower secondary	ISCED 1997 level 2	Transition to adulthood, Young adult
Upper secondary	ISCED 1997 level 3	Transition to adulthood, Young adult
Tertiary short	ISCED 1997 level 4	Transition to adulthood, Young adult
Tertiary long	ISCED 1997 level 5 or 6	Transition to adulthood, Young adult

Family status		
In a couple	Family status is married, in partnership or cohabitation with children	All life phases
With children	Family with children below 18 years or 18 years and older	All life phases
Being a child in the family	Role in the family is child, older or younger than 18 years	All life phases
Household economic status		
Social allowance	Family receives social allowance	All life phases
At risk of poverty	Equalized disposable income below 60% of the median	All life phases
Top income	Equalized disposable income in top decile	All life phases
Owner-occupied house	Residence in owner occupied home	All life phases
Employment and income		
Low income	Individual earned income lower than 40% of median ("economic sufficiency")	All life phases
Top income	Individual earned income in top decile	All life phases
In distress	Sick leave compensation, unemployment benefit	All life phases
Retirement		
Pension	Received old age pension that exceeds 0.49 of the total disposable income in a given year	Transition to Retirement

From this data, typical life course trajectories can be extracted using latent class analysis in MPlus software. The assumption of latent class analysis is that the probability of being in specific state with respect to the indicator variables is determined by membership in an unobserved latent class. Latent class analysis, thus, provides an efficient tool for capturing the information about life course trajectories that is contained in the register data. And since latent class membership determine the probability of being in a specific state with respect to multiple indicators at different points in time, latent classes also can be used to represent the underlying data in a very efficient way. Normally, the number of classes used in latent class analysis should be determined in such a way that the within-class correlation between variables has been eliminated. In the current study we have not been able to follow this approach, the reason being that with 5 different life phases, the number of different trajectory types could become so large that the result would be difficult to present in a meaningful way. Instead, we have decided to fix the number of classes in each life phase to five. This still will lead to a total of 25 different life-phase specific, life-course trajectory types.

To explore polarisation, we have computed the composition of the population in neighbourhoods that encompass the nearest 400 neighbours. This has been done for all the grid cells in our data, which amount to 225,000 observations. We have looked at year 2000 and 2019.

To analyse the degree of spatial polarization we use S, separation index, which has been advocated by Fossett in his 2017 book "New Methods for Measuring and Analysing Segregation". Separation index is equivalent to other measures of segregation such as eta squared statistic from analysis of variable. S indicated the proportion of variation in latent

class belonging that is explained by area of residence. Even distribution gives D equal to 0 since representation of different latent classes in each area (400-closes neighbours in our case) with reflect each latent class group's representation in the whole larger union (country in our case). Complete segregation gives S equal to 1. Areas of residence will consist of just one latent class area of residence will perfectly predict latent class belonging.

Identified trajectories: an example and an overview

Error! Reference source not found. presents an overview of the identified trajectories for one life trajectory: Late middle-class (age 45-59). Overall, in these life phases five types of trajectories have been identified. (1) Marginal trajectories, (2) Single trajectories where the common feature is that individuals are not in couples (3) Middle-class trajectories and (4) affluent trajectories. They have been given colours: grey, blue, red, and yellow. In Figure 1 we see that there is an affluent group that in this life phase reach very high levels of top earnings, close to 90%, and top equalized income, around 70%. They live in couples and in owner occupied housing, but in somewhat declining proportions toward 59 years of age. Similarly, there is a trajectory type corresponding to the middle class. It is similar to the affluent class trajectory in being in couples, increasingly being without children, and living in owner-occupied housing, but they have few with top earnings and few with top equalized income. One trajectory type is complementary to the middle class with the most pronounced difference being that they are not in owner occupied housing. There is also, as before, a trajectory type with singles, some of whom are in owner occupied housing. In the late middle age phase one vulnerable trajectory has been found and it differs markedly from the other trajectories. At age 59, 95% are in marginal employment, the poverty rate is close to 30% compared to near zero in the other trajectories. A high proportion is single, and most are not in owner occupied housing.

