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inégalités individuelles et comparaison européenne

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inégalités individuelles en comparaison européenne

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# **LABOUR MARKET MOBILITY PATTERNS DURING THE 2008 CRISIS: INEQUALITIES IN A COMPARATIVE PERSPECTIVE**

Christine Erhel, Mathilde Guergoat-Larivière, Danièle Trancart

## **SUMMARY**

Using EU-SILC panel data from years 2008 to 2010, this paper builds typologies of labour market sequences over the three years, using a clustering analysis algorithm. The results confirm the importance of individual characteristics (age, gender, education level) in observed labour market mobility patterns. Low-educated youth tend to be disadvantaged across the EU over the two years considered. Gender differences are mainly related to the importance of inactivity. Cross-country differences appear important in terms of medium term labour market trajectories, especially for youth. In particular, the heterogeneity across countries is the highest for low-educated youth. These differences are influenced by the labour market context, but also by the role of education system since sequences including studies are quite frequent.

**Keywords :** labour market, transitions, Europe, European comparisons, youth integration, gender, trajectories.

## ***La mobilité sur le marché du travail entre 2008 et 2010 : inégalités individuelles en comparaison européenne***

### ***Résumé***

*Depuis les années 2000, la question de la flexicurité et des mobilités sur le marché du travail occupe une place centrale dans les débats européens. Toutefois, les travaux empiriques existants se limitent le plus souvent à un horizon de court terme dans leur approche de la mobilité (trimestrielle ou annuelle). Dans ce document de travail, les données utilisées (provenant du panel EU-SILC d'Eurostat) nous permettent d'observer les trajectoires sur deux ans et demi (d'avril 2008 à octobre 2010), pour vingt-six pays de l'Union européenne (UE). Il s'agit d'une période qui inclut à la fois la crise, avec des taux de croissance du PIB négatifs dans l'UE en 2008 et début 2009, mais aussi une embellie fin 2009-début 2010. Les situations prises en compte incluent l'emploi (temps plein et temps partiel), le chômage, l'inactivité (avec une distinction possible entre différents types d'inactivité).*

*Dans une perspective socio-économique, nous cherchons à mettre en évidence le rôle des caractéristiques individuelles (notamment de genre, d'âge et de niveau d'éducation) dans les trajectoires, ainsi que les différences entre pays. Du point de vue méthodologique, nous retenons une approche typologique, distinguant des types de séquences sur le marché du travail à partir d'une technique d'appariement optimal (optimal matching) et de construction de classes. Cette approche est appliquée à différentes sous-populations (les 15-64 ans d'une part, les jeunes de 16 à 34 ans d'autre part) et trois différentes décompositions des états sur le marché du travail (emploi, chômage, inactivité/ temps plein, temps partiel, chômage, inactivité/ emploi, chômage, études, retraite, autre inactivité).*

*Les résultats confirment la différenciation des trajectoires selon les caractéristiques individuelles : l'emploi stable se concentre dans la période du milieu de la vie, tandis que les jeunes et les seniors ont une probabilité plus forte de connaître des trajectoires instables sur les deux ans et demi observés. Les femmes sont davantage concernées par l'inactivité et le temps partiel, et le niveau d'éducation joue un rôle déterminant dans les séquences de transitions, que ce soit pour l'ensemble de la population ou pour les jeunes entrant sur le marché du travail.*

*Néanmoins, les différences entre pays européens apparaissent importantes et dépassent les écarts de situation conjoncturelle faisant suite à la crise de 2008. De manière générale, l'emploi stable est moins fréquent dans les pays du Sud ou de l'Est, non seulement du fait d'une incidence élevée du chômage, mais également du fait d'une place plus importante pour l'inactivité, qui peut notamment s'expliquer par des dispositifs spécifiques (congé parental dans les nouveaux pays membres). Les pays nordiques se distinguent par la place du retour aux études dans les trajectoires des jeunes, en particulier pour les moins éduqués, tandis qu'au Royaume-Uni les jeunes ont une probabilité plus forte de demeurer inactifs, notamment pour les faibles niveaux d'éducation. De manière générale, les écarts entre pays apparaissent plus importants dans le cas des jeunes de faible niveau d'éducation, alors qu'ils sont très faibles pour les plus diplômés : les spécificités des politiques nationales, mais aussi des attitudes des employeurs par exemple, pourraient expliquer ces écarts importants pour les non-diplômés. Enfin, les résultats confirment l'hétérogénéité de l'incidence de l'emploi à temps partiel, principalement développé en Europe continentale, au Royaume-Uni et dans les pays du Nord, et soulignent la faiblesse des transitions du temps partiel vers le temps plein.*

**Mots-clefs :** *marché du travail, transitions, Europe, comparaison européenne, insertion des jeunes, genre, trajectoires.*

## **INTRODUCTION**

Since the mid-2000s, the flexicurity debate in Europe has put forward the importance of adopting a dynamic perspective on job and labour market security. According to the Danish experience, workers' security could be achieved not only through long job tenure, but also through protected mobility between jobs involving insured unemployment periods. Despite its political and academic success, flexicurity has important limitations, especially in terms of labour market inequalities: good mobility patterns tend to focus on medium and high-skilled in some dynamic sectors. Besides, one may wonder about its future in times of crisis, as transitions from unemployment to employment might decrease, in a context of increased pressure on public financing (Denmark is currently undergoing an important reform of its unemployment insurance system, resulting in more limited insurance duration).

Further analysis of labour market trajectories and inequalities by social groups (gender, age, education level...) in times of crisis is therefore necessary to contribute to the policy debate on flexicurity and labour market mobility.

Existing empirical studies on labour market trajectories in a comparative perspective generally have a short-term horizon, since they only consider one transition episode on a yearly (or quarterly) period. Analysing trajectories and their consequences for individuals implies to follow up individuals on a longer time span and to identify sequences of transitions rather than instantaneous flows.

This contribution develops such a medium-term longitudinal perspective, and tries to shed light on trajectories' heterogeneity throughout the Great Recession, disaggregating by social groups and by country. It considers medium-term sequences (three years) through the EU-SILC panel data from 2008 to 2010. Identifying inequalities on such a time span is interesting, since we can reasonably make the hypothesis that they matter for future life course transitions. In comparison to existing literature, the second originality of our analysis is the time period considered (2008-2010) that corresponds to the first phase of the crisis that started in 2007. Our contribution also discusses the consequences of these empirical results to the comparative analysis of labour market regimes and to the flexicurity debate.

## **1. LABOUR MARKET TRANSITIONS ANALYSIS: THEORETICAL BACKGROUND AND EMPIRICAL LITERATURE**

The analysis of labour market transitions and individual trajectories has been developing over the last ten years, at the crossroads of several theoretical frameworks.

In standard labour economics, search and matching models (Pissarides, 1991; Mortensen and Pissarides, 1994) have put forward the necessity to consider flows on the labour market, rather than stock variables only (unemployment or employment). In that type of models, individual behavior is analysed under a rationality hypothesis: individuals choose to move from unemployment to employment, or from job to job, on the basis of a comparison between their utility level in the two situations (taking into account the risk of changing status because of job destruction if they have a job, or the probability to get a new job if they are unemployed). On the demand side of the labour market, hirings also result from profit

maximisation behavior of firms. Apart from individual characteristics (productivity, educational level...) utility and profit levels are influenced by institutions and labour market policies (like unemployment insurance or job protection rules), which can explain differences in labour market flows and mobility across countries.

Some socio-economic approaches have also put the stress on individual transitions, both in the short and long run. Unlike standard labour economics, they integrate the role of social factors and past trajectories in determining transition patterns. The transitional labour markets framework (Schmid, Gazier, 2002; Schmid, 2006) focuses on the various transitions that men and women experience over the life course. Five major types of transitions are identified: transitions between the education system and the labour market, transitions between private or family-oriented activities and market work, transitions between employment and unemployment, transitions within employment (especially between full-time work and part-time work) and transitions from employment towards inactivity at the end of the job career.

In a cross-country comparative perspective, the empirical analysis tries to relate the various observed transitions to the prevailing national policies and institutional set up in order to assess the impact of the societal framework on the patterns of transitions over the life course and to identify institutional arrangements that favour integrative transitions. The analysis introduces a larger set of institutions, including informal ones (such as values and norms). Short-term outcomes matter not only for the present situation but also for the future. Indeed the situation of individuals at a given point in time is not independent from the choices, transitions, opportunities and constraints encountered in the past. The transitional labour markets (TLM) framework is therefore largely consistent with the life course approach (Anxo *et al.*, 2007): although the concept of life course is not precisely defined, it builds a heuristic conceptual device aiming at studying individuals' trajectories over time and to relate them to institutions. Most of the research using this approach has stressed the extent to which social forces and individual factors shape the life course of individuals and has focused on the developmental consequences of alternative life trajectories. The ambition of this approach is to take a holistic view and to consider the entire life as the basic framework for empirical analysis and policy evaluation (Mortimer and Shanahan, 2003).