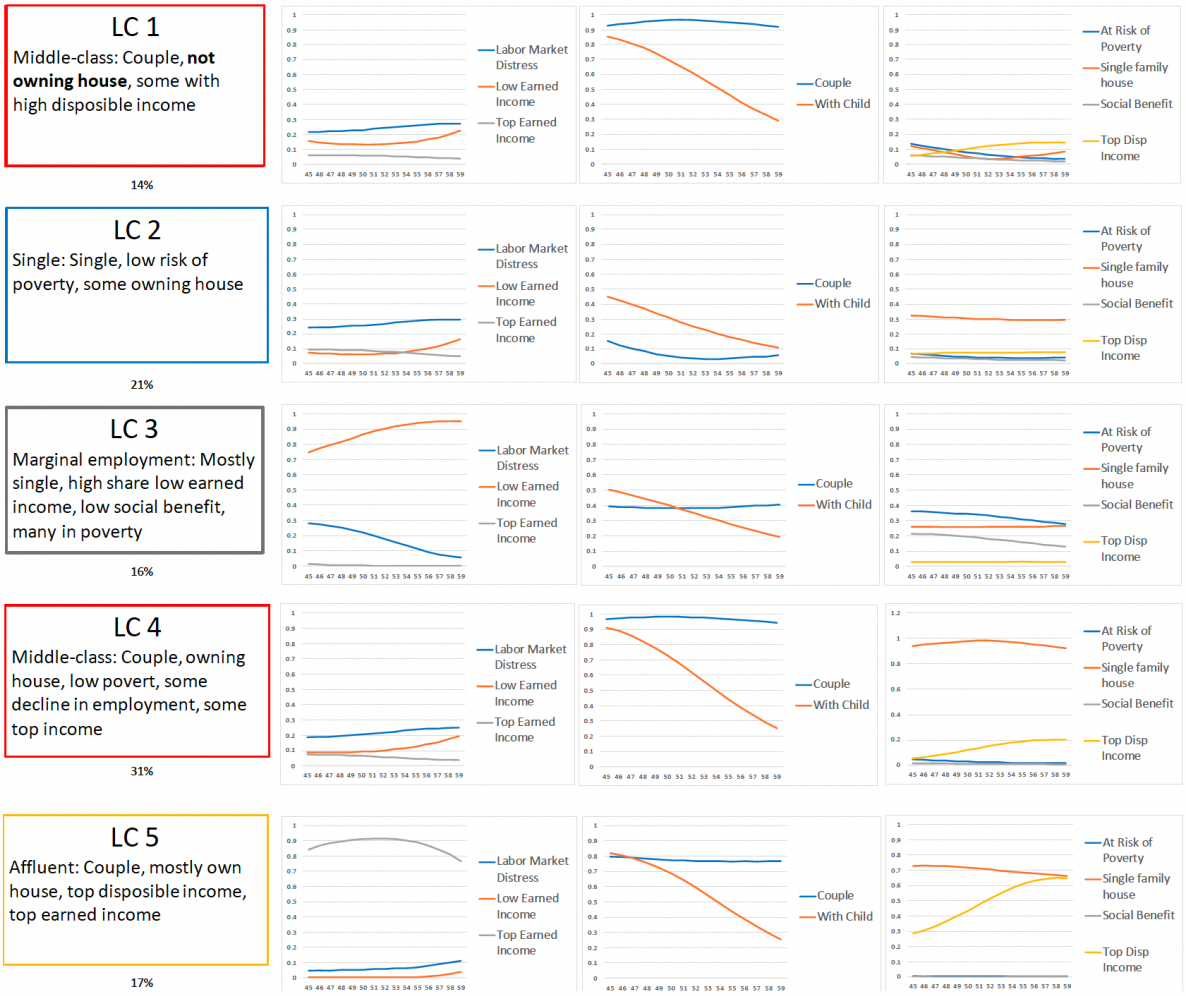


Figure 1 Late middle age trajectories which emerged from latent class analysis. The first column refers to distribution of employment and income indicators across age, the second to distribution of family status indicators and the third to distribution of household economic status indicators. Distribution generated from all individuals in this life-phase who have been classified into a given latent class.

Extending this analysis to all life-phases under consideration we arrive at Figure 2, which shows descriptive results from the types of life trajectories we discovered in each life phase. Finally, we can classify all individuals aged 16-69 in 2000 and 2019 into their predicated latent classes and aggregate within the 250m grid cells where they reside. For calculation of separation index for segregation, we use two areas, where the smaller geography is the closest 400 neighbors and the large is all of Sweden. We follow the following formula:

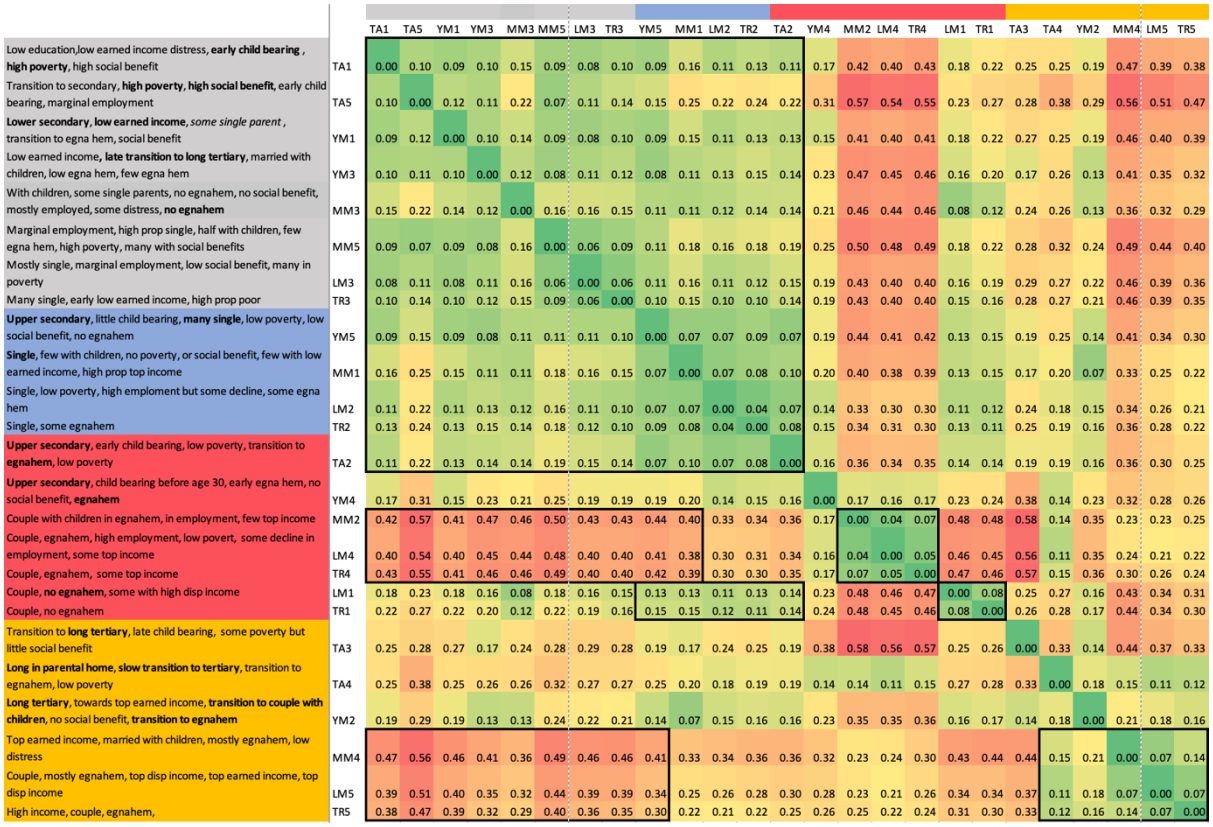
$$S=\sum \frac{t_t\left(\frac{g_i}{t_i}-P\right)^2}{T(P)(1-P)}$$

Where g_i denotes the population of the group in the *i*th neighbourhood, t_t is the total number of persons in the *i*th neighbourhood, T is the total population in all of Sweden, P is the group proportion in all of Sweden.

Transition to adulthood, 16-29 years	Young middle age 25-39 years	Middle middle age 35-49 years	Late middle age 45-59 years	Transition to retirement, 55-69 years
LC 1 Low education,low earned income distress, **early child bearing** , **high poverty**, high social	LC 1 **Lower secondary**, **low earned income**, *some single parent*, transition to egna hem, social benefit	LC 5 Marginal employment, high prop single, half with children, few egna hem, high poverty, many with	LC 3 Mostly single, marginal employment, low social benefit, many in poverty	LC 3 Many single, early low earned income, high prop poor
LC 5 Transition to secondary, **high poverty**, **high social benefit**, early child bearing, marginal	LC 3 Low earned income**, late transition to long tertiary**, married with children, low egna hem, few egna hem	LC 3 With children, some single parents, no egnahem, no social benefit, mostly employed, some distress,	LC 2 Single, low poverty, high emplomentbut some decline, some egna hem	LC 2 Single, some egnahem
LC 2 **Upper secondary**, early child bearing, low poverty, transition to **egnahem**, low poverty	LC 5 **Upper secondary**, little child bearing, **many single**, low poverty, low social benefit, no egnahem	LC 1 **Single**, few with children, no poverty, or social benefit, few with low earned income, high prop	LC 1 Couple, **no egnahem**, some with high disp income	LC 1 Couple, no egnahem
LC 4 **Long in parental home**, **slow transition to tertiary**, transition to egnahem, low poverty	LC 4 **Upper secondary**, child bearing before age 30, early egna hem, no social benefit, **egnahem**	LC 2 Couple with children in egnahem, in employment, few top income	LC 4 Couple, egnahem, high employment, low povert, some decline in employment, some top	LC 4 Couple, egnahem, some top income
LC 3 Transition to **long tertiary**, late child bearing, some poverty but little social benefit	LC 2 **Long tertiary**, towards top earned income, **transition to couple with children**, no social benefit,	LC 4 Top earned income, married with children, mostly egnahem, low distress	LC 5 Couple, mostly egnahem, top disp income, top earned income, low distress	LC 5 High income, couple, egnahem,