Therefore, according to both TLM and life course perspective, the analysis of individual transitions and trajectories has to integrate institutional factors (shaping heterogeneity across countries and in time) as well as social factors. The present paper builds on such a perspective, and tries to shed light on trajectories' heterogeneity throughout the Great Recession, disaggregating by social groups and by country. It considers medium term sequences (two years): identifying inequalities on such a time span is interesting, since we can reasonably make the hypothesis that they matter for future life course transitions.

Existing empirical literature on labour market trajectories in a comparative perspective (European Commission, 2009; OCDE, 2009; Erhel, Guergoat-Larivière, 2013) highlights two types of results. First, it confirms the importance of socio-demographic variables such as gender, age, marital status and education level in individual transitions. Women appear generally disadvantaged, with higher probabilities of transitions from employment towards inactivity or unemployment, and lower mobility from unemployment or inactivity to employment. Age and life course events also matter in labour market trajectories. For instance, youth experience a higher mobility, whatever the transition considered, whereas



seniors show higher risks of transition towards inactivity. Living in a couple is generally associated with a favourable labour market situation but increases the probability of moving into inactivity. Finally, a higher education level is related to a higher probability to stay employed or to move from unemployment and inactivity to employment.

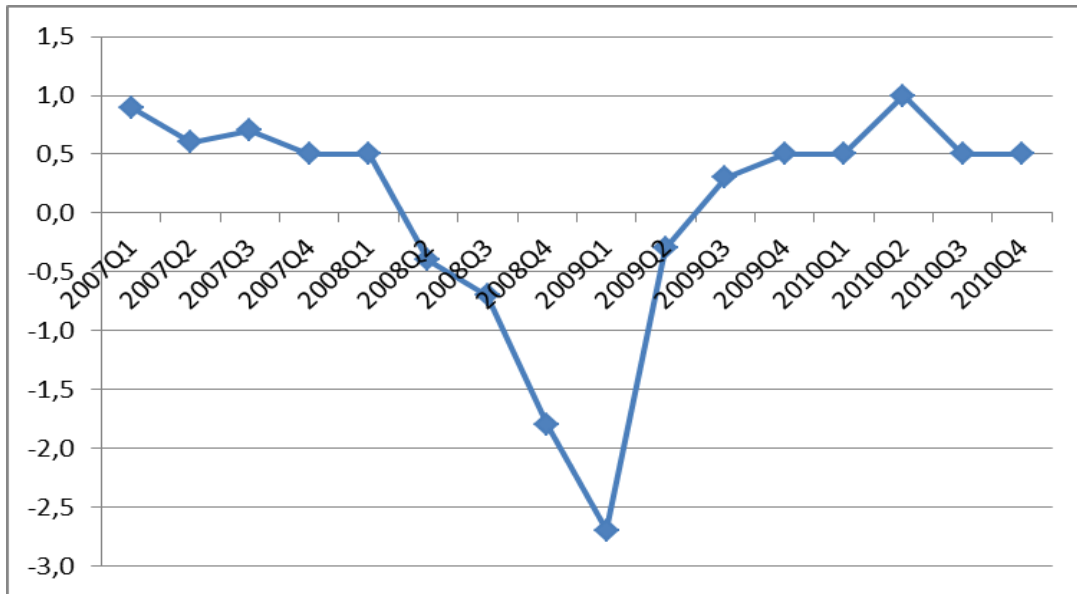
Second, it shows a strong heterogeneity across European countries. Nordic countries (Finland, Sweden, and Denmark) as well as the UK are characterized by higher annual (and quarterly) labour force reallocation rates. This is also the case in some New Member states (Hungary, Lithuania, Slovakia, and Estonia). Conversely, mobility appears to be low in continental countries (France, and Belgium). But the heterogeneity goes further than global transitions rates, and also applies to inequalities between social groups (by gender, age, and education) which appear to be variable across the EU. According to EU-SILC (*Survey on Income and Living Conditions*) data, Nordic countries also have a more equality-based labour market compared to continental Europe where age-based differences in transition probabilities appear to be very high. It goes the same when Nordic countries are compared to Southern countries – essentially marked with strong gender inequalities – and to Eastern countries where education level-based differences in transition probabilities also appear to be very high. Anglo-Saxon countries (UK and Ireland) show more limited inequality levels in transition probabilities, with the exception of education that also seems to play an important role in the UK.

In a life course or transitional labour market perspective, such studies have a short-term horizon, since they only consider one transition episode on a yearly (or quarterly) period. Analyzing trajectories implies to follow up individuals on a longer time span and to identify sequences of transitions rather than instantaneous flows. Although national databases allow such sequence analyses (for instance in the case of young people, using labour force surveys and surveys on out-of-school youth – see Céreq, 2013 for France), they remain rare in a comparative perspective, due to data availability limitations. The study by Brzinsky-Fay (2006) appears like an exception: he uses the ECHP (*European Community Household Panel*) to analyse the process of labour market entry, which is observed on a five-year period (following departure from school) on the basis of monthly labour market status data. The resulting picture shows strong variation across ten European countries, which partly coincides with classic typologies of school-to-work transition regimes. With the same methodology and the same five-year period, the study by Sherrer (2001) compares Great Britain and West Germany in terms of entry process into the labour market, covering an interval from 1985 to 1996.

This paper adopts a similar longitudinal sequence analysis perspective, although it considers a shorter time period in order to focus on the crisis.

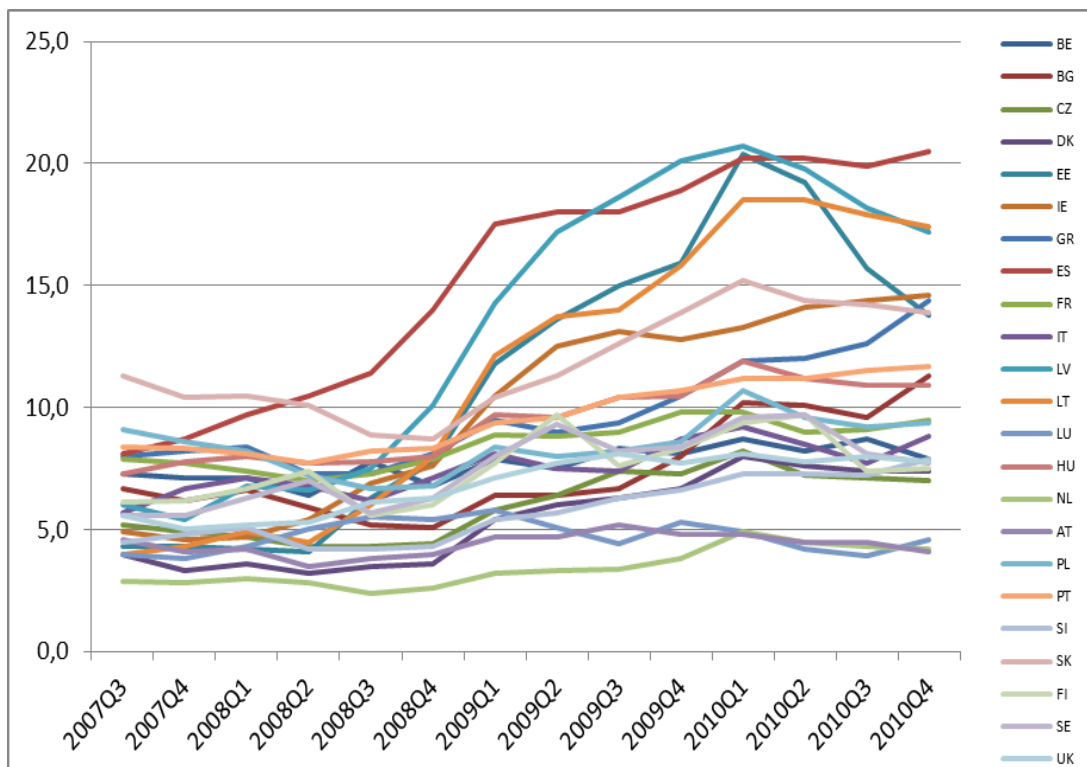
Indeed, the second originality of our analysis is the time period considered (2008-2010) that corresponds to the first phase of the crisis that started in 2007. Most of recent papers that look at labour market transitions in a comparative perspective still use data from before the crisis (Ward-Warmedinger and Macchiarelli, 2013). Some others analyze transitions in a comparative perspective during the crisis but only provide results on one-year transition rates (Madsen *et al.*, 2013). In most European countries, the trough of the recession took place at the end of 2008 or in the beginning of 2009. Growth rates became again positive at the end of 2009 or in the beginning of 2010.

**Figure 1. GDP growth rate, quarterly data, 2007-2010, EU 27**



Source: LFS, Eurostat.

**Figure 2. Quarterly unemployment rates, 2007Q3-2010Q4**



Source: LFS, Eurostat.

Unemployment has increased until the second quarter of 2010 in most countries. Therefore, we focus here on labour market sequences throughout a recession period. Similar analysis of labour market sequences throughout the recession has been provided for France by Danzin *et al.* (2011) for young people. The value added of our analysis is thus threefold: it analyzes individuals' labour market trajectories over three years during the period of economic crisis in a European comparative perspective.