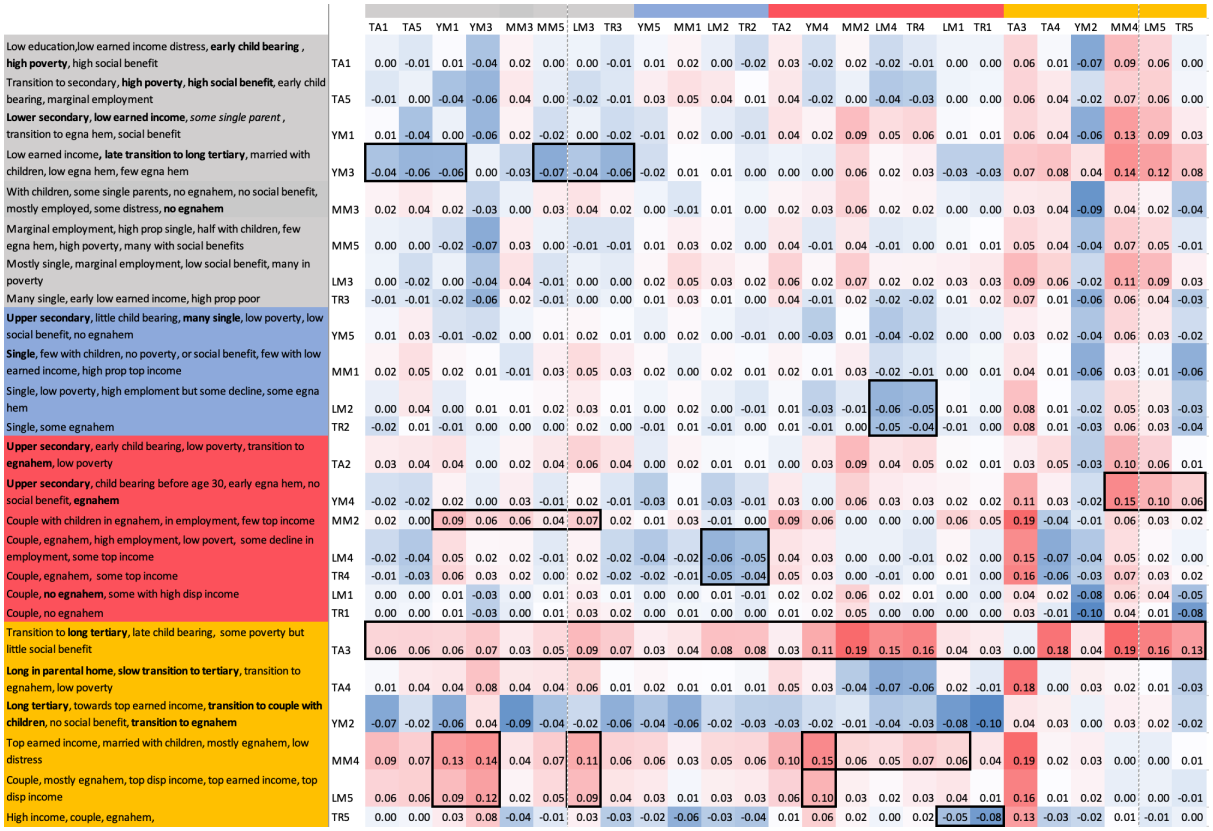
Figure 2 Overview of identified trajectories. Grey frame= marginal, blue frame = Single, Red frame = middle class, yellow frame = affluent. Note that the order of display in Late middle age life-phase differs from that in Figure 1 because we wanted to present a picture where latent classes of a similar sort are displayed next to one another.

For each part of the 25 latent classes (5 latent classes in each of the 5 life phases), we calculate the water-and-oil separation index to see how much these different groups co-exist across the small neighbourhoods or not. The results for 2000 and 2019 are presented below in Figure 3 and Figure 4. We see a clear pattern of polarisation by affluence but also by life course phase, where especially the affluent latent classes (yellow frames) are most likely to live with other affluent and older latent classes. Looking at Figure 4, one surprising result is that among those who experienced the highest increases in spatial polarisation we see latent class TA3 which corresponds to students. Another less surprising result is that affluent groups have also became more segregated. In the presentation we hope to shed more light on the main patterns observed and present maps of spatial distribution of various classes across Sweden. Another result we hope to have read to present is the changes in spatial polarisation by the type of municipality, distinguishing between urban and rural municipalities to see where spatial polarisation and between which pairwise life course trajectories increase the most.



		TA1	TA5	YM1	YM3	MM3	MM5	LM3	TR3	YM5	MM1	LM2	TR2	TA2	YM4	MM2	LM4	TR4	LM1	TR1	TA3	TA4	YM2	MM4	LM5	TR5
Low education,low earned income distress, **early child bearing , high poverty**, high social benefit	TA1	0.00	0.10	0.09	0.10	0.15	0.09	0.08	0.10	0.09	0.16	0.11	0.13	0.11	0.17	0.42	0.40	0.43	0.18	0.22	0.25	0.25	0.19	0.47	0.39	0.38
Transition to secondary, **high poverty, high social benefit**, early child bearing, marginal employment	TA5	0.10	0.00	0.12	0.11	0.22	0.07	0.11	0.14	0.15	0.25	0.22	0.24	0.22	0.31	0.57	0.54	0.55	0.23	0.27	0.28	0.38	0.29	0.56	0.51	0.47
Lower secondary, low earned income, *some single parent* , transition to egna hem, social benefit	YM1	0.09	0.12	0.00	0.10	0.14	0.09	0.08	0.10	0.09	0.15	0.11	0.13	0.13	0.15	0.41	0.40	0.41	0.18	0.22	0.27	0.25	0.19	0.46	0.40	0.39
Low earned income, **late transition to long tertiary**, married with children, low egna hem, few egna hem	YM3	0.10	0.11	0.10	0.00	0.12	0.08	0.11	0.12	0.08	0.11	0.13	0.15	0.14	0.23	0.47	0.45	0.46	0.16	0.20	0.17	0.26	0.13	0.41	0.35	0.32
With children, some single parents, no egnahem, no social benefit, mostly employed, some distress, **no egnahem**	MM3	0.15	0.22	0.14	0.12	0.00	0.16	0.16	0.15	0.11	0.11	0.12	0.14	0.14	0.21	0.46	0.44	0.46	0.08	0.12	0.24	0.26	0.13	0.36	0.32	0.29
Marginal employment, high prop single, half with children, few egna hem, high poverty, many with social benefits	MM5	0.09	0.07	0.09	0.08	0.16	0.00	0.06	0.09	0.11	0.18	0.16	0.18	0.19	0.25	0.50	0.48	0.49	0.18	0.22	0.28	0.32	0.24	0.49	0.44	0.40
Mostly single, marginal employment, low social benefit, many in poverty	LM3	0.08	0.11	0.08	0.11	0.16	0.06	0.00	0.06	0.11	0.16	0.11	0.12	0.15	0.19	0.43	0.40	0.40	0.16	0.19	0.29	0.27	0.22	0.46	0.39	0.36
Many single, early low earned income, high prop poor	TR3	0.10	0.14	0.10	0.12	0.15	0.09	0.06	0.00	0.10	0.15	0.10	0.10	0.14	0.19	0.43	0.40	0.40	0.15	0.16	0.28	0.27	0.21	0.46	0.39	0.35
Upper secondary, little child bearing, **many single**, low poverty, low social benefit, no egnahem	YM5	0.09	0.15	0.09	0.08	0.11	0.11	0.11	0.10	0.00	0.07	0.07	0.09	0.07	0.19	0.44	0.41	0.42	0.13	0.15	0.19	0.25	0.14	0.41	0.34	0.30