## 2. DATA AND METHODOLOGY: LABOUR MARKET TRAJECTORIES ANALYSIS

### 2.1. Data: building labour market trajectories from EU-SILC monthly calendar

This analysis uses EU-SILC (*Survey on Income and Living Conditions*) longitudinal dataset from years 2008 to 2010<sup>1</sup>. The EU-SILC database was created in 2003 in replacement for the *European Community Household Panel* (ECHP) and now includes about thirty countries (depending on the year and which dataset is used – cross-sectional or longitudinal). Our empirical analysis includes twenty-six countries: all twenty-seven countries from the EU except Bulgaria, Germany, and Ireland, as well as Norway and Iceland.

EU-SILC database includes a set of variables on individual socio-economic characteristics in particular on labour market status (current activity status, contract, working time, etc.), income and living conditions. It also has basic information for each individual regarding gender, age and the education level achieved.

The main variables used in this analysis in order to distinguish between different trajectories come from the monthly calendar of activities (see box below for details). Using this calendar, we have selected two observations per year, each separated by six months (April and October) so that in all, we have six observations for each individual: April 2008, October 2008, April 2009, October 2009, April 2010, and October 2010. These two months were chosen because seasonal variability is on average lower over these months compared to some other months of the year (January, July, September, etc.).

#### EU-SILC monthly calendar of activities: details

The monthly calendar includes twelve variables: main activity in January to main activity in December. These variables, PL210A (January) to PL210L (December) were changed in 2009 into variables PL211A to PL211L in order to distinguish between different kinds of inactivity.

PL210A-PL210L	PL211A-PL211L
1 Employee (full-time)	1 Employee working full-time
2 Employee (part-time)	2 Employee working part-time
3 Self-employed (full-time)	3 Self-employed working full-time (including family worker)
4 Self-employed (part-time)	4 Self-employed working part-time (including family worker)
5 Unemployed	5 Unemployed
6 Retired	6 Pupil, student, further training, unpaid work experience
7 Student	7 In retirement or in early retirement or has given up business
8 Other inactive	8 Permanently disabled or/and unfit to work
9 Compulsory military service	9 In compulsory military community or service
	10 Fulfilling domestic tasks and care responsibilities
	11 Other inactive person

Using PL210D (April) and PL210G (October) until 2008 and PL211D (April) and PL211G (October) from 2009 onwards, we build new categories by gathering some activity statuses.

<sup>1</sup> Data have also been released for year 2007 but we do not use it in the analysis since there is a lot of missing values when merging the four years.

Individuals' trajectories are analyzed by considering transitions between different labor market statuses over the six periods of observation (*i.e.* three years). In order to limit the number of statuses, we regroup different situations identified in the monthly calendar<sup>2</sup>. We consider that individuals can move between the following labour market statuses:

- Either: *Employment; Unemployment; Inactivity* (all types of inactivity); (missing values);
- Or: *Full-time employment* (employee or self-employed); *Part-time employment* (employee or self-employed); *Unemployment; Inactivity* (all types of inactivity); (missing values).

For some analyses, especially in a life course perspective, we distinguish between different types of inactivity (student, retired and other inactive).

The distinction between studies and other types of inactivity is important in the case of young people. Therefore, when looking at youth, we systematically consider that they can move between:

- Either: *Employment; Unemployment; Studies; Other types of inactivity*; (missing values);
- Or: *Full-time employment; Part-time employment; Unemployment; Studies; Other types of inactivity*; (missing values).

We look at labour market trajectories of three groups of individuals.

The first sample includes individuals aged 16 to 64, excluding those who are already retired at the first interview. We end up with 124,581 observations from twenty-six EU countries.

The second sample includes young people from 16 to 34 (39,147 observations). The third and last sample also includes young people from 16 to 34 but excludes those who are still studying at the first interview. It does not mean that the category "studies" is deleted since people can go back to "studies" even if they were in another status at the first period of observation. We end up with 32,050 observations from twenty-six EU countries for that sample.

## 2.2. Methodology: typologies of sequences

Our aim is to build typologies of sequences or clusters. A sequence is an individual trajectory characterized by the six labour market variables selected (status in April 2008, October 2008, April 2009, October 2009, April 2010, and October 2010). Whereas methodological tools used to analyze longitudinal data generally focus on single events instead of mobility patterns, our approach is able to handle a whole career sequence. We use clustering methods to summarize information.

The clustering procedure falls into four steps. Each step corresponds to one or several choices:

- Selection of the relevant data (regarding the issue) and the way data will be coded and organized;
- Choice of a measure of dissimilarity between sequences;
- Choice of a clustering method;
- Interpretation: understanding why observations are in the same cluster (clusters characterization), using socio-demographic variables.

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<sup>2</sup> Individuals in compulsory military service are systematically excluded from our analyses.

The first step corresponds to the selection of data and the definition of transition sequences, as presented above.

As for the second step, a common approach to define proximity is to compute pairwise distances (provided here by Optimal Matching Analysis-OMA) or other metrics and use this information to cluster the sequences<sup>3</sup>. Our optimal matching distance matrix (minimal cost of transforming one sequence to another) is computed with an insertion-deletion cost of 1 and a substitution matrix based on observed transition rates. The idea is to set a high cost when changes between two seldom observed statuses and lower cost when they are frequent.

The third step relies on clustering: it is the data exploratory method to find homogeneous groups or clusters taking distances or dissimilarity matrix. There are many clustering methods derived from two logics: hierarchical or partitioning into a predefined number of groups. Here, we choose a partitioning method, which is based on an iterative process of optimization of a certain criterion. At each step, elements are reallocated to one of the  $k$  clusters until convergence of the process. The number  $k$  of clusters is set *a priori*. The criterion is to minimize the within-group total variance. There are several variants of  $k$ -means method. They differ according to the selection of the initial seeds, the measure of dissimilarity between elements, and the way centroids are computed.

In the last step, in order to interpret typologies, we describe clusters by looking at characteristics of individuals that belong to them (age, gender, country or level of education).

### Seven typologies of individual sequences

This working paper aims at building seven typologies. Each individual sequence is built considering six observations (two observations each year). For each typology cluster analysis provides seven groups to summarize all the patterns<sup>4</sup>.

The first typology (T1) concerns individuals aged 16 to 64 and distinguishes between four labour market statuses: employment, unemployment, inactivity and missing values.

In a second typology (T2) concerns individuals aged 16 to 64 and includes five labour market statuses: full-time employment, part-time employment, unemployment, inactivity and missing values.

In a third typology (T3), inactivity status is distinguished between studies, retirement and other inactivity. It concerns all individuals from 16 to 64 and includes five labour market statuses: employment, unemployment, studies, retirement, other inactivity and missing values.

When we focus on youth, we first consider the population aged 16 to 34 restricted to those on the labour market in 2008 (we suppose that they have achieved their initial education). The fourth typology (T4) includes five labour market statuses: employment, unemployment, studies, inactivity and missing values.

Another typology (T5) is built when employment status is distinguished between part-time and full-time. The five labour market statuses are: full-time employment, part-time employment, unemployment, studies, inactivity and missing values.

Last typologies (T6 and T7) presented in appendix concern all young people aged 16 to 34 and are built on the same model as that of T4 and T5.

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<sup>3</sup> TraMineR is a useful package for mining and visualizing sequences in R (Gabadinho *et al.*, 2009). WeightedCluster facilitates the analysis when facing big data files (Studer, 2013). This library enables to take only the non-identical sequences and to group and weigh the identical ones.

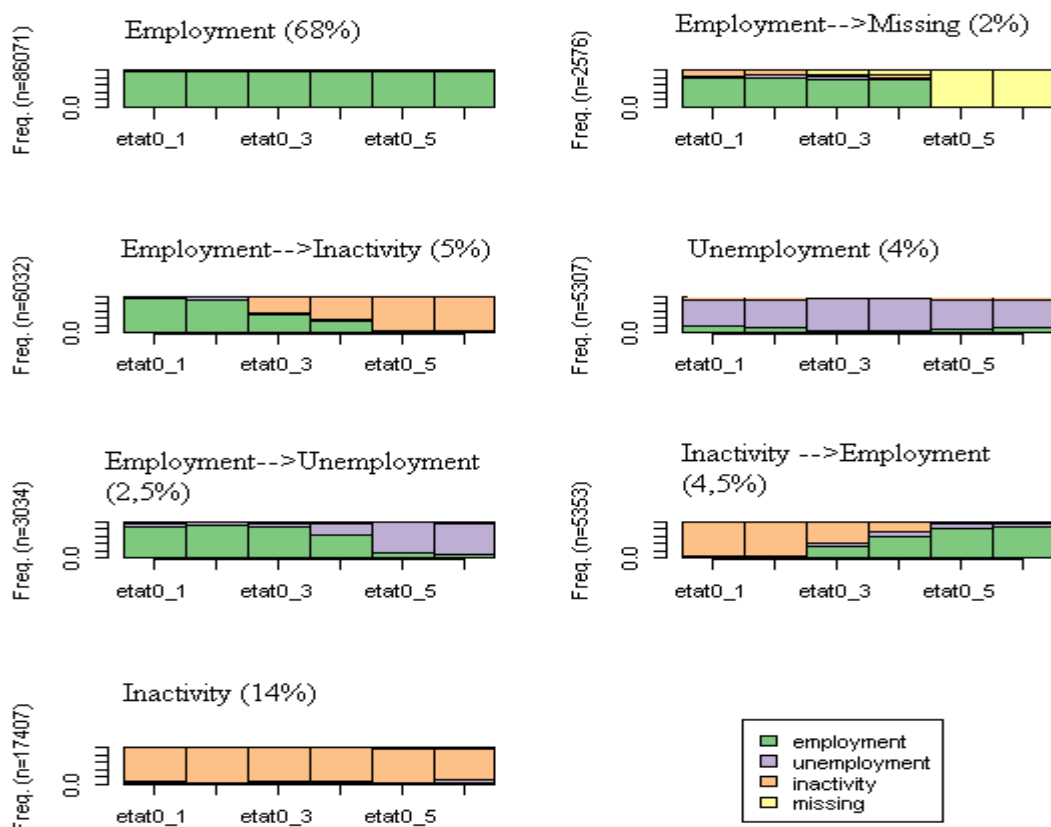
<sup>4</sup> For the first typology (see below), the total number of sequences theoretically amounts to  $4^6=4096$ .

Two kinds of plots are useful to expose the results. First, full index plots (Scherer, 2001 and Brzinsky-Fay *et al.*, 2006) display all sequences or sequences sorted by cluster or an explanatory variable. Transitions are well represented but sometimes are very difficult to interpret as several thousands of individuals may be included. Second, state distribution plots give, for each period of time, the transversal distribution of the variables.

### 3. GLOBAL RESULTS: DESPITE THE CRISIS, STABILITY OF EMPLOYMENT IN A MAJORITY OF COUNTRIES

In spite of the crisis, stable employment remains the most frequent kind of trajectory for individuals aged 16 to 64 in Europe over the period considered here (April 2008-October 2010): it represents about two thirds of trajectories (68%). Stable trajectories in inactivity are the second most frequent type of trajectory, concerning about 14% of people. This can be related to the age interval considered here (16-64) since both young people and seniors are more likely to remain inactive.

**Figure 3. Typology of sequences, individuals from 16 to 64 (T1)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

Two types of patterns can be directly related to the recession context<sup>5</sup>: 2.5% of trajectories are from employment to unemployment whereas stability in unemployment represents 4% of total trajectories.

<sup>5</sup> Although we cannot compare that period to other phases of the economic cycle.

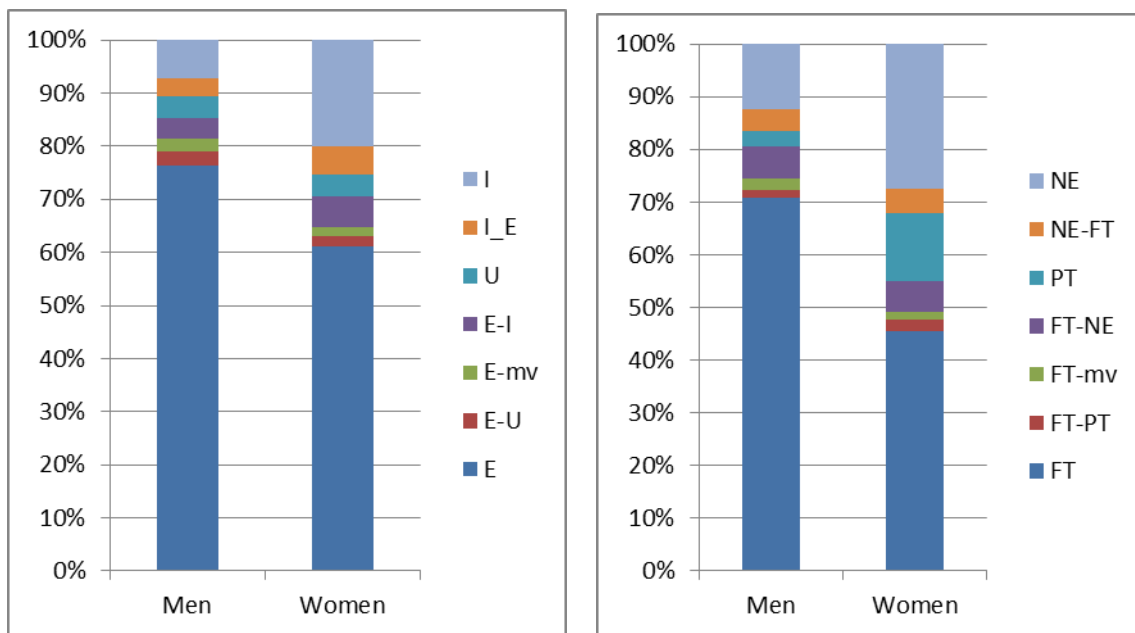
Finally, two symmetric patterns account each for about 5% of the total trajectories: transitions from employment to inactivity (5%) and transitions from inactivity to employment (4.5%). Again, considering the large interval of age, the former might be related to transitions to retirement and the latter to entries on the labour market.

Besides this global analysis, the study of labour market trajectories by both countries and social groups reveals some strong differences.

### 3.1. Differences across social groups

On average in Europe, **women** are more likely than **men** to remain inactive over the whole period (20.1% vs. 7.3%) whereas men are more likely to experience stable employment trajectories (76.2% vs. 61%). However, the shares of trajectories from employment to inactivity and from inactivity to employment are higher for women than for men, suggesting more transitions between these two states. Indeed, 5.2% (resp. 5.7%) of women have experienced a trajectory from inactivity to employment (resp. from employment to inactivity) whereas this is the case for only 3.2% (resp. 3.8%) of men.

**Figure 4. Shares of trajectories for men and women (T1 and T2)<sup>6</sup>**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

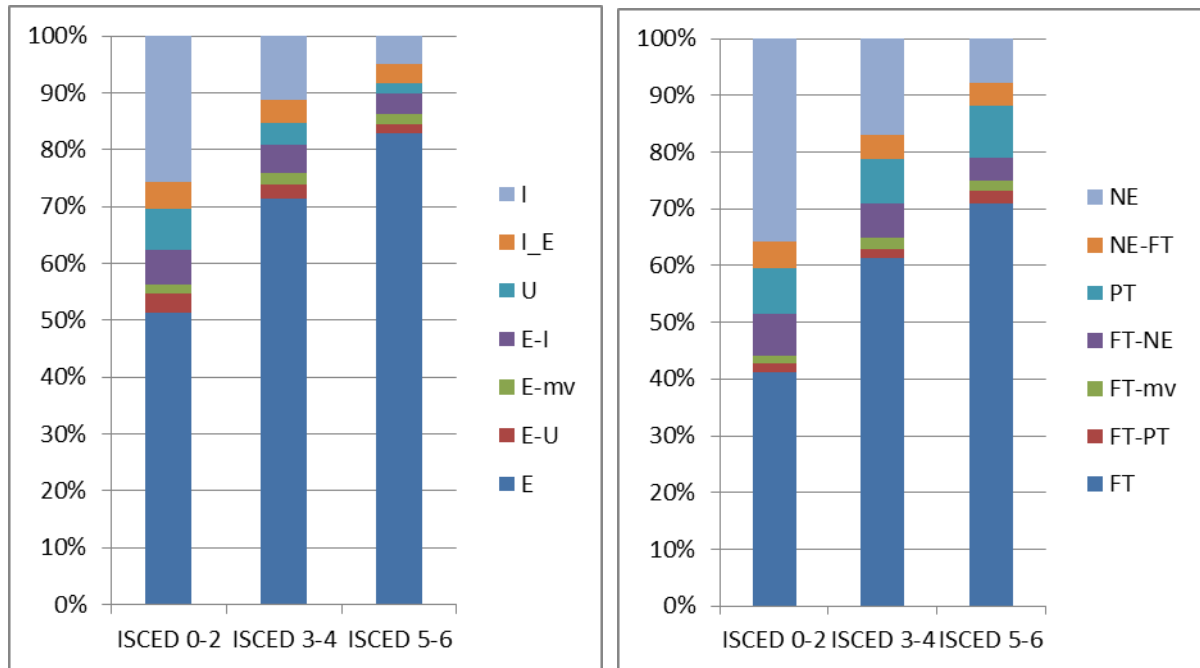
In spite of their overrepresentation in 'stable inactivity', the share of stable unemployment trajectories is as high for women as for men (4.2%). However, trajectories from employment to unemployment are less frequent for women than for men, which is coherent with their

<sup>6</sup> Following the different types of sequences shown in Figure 3, 'I' stands for stability in inactivity, 'I\_E' for transitions from inactivity to employment over the period, 'U' for stability in unemployment, 'E-I' for transition from employment to inactivity, 'E-U' for transitions from employment to unemployment, 'E' for stable trajectories in employment and 'E-mv' corresponds to individuals in employment at the beginning of the period and with missing value at the end of the period. Similarly, in the second graph, 'NE' stands for stability in non-employment, 'NE-FT' for transitions from non-employment to full-time employment, 'PT' for stability in part-time employment, 'FT-NE' for transitions from full-time employment to non-employment, 'FT-PT' for transitions from full-time to part-time employment, 'FT' for stability in full-time employment and 'FT-mv' corresponds to individuals in full-time employment at the beginning of the period and with missing value at the end of the period.

underrepresentation in employment. This difference might also be related to some characteristics of the 2008 recession that first hit sectors in which male employment was predominant (construction, industry).