Single, few with children, no poverty, or social benefit, few with low earned income, high prop top income	MM1	0.16	0.25	0.15	0.11	0.11	0.18	0.16	0.15	0.07	0.00	0.07	0.08	0.10	0.20	0.40	0.38	0.39	0.13	0.15	0.17	0.20	0.07	0.33	0.25	0.22
Single, low poverty, high emploment but some decline, some egna hem	LM2	0.11	0.22	0.11	0.13	0.12	0.16	0.11	0.10	0.07	0.07	0.00	0.04	0.07	0.14	0.33	0.30	0.30	0.11	0.12	0.24	0.18	0.15	0.34	0.26	0.21
Single, some egnahem	TR2	0.13	0.24	0.13	0.15	0.14	0.18	0.12	0.10	0.09	0.08	0.04	0.00	0.08	0.15	0.34	0.31	0.30	0.13	0.11	0.25	0.19	0.16	0.36	0.28	0.22
Upper secondary, early child bearing, low poverty, transition to **egnahem**, low poverty	TA2	0.11	0.22	0.13	0.14	0.14	0.19	0.15	0.14	0.07	0.10	0.07	0.08	0.00	0.16	0.36	0.34	0.35	0.14	0.14	0.19	0.19	0.16	0.36	0.30	0.25
Upper secondary, child bearing before age 30, early egna hem, no social benefit, **egnahem**	YM4	0.17	0.31	0.15	0.23	0.21	0.25	0.19	0.19	0.19	0.20	0.14	0.15	0.16	0.00	0.17	0.16	0.17	0.23	0.24	0.38	0.14	0.23	0.32	0.28	0.26
Couple with children in egnahem, in employment, few top income	MM2	0.42	0.57	0.41	0.47	0.46	0.50	0.43	0.43	0.44	0.40	0.33	0.34	0.36	0.17	0.00	0.04	0.07	0.48	0.48	0.58	0.14	0.35	0.23	0.23	0.25
Couple, egnahem, high employment, low povert, some decline in employment, some top income	LM4	0.40	0.54	0.40	0.45	0.44	0.48	0.40	0.40	0.41	0.38	0.30	0.31	0.34	0.16	0.04	0.00	0.05	0.46	0.45	0.56	0.11	0.35	0.24	0.21	0.22
Couple, egnahem, some top income	TR4	0.43	0.55	0.41	0.46	0.46	0.49	0.40	0.40	0.42	0.39	0.30	0.30	0.35	0.17	0.07	0.05	0.00	0.47	0.46	0.57	0.15	0.36	0.30	0.26	0.24
Couple, **no egnahem**, some with high disp income	LM1	0.18	0.23	0.18	0.16	0.08	0.18	0.16	0.15	0.13	0.13	0.11	0.13	0.14	0.23	0.48	0.46	0.47	0.00	0.08	0.25	0.27	0.16	0.43	0.34	0.31
Couple, no egnahem	TR1	0.22	0.27	0.22	0.20	0.12	0.22	0.19	0.16	0.15	0.15	0.12	0.11	0.14	0.24	0.48	0.45	0.46	0.08	0.00	0.26	0.28	0.17	0.44	0.34	0.30
Transition to **long tertiary**, late child bearing, some poverty but little social benefit	TA3	0.25	0.28	0.27	0.17	0.24	0.28	0.29	0.28	0.19	0.17	0.24	0.25	0.19	0.38	0.58	0.56	0.57	0.25	0.26	0.00	0.33	0.14	0.44	0.37	0.33
Long in parental home, slow transition to tertiary, transition to egnahem, low poverty	TA4	0.25	0.38	0.25	0.26	0.26	0.32	0.27	0.27	0.25	0.20	0.18	0.19	0.19	0.14	0.14	0.11	0.15	0.27	0.28	0.33	0.00	0.18	0.15	0.11	0.12
Long tertiary, towards top earned income, **transition to couple with children**, no social benefit, **transition to egnahem**	YM2	0.19	0.29	0.19	0.13	0.13	0.24	0.22	0.21	0.14	0.07	0.15	0.16	0.16	0.23	0.35	0.35	0.36	0.16	0.17	0.14	0.18	0.00	0.21	0.18	0.16
Top earned income, married with children, mostly egnahem, low distress	MM4	0.47	0.56	0.46	0.41	0.36	0.49	0.46	0.46	0.41	0.33	0.34	0.36	0.36	0.32	0.23	0.24	0.30	0.43	0.44	0.44	0.15	0.21	0.00	0.07	0.14
Couple, mostly egnahem, top disp income, top earned income, top disp income	LM5	0.39	0.51	0.40	0.35	0.32	0.44	0.39	0.39	0.34	0.25	0.26	0.28	0.30	0.28	0.23	0.21	0.26	0.34	0.34	0.37	0.11	0.18	0.07	0.00	0.07
High income, couple, egnahem,	TR5	0.38	0.47	0.39	0.32	0.29	0.40	0.36	0.35	0.30	0.22	0.21	0.22	0.25	0.26	0.25	0.22	0.24	0.31	0.30	0.33	0.12	0.16	0.14	0.07	0.00