When employment is decomposed in full-time employment and part-time employment, it appears that men's stable employment trajectories are indeed full-time employment trajectories while women are more affected than men by stable part-time employment trajectories. Transitions from full-time to part-time are rare on average but more frequent for women (2.2% vs. 1.3%). Trajectories from full-time employment to non-employment are slightly less frequent for women (5.7% vs. 6%) while trajectories from non-employment to full-time employment are slightly more frequent for them (4.7% vs. 4%).

**Figure 5. Shares of trajectories for three levels of education (T1 and T2)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

Note: see footnote 6 for the meaning of the different sequences.

Patterns of transitions on the labour market vary a lot according to **the level of education**. Considering transitions between employment, unemployment and inactivity, we can observe that the shares of all kinds of trajectories are reduced in favour of stable employment trajectories when the level of education increases.

However, considering full-time employment and part-time employment apart, it appears that transitions from full-time to part-time employment are more frequent for higher educated people, which might be related to an income effect. At the same time, the share of part-time employment is relatively stable across education levels but increases slightly for higher-educated people (from 8% for lower levels of education to 9% for higher levels).

Looking at transitions between full-time employment and non-employment, the position of lower educated people appears less favourable: if the share of trajectories from non-employment to full-time employment is relatively similar for all levels of education (only slightly reduced for lower educated people), trajectories from full-time employment to non-employment are much more frequent for lower educated people (7.3% vs. 4% for high-educated people). This is consistent with general characteristics of the recession in which jobs destructions concerned particularly low-qualified jobs.



In order to compare trajectories over **the life course**, another partition is used here that distinguishes between different types of inactivity, especially retirement and studies (T3).

On average in Europe, stable trajectories in employment are much more frequent in the middle of the life course (almost 81%) and far less frequent for youth (55%) and seniors (66%). Quite logically, trajectories from studies to another state are much more frequent for youth (22.1%) whereas trajectories from employment to retirement exist almost only for people aged 50 to 64 (8%).

Symmetrically to stable trajectories in employment, the share of 'stable unemployment' trajectories follows a U shape: 5.7% of youth, 3.3% of middle-aged people and 3.6% of seniors have experienced stability in unemployment over the period.

Finally, we can notice that transitions from employment to unemployment or other types of inactivity are less and less frequent as long as age is increasing. Last but not least, the share of stable trajectories in "other types of inactivity" (namely neither studies nor retirement) increases considerably with age: from 6.8% among youth, it reaches 17.7% among people aged 50 to 64. This might be linked to some cohort effect (especially for older women) but may also indicate that some older workers benefit from specific allowances like invalidity benefits or unemployment benefits without job search obligations.

**Figure 6. Shares of trajectories according to age (T3)<sup>7</sup>**



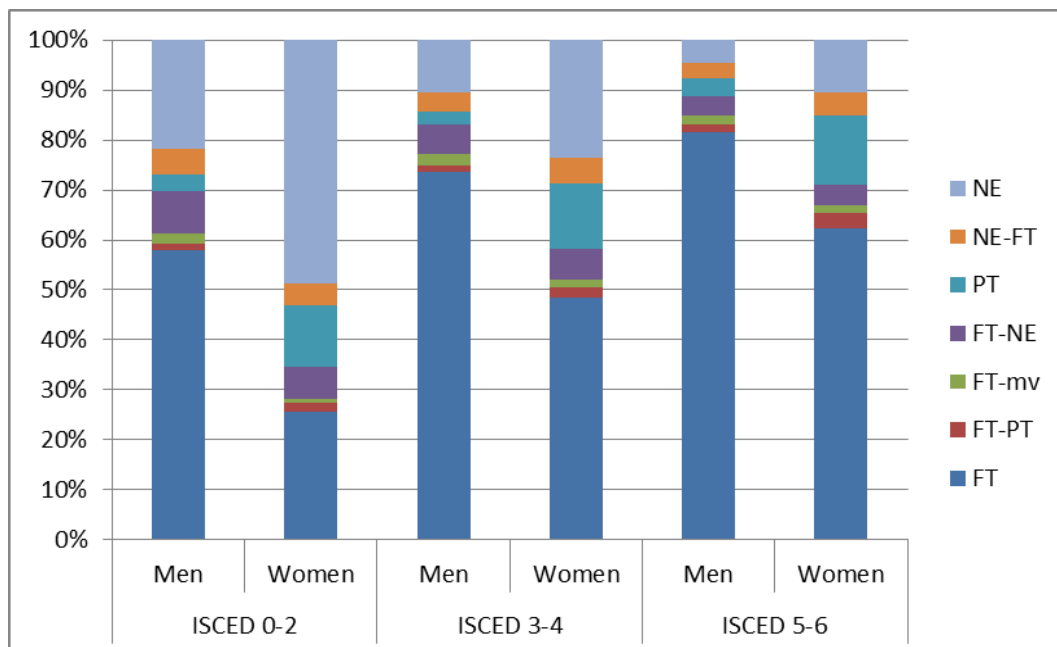
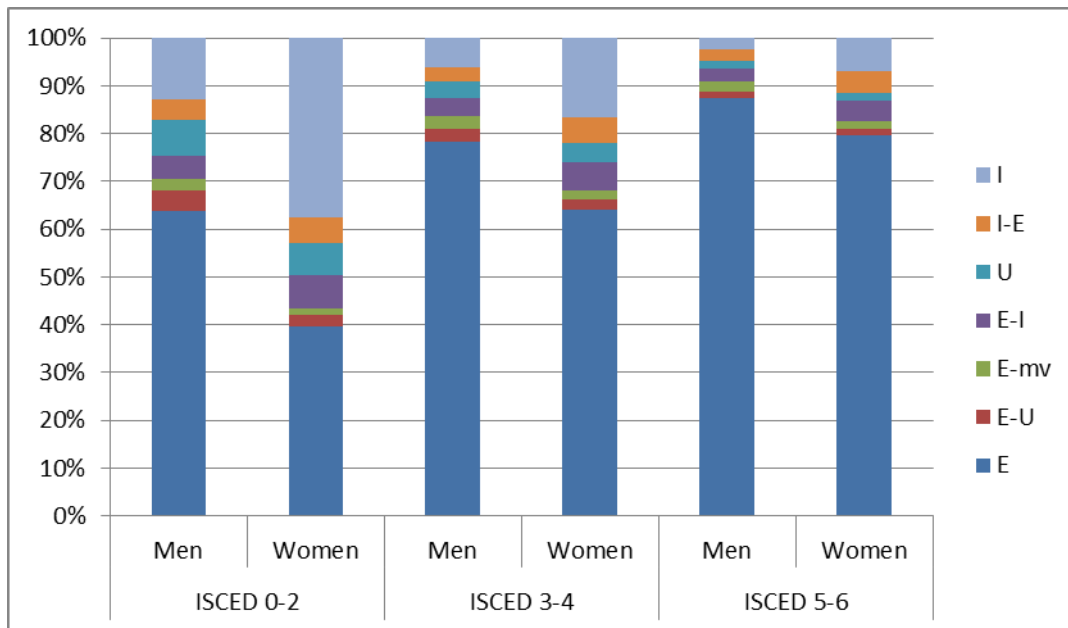
Source: EU-SILC 2008, 2009, 2010, authors' computation.

**Crossing education level and gender** shows that differences between low-educated women and high-educated women are on average much higher than differences between low-educated men and high-educated men. In particular, the shares of stable full-time employment and of 'stable non-employment' vary a lot across women according to their level of education. Stability in non-employment concerns about 49% of low-educated women

<sup>7</sup> Following the different types of sequences from typology T3, 'Employment' stands for stability in employment, 'E-retirement' for transitions from employment to retirement, 'Unemployment' for stability in unemployment, 'Studies-...' for transitions from studies to any other labour market status, 'other I' to stability in inactivity (except studies or retirement), E-U or E-other I' for transitions from employment to unemployment or to inactivity (except studies or retirement) and 'Employment-mv' corresponds to individuals in employment at the beginning of the period and with missing value at the end of the period.

and only 10.4% of high-educated women. Conversely, stability in full-time employment concerns only 25.7% of low-educated women while it concerns 62.3% of high-educated women. That analysis in terms of trajectories confirms that lower levels of education are more problematic for women than for men in terms of employment: low-educated women are much more likely than men to stay inactive and less likely to experience trajectories from non-employment to full-time employment.