Figure 3 Pairwise separation index between in 2019



		TA1	TA5	YM1	YM3	MM3	MM5	LM3	TR3	YM5	MM1	LM2	TR2	TA2	YM4	MM2	LM4	TR4	LM1	TR1	TA3	TA4	YM2	MM4	LM5	TR5
Low education,low earned income distress, **early child bearing , high poverty**, high social benefit	TA1	0.00	-0.01	0.01	-0.04	0.02	0.00	0.00	-0.01	0.01	0.02	0.00	-0.02	0.03	-0.02	0.02	-0.02	-0.01	0.00	0.00	0.06	0.01	-0.07	0.09	0.06	0.00
Transition to secondary, **high poverty, high social benefit**, early child bearing, marginal employment	TA5	-0.01	0.00	-0.04	-0.06	0.04	0.00	-0.02	-0.01	0.03	0.05	0.04	0.01	0.04	-0.02	0.00	-0.04	-0.03	0.00	0.00	0.06	0.04	-0.02	0.07	0.06	0.00
Lower secondary, low earned income, *some single parent* , transition to egna hem, social benefit	YM1	0.01	-0.04	0.00	-0.06	0.02	-0.02	0.00	-0.02	-0.01	0.02	0.00	-0.01	0.04	0.02	0.09	0.05	0.06	0.01	0.01	0.06	0.04	-0.06	0.13	0.09	0.03
Low earned income, **late transition to long tertiary**, married with children, low egna hem, few egna hem	YM3	-0.04	-0.06	-0.06	0.00	-0.03	-0.07	-0.04	-0.06	-0.02	0.01	0.01	0.00	0.00	0.00	0.06	0.02	0.03	-0.03	-0.03	0.07	0.08	0.04	0.14	0.12	0.08
With children, some single parents, no egnahem, no social benefit, mostly employed, some distress, **no egnahem**	MM3	0.02	0.04	0.02	-0.03	0.00	0.03	0.04	0.02	0.00	-0.01	0.01	0.00	0.02	0.03	0.06	0.02	0.02	0.00	0.00	0.03	0.04	-0.09	0.04	0.02	-0.04
Marginal employment, high prop single, half with children, few egna hem, high poverty, many with social benefits	MM5	0.00	0.00	-0.02	-0.07	0.03	0.00	-0.01	-0.01	0.01	0.03	0.02	0.00	0.04	-0.01	0.04	-0.01	0.00	0.01	0.01	0.05	0.04	-0.04	0.07	0.05	-0.01
Mostly single, marginal employment, low social benefit, many in poverty	LM3	0.00	-0.02	0.00	-0.04	0.04	-0.01	0.00	0.00	0.02	0.05	0.03	0.02	0.06	0.02	0.07	0.02	0.02	0.03	0.03	0.09	0.06	-0.02	0.11	0.09	0.03
Many single, early low earned income, high prop poor	TR3	-0.01	-0.01	-0.02	-0.06	0.02	-0.01	0.00	0.00	0.01	0.03	0.01	0.00	0.04	-0.01	0.02	-0.02	-0.02	0.01	0.02	0.07	0.01	-0.06	0.06	0.04	-0.03
Upper secondary, little child bearing, **many single**, low poverty, low social benefit, no egnahem	YM5	0.01	0.03	-0.01	-0.02	0.00	0.01	0.02	0.01	0.00	0.02	0.00	-0.01	0.00	-0.03	0.01	-0.04	-0.02	0.00	0.00	0.03	0.02	-0.04	0.06	0.03	-0.02
Single, few with children, no poverty, or social benefit, few with low earned income, high prop top income	MM1	0.02	0.05	0.02	0.01	-0.01	0.03	0.05	0.03	0.02	0.00	0.02	0.01	0.02	0.01	0.03	-0.02	-0.01	0.00	0.01	0.04	0.01	-0.06	0.03	0.01	-0.06
Single, low poverty, high emploment but some decline, some egna hem	LM2	0.00	0.04	0.00	0.01	0.01	0.02	0.03	0.01	0.00	0.02	0.00	-0.01	0.01	-0.03	-0.01	-0.06	-0.05	0.01	0.00	0.08	0.01	-0.02	0.05	0.03	-0.03
Single, some egnahem	TR2	-0.02	0.01	-0.01	0.00	0.00	0.00	0.02	0.00	-0.01	0.01	-0.01	0.00	0.01	-0.01	0.00	-0.05	-0.04	-0.01	0.00	0.08	0.01	-0.03	0.06	0.03	-0.04