**Figure 7. Shares of trajectories according to gender and education levels (T1, T2)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

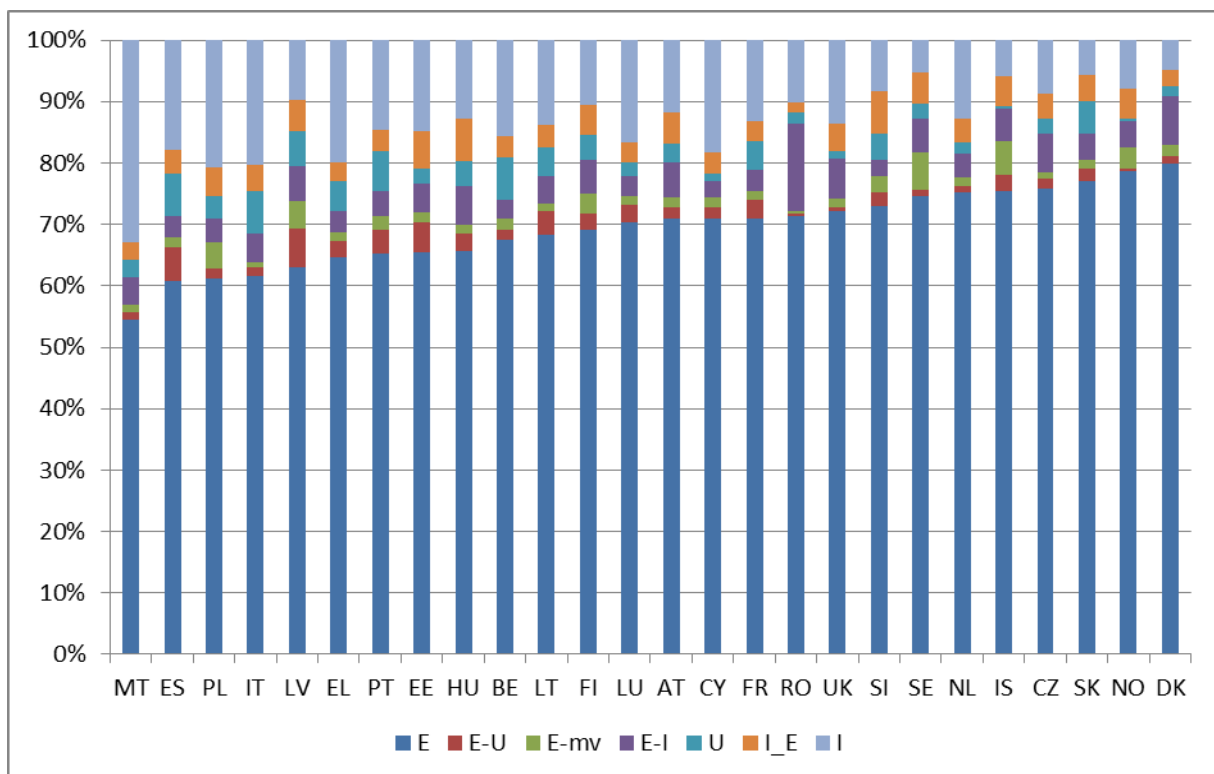
Note: see footnote 6 for the meaning of the different sequences.

### 3.2. Differences across countries

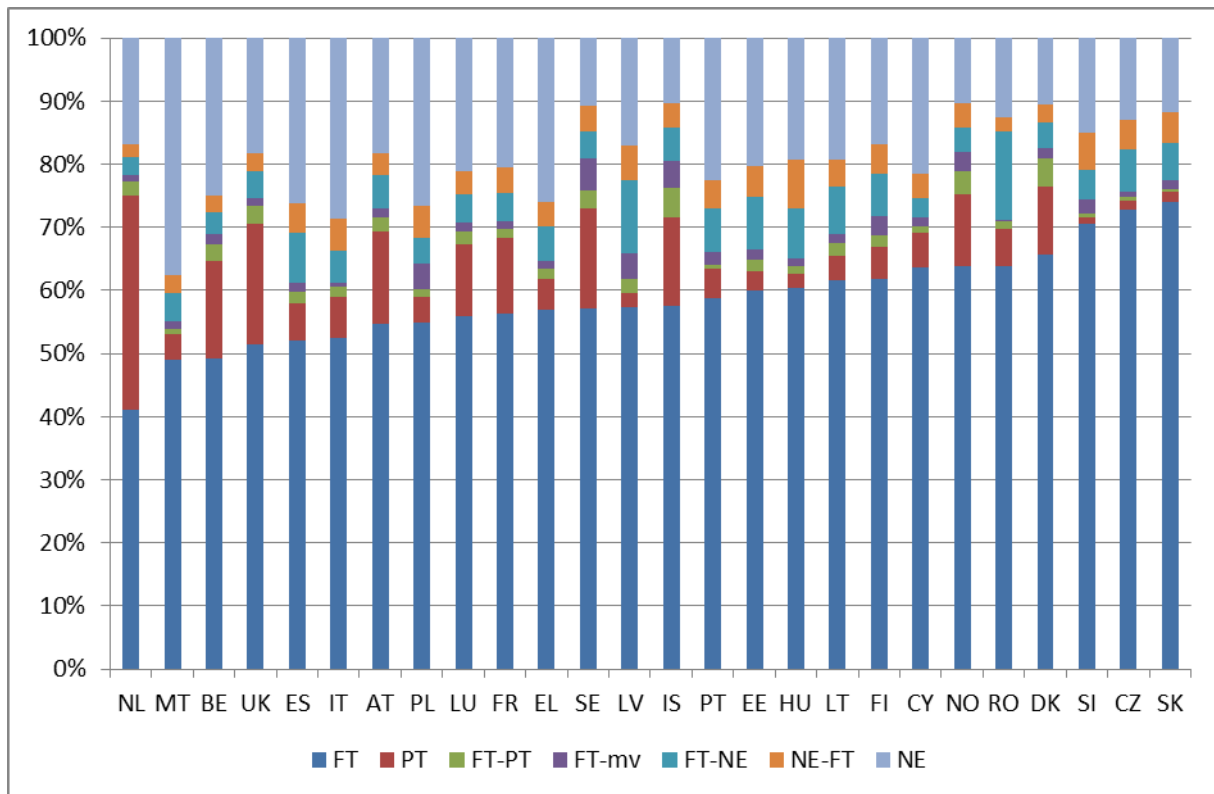
As presented before, stable employment trajectories represent about two thirds of trajectories (68%) on average in Europe. However, this proportion varies considerably across countries: the proportion of stable employment patterns reaches 80% in Denmark while it is less than 55% in Malta.

Southern countries as well as Eastern countries are indeed overrepresented in countries where stable employment trajectories are less frequent. Beside economic context and the intensity of the recession that was severe in some of those countries, this is related to a higher proportion of people in these countries, especially among women who experience stable trajectories in inactivity. Among those countries, some are also characterized by a higher share of transitions from employment to unemployment (especially Spain, Portugal, and Baltic States that experienced a very strong labour market degradation in 2008-2009) and by a higher proportion of stable unemployment trajectories, again in Spain and Portugal as well as in Italy. However, the position of New Member states is heterogeneous: for instance, Slovakia, Czech Republic and Slovenia are characterized by relatively high proportions of stable employment trajectories. This is even more obvious when looking at trajectories in stable *full-time* employment (Figure 9) since part-time work is far less developed in Eastern countries.

**Figure 8. Shares of trajectories in European countries according to a first typology (T1)**



Source: EU-SILC 2008, 2009, 2010, authors' computation; see footnote 6 for the meaning of the different sequences.

**Figure 9. Shares of trajectories in European countries according to a first typology (T2)**

Source: EU-SILC 2008, 2009, 2010, authors' computation; see footnote 6 for the meaning of the different sequences.

Looking at transitions from employment to non-employment (*i.e.* unemployment and inactivity), the picture is more mixed: Baltic countries, Spain and Portugal are characterized by relatively high shares of these trajectories out of employment but so are some Nordic countries (Denmark, Iceland, Finland). Over this period of crisis, we can also notice that transitions from full-time to part-time employment are the most frequent in Nordic countries (Iceland, Denmark, Norway, and Sweden) which may be related to some internal flexibility mechanisms.

Stable employment trajectories appear relatively less frequent **for low-educated people** compared to **high-educated people** on average in Europe. However, this difference is stronger in some countries. New Member states are characterized by very strong gaps in the share of stable employment trajectories (respectively in the share of stable unemployment trajectories) which are much less (respectively more) frequent for low-educated people. The position of New Member states is more heterogeneous in terms of stability in inactivity according to education (low-educated people are particularly overrepresented in stable inactivity in Poland, Lithuania, and Estonia but inequalities are not that strong in Czech Republic or Slovenia). Conversely, in Southern countries, the link between education and trajectories is less clear: the difference in the share of trajectories in stable employment trajectories or stable unemployment trajectories between high-educated and low-educated people is small. In Northern countries, differences between low-educated and high-educated people are also relatively limited, though low-educated people experience relatively more persistent part-time employment in Iceland and Norway. In the UK, inequalities in trajectories between low-educated and high-educated people are close to the European

average when looking at stable employment trajectories. We can notice however that there is a specific pattern in the UK, where low-educated people experience much more stable inactivity trajectories rather than stable unemployment trajectories. In the UK as in some continental countries (Austria, Belgium, the Netherlands), stable employment in part-time is also more frequent for high-educated people than for low-educated people.

Some differences between **men** and **women** have already been pointed out in the global analysis at the European level. However, the effect of gender is not the same across countries. The gap between men and women in terms of stability in non-employment is thus much larger in Southern European countries and to a lesser extent in continental countries. This is due in particular to a relative higher stability in inactivity for women. Conversely, the gender gap in terms of stability in non-employment is far lower in Eastern countries and in Nordic countries.

On average, in Europe, women are not more likely than men to experience a trajectory of stable unemployment over the period but again there are some discrepancies across countries: women are more concerned than men by this kind of trajectory in some new member states (Slovenia, Poland, and Czech Republic) and some Southern countries (Portugal, Greece, Italy) as well as in Belgium.

Finally, as far as part-time employment is concerned, we can observe that gender gaps are also higher in continental countries and in the UK (and to a lesser extent in Nordic countries): women are far more concerned than men by this trajectory than in other countries. Women are also relatively more concerned than men by transitions from full-time to part-time employment in Nordic countries and to a lesser extent in continental countries.

In spite of some common patterns, inequalities between social groups vary across European countries. Inequalities related to the level of education seem more significant in Eastern countries and, to a lesser extent, in the UK (where low-educated people tend to be relatively more frequently in “stable inactivity”) whereas in Northern, Southern and continental countries, these inequalities are less pronounced. The gender gap in terms of trajectories is the highest in Southern countries and, to a lesser extent, in continental countries (both in terms of inactivity and part-time employment in the latter group) while it is limited in Nordic and Eastern countries.

This comparative analysis confirms some previous results about inequalities between social groups in terms of transitions, especially concerning the position of New Member states and Southern countries that are characterized by stronger inequalities according to education and gender respectively. It also points out the specific role of part-time in Nordic countries, continental countries and in the UK in which labour market trajectories that include (totally or only partly) part-time sequences are more frequent, especially for low-educated people and/or women.

#### **4. A FOCUS ON YOUTH**

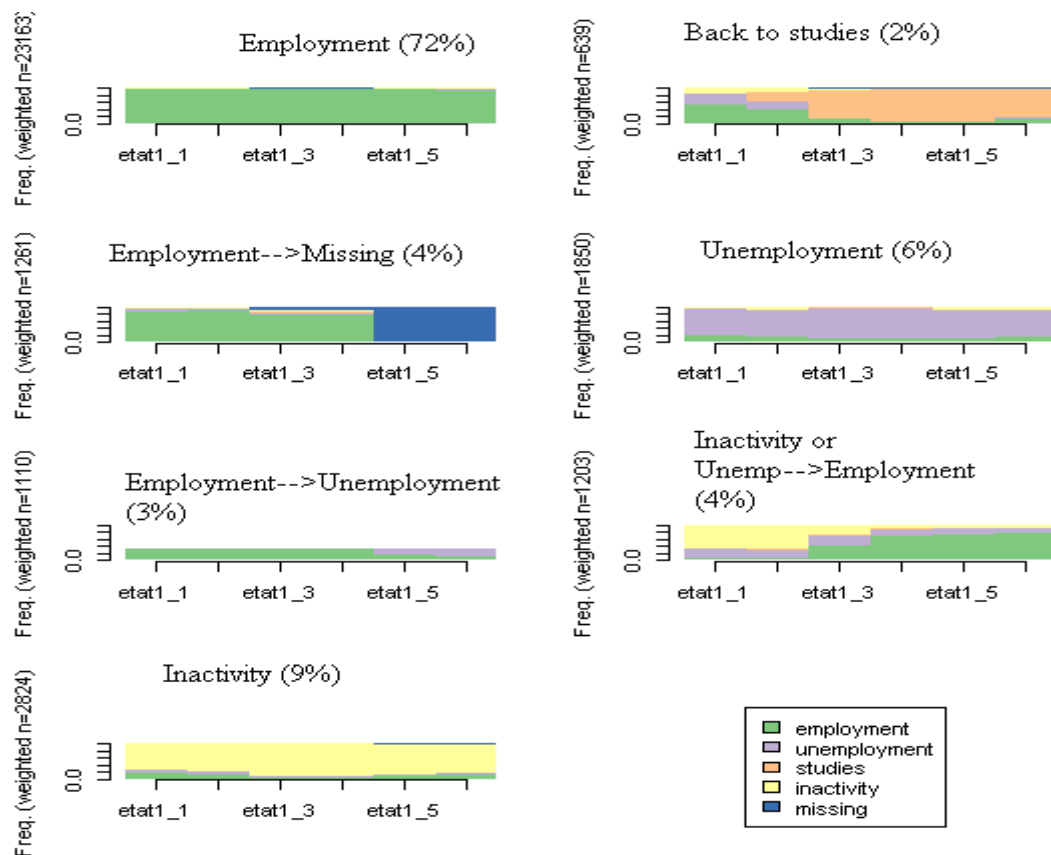
In this section, we characterize some specificities of young people's situation on the labour market, using results for two different samples: one for the whole population aged 16 to 34, the other one restricted to individuals who were on the labour market in 2008 – for whom we can suppose that they had finished their initial education. That population is usually considered as being the most concerned by the current crisis and the deterioration of the

labour market context. In this section, we refer to the results for the two samples, but we focus more particularly on out-of-education youth<sup>8</sup>. As for the general population, we compute two sets of typologies, one (T4 and T6) for the employment, studies, other inactivity and unemployment variable, the other one (T5 and T7) for the variable that discriminates between full-time and part-time.

The results of the two typologies show that youth labour market trajectories in the EU differ across the two groups considered. Considering all young people aged 16 to 34 (see Figure A1 in Appendix), stable employment over the whole period represents 65% of the sample, stable unemployment 7%, and inactivity 8%. The typology shows quite important transitions between studies and employment (6%), as well as trajectories including studies, employment and unemployment (8.8%).

Focusing on young people who were on the labour market in 2008 (Figure 10 below), stable situations amount to 87% of the sample, including a majority of stable employment (72%), but also persistent unemployment (6%) and inactivity (9%). Transitions take mainly place between employment and unemployment (3%) or missing values (4%), inactivity and employment (4%). Only 2% of those young people start studies again. Differentiating between full time and part time shows that part time represents a relatively small share of stable employment (60% of the sample have stable full-time employment, and 7% stable part-time).

**Figure 10. Typology of sequences, young people out of education in 2008 (T4)**



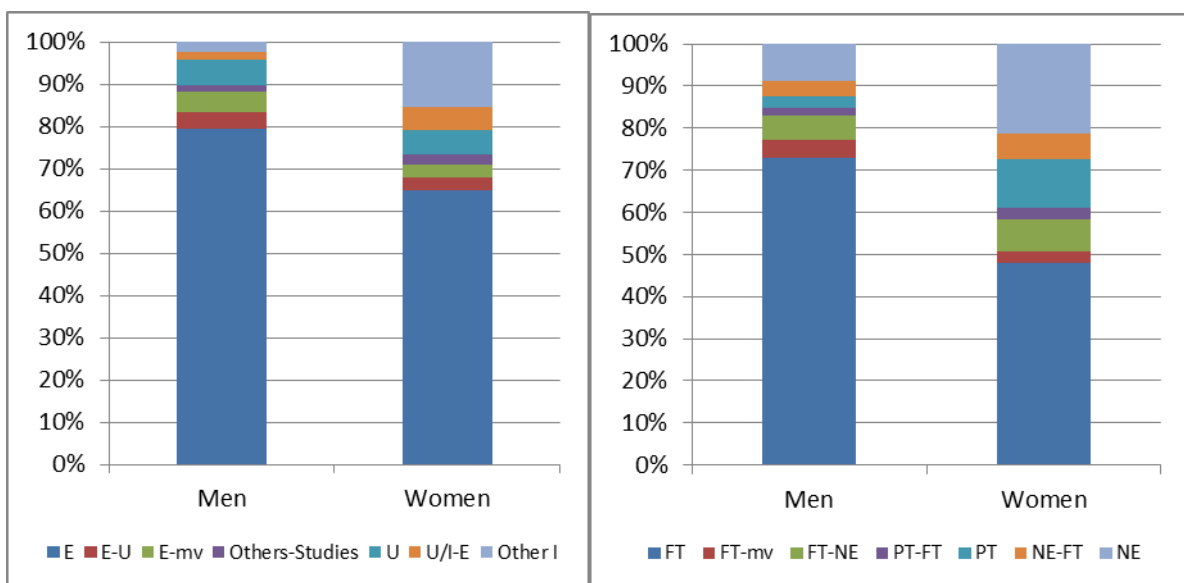
Source: EU-SILC 2008, 2009, 2010, authors' computation.

<sup>8</sup> Results for all youth are therefore presented in Appendix.

For young people as well as for the general population, individual characteristics matter in observed labour market trajectories.

**Gender differences** are mainly related to the importance of inactivity (figure 11A). First, women's trajectories exhibit a higher share of stable inactivity patterns: these situations appear to be ten percentage points higher than for men in the whole youth sample and thirteen percentage points higher than men for young people who were on the labour market in 2008. In the second typology, this gap is also visible in the shares of stable non-employment sequences that represent 21% for young out-of-studies women, against 8.7% for men. Second, inactivity and non-employment are also more frequent in the types including transitions (FT-NE, NE-FT). The importance of part-time also differs by gender, although the differential is more limited for young people.