Upper secondary, early child bearing, low poverty, transition to **egnahem**, low poverty	TA2	0.03	0.04	0.04	0.00	0.02	0.04	0.06	0.04	0.00	0.02	0.01	0.01	0.00	0.03	0.09	0.04	0.05	0.02	0.01	0.03	0.05	-0.03	0.10	0.06	0.01
Upper secondary, child bearing before age 30, early egna hem, no social benefit, **egnahem**	YM4	-0.02	-0.02	0.02	0.00	0.03	-0.01	0.02	-0.01	-0.03	0.01	-0.03	-0.01	0.03	0.00	0.06	0.03	0.03	0.02	0.02	0.11	0.03	-0.02	0.15	0.10	0.06
Couple with children in egnahem, in employment, few top income	MM2	0.02	0.00	0.09	0.06	0.06	0.04	0.07	0.02	0.01	0.03	-0.01	0.00	0.09	0.06	0.00	0.00	0.00	0.06	0.05	0.19	-0.04	-0.01	0.06	0.03	0.02
Couple, egnahem, high employment, low povert, some decline in employment, some top income	LM4	-0.02	-0.04	0.05	0.02	0.02	-0.01	0.02	-0.02	-0.04	-0.02	-0.06	-0.05	0.04	0.03	0.00	0.00	-0.01	0.02	0.00	0.15	-0.07	-0.04	0.05	0.02	0.00
Couple, egnahem, some top income	TR4	-0.01	-0.03	0.06	0.03	0.02	0.00	0.02	-0.02	-0.02	-0.01	-0.05	-0.04	0.05	0.03	0.00	-0.01	0.00	0.01	0.00	0.16	-0.06	-0.03	0.07	0.03	0.02
Couple, **no egnahem**, some with high disp income	LM1	0.00	0.00	0.01	-0.03	0.00	0.01	0.03	0.01	0.00	0.00	0.01	-0.01	0.02	0.02	0.06	0.02	0.01	0.00	0.00	0.04	0.02	-0.08	0.06	0.04	-0.05
Couple, no egnahem	TR1	0.00	0.00	0.01	-0.03	0.00	0.01	0.03	0.02	0.00	0.01	0.00	0.00	0.01	0.02	0.05	0.00	0.00	0.00	0.00	0.03	-0.01	-0.10	0.04	0.01	-0.08
Transition to **long tertiary**, late child bearing, some poverty but little social benefit	TA3	0.06	0.06	0.06	0.07	0.03	0.05	0.09	0.07	0.03	0.04	0.08	0.08	0.03	0.11	0.19	0.15	0.16	0.04	0.03	0.00	0.18	0.04	0.19	0.16	0.13
Long in parental home, slow transition to tertiary, transition to egnahem, low poverty	TA4	0.01	0.04	0.04	0.08	0.04	0.04	0.06	0.01	0.02	0.01	0.01	0.01	0.05	0.03	-0.04	-0.07	-0.06	0.02	-0.01	0.18	0.00	0.03	0.02	0.01	-0.03
Long tertiary, towards top earned income, **transition to couple with children**, no social benefit, **transition to egnahem**	YM2	-0.07	-0.02	-0.06	0.04	-0.09	-0.04	-0.02	-0.06	-0.04	-0.06	-0.02	-0.03	-0.03	-0.02	-0.01	-0.04	-0.03	-0.08	-0.10	0.04	0.03	0.00	0.03	0.02	-0.02
Top earned income, married with children, mostly egnahem, low distress	MM4	0.09	0.07	0.13	0.14	0.04	0.07	0.11	0.06	0.06	0.03	0.05	0.06	0.10	0.15	0.06	0.05	0.07	0.06	0.04	0.19	0.02	0.03	0.00	0.00	0.01
Couple, mostly egnahem, top disp income, top earned income, top disp income	LM5	0.06	0.06	0.09	0.12	0.02	0.05	0.09	0.04	0.03	0.01	0.03	0.03	0.06	0.10	0.03	0.02	0.03	0.04	0.01	0.16	0.01	0.02	0.00	0.00	-0.01
High income, couple, egnahem,	TR5	0.00	0.00	0.03	0.08	-0.04	-0.01	0.03	-0.03	-0.02	-0.06	-0.03	-0.04	0.01	0.06	0.02	0.00	0.02	-0.05	-0.08	0.13	-0.03	-0.02	0.01	-0.01	0.00

Figure 4 Differences in pairwise separation index between in 2000 and 2019. Values above 0 indicate increasing spatial polarisation, below 0 depolarisation.

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