**Figure 11A. Typologies (T4 and T5) by gender (out-of-education youth aged 16 to 34)<sup>9</sup>**



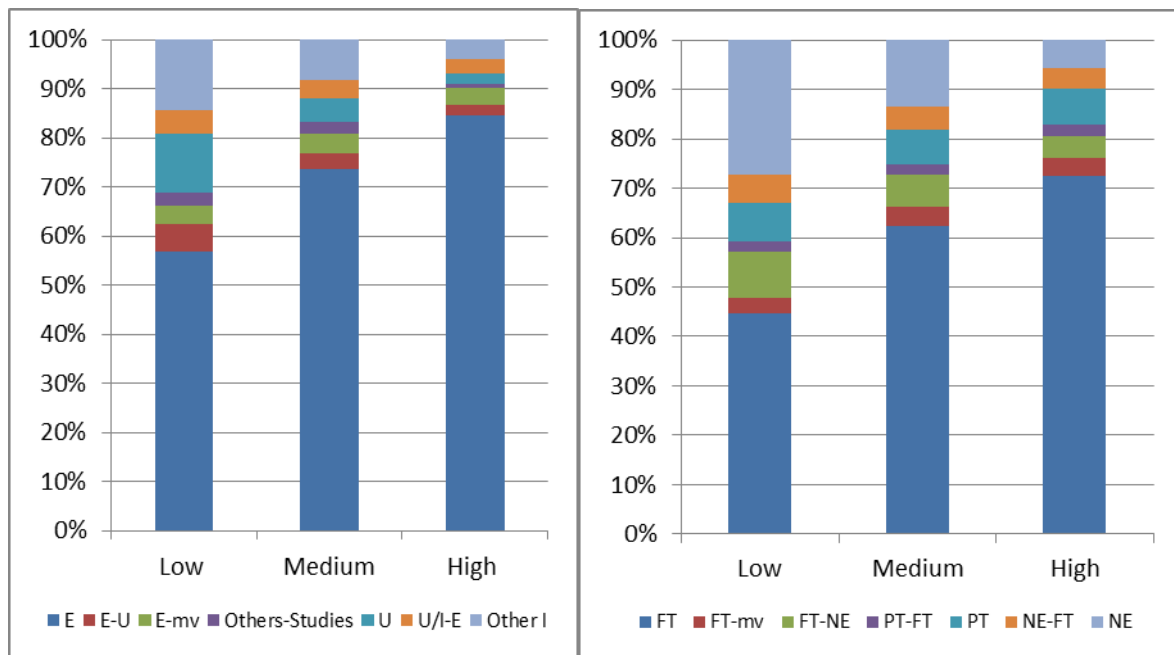
Source: EU-SILC 2008, 2009, 2010, authors' computation.

The proportion of stable employment trajectories increases with education level, as well as the share of full-time employment patterns. The difference in stable employment or full-time employment shares between the higher and the lower education levels amounts to thirty percentage points, whatever the population considered.

As for the general population (section 3), the gender gap decreases with **the education level** (figure 11B) : according to the first typology, 81.2% of highly-educated women experience stable employment against 89.6% of men, whereas the corresponding figures are 42% and 67.2% for low-educated youth.

<sup>9</sup> Following the different types of sequences presented in Figure 10 (from typology T4), 'E' stands for stability in employment, 'E-U' for transitions from employment to unemployment 'Others-studies' for transitions from any labour market status (employment, unemployment or other inactivity) back to studies, 'U/I-E' for transitions from unemployment or inactivity (except studies) to employment, 'U' for stability in unemployment, 'Other I' for stability in inactivity (except studies) and 'E-mv' corresponds to individuals in employment at the beginning of the period and with missing value at the end of the period. Similarly, in the second graph, 'NE' stands for stability in non-employment, 'NE-FT' for transitions from non-employment to full-time employment, 'PT' for stability in part-time employment, 'PT-FT' for transitions from part-time employment to full-time employment, 'FT-NE' for transitions from full-time to non-employment, 'FT' for stability in full-time employment and 'FT-mv' corresponds to youth in full-time employment at the beginning of the period and with missing value at the end of the period.

**Figure 11B. Typologies (T4 and T5) by education level  
(out-of-education youth aged 16 to 34)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

Note: see footnote 9 for the meaning of the different sequences.

Among the young population, age matters for individual sequences on the labour market. The share of stable employment patterns increases with age (from 43.5% for the 16 to 19 years-old up to 78.2% for the 30 to 34 years -old). Trajectories including transitions to education represent 14% of the total for the youngest (16-19) and 0.3% for the oldest (30-34).

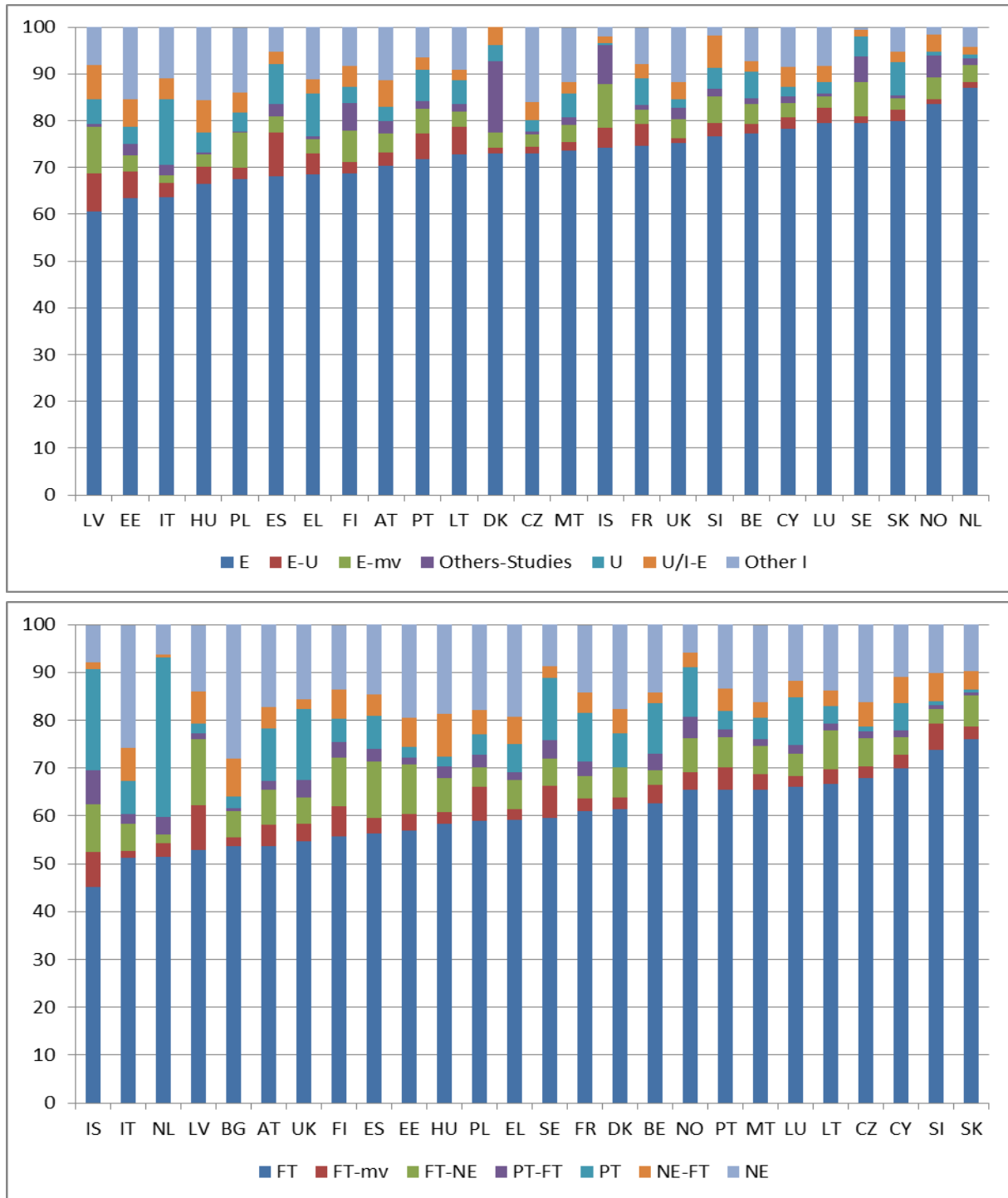
Cross-country differences are important in terms of labour market trajectories: considering all young people (Figure A4 in Appendix) the stable employment cluster includes 70% or more of individuals, whereas it represents less than 60% in Sweden, Italy, Poland, and Estonia. Unemployment over the whole period appears to be higher in Italy, Spain and Greece, whereas it is the case for inactivity in Austria, the UK and some new member states (Estonia, Poland, Hungary, Czech Republic). These differences are influenced by the labour market context, but also by the role of education system since sequences including studies are quite frequent.

Focusing on young people out of education in 2008 (Figure 12), some other countries stand out. Stable employment sequences are at the highest level in the Netherlands, Norway and Slovakia (80% and more). They are also relatively high in Sweden, Luxembourg, whereas France or the UK stand close to the EU average. Disadvantaged countries are mainly Southern countries (Italy, Greece, Spain) and New Member states (Poland, Hungary, Estonia), which also exhibit quite high stable unemployment or inactivity patterns. Youth labour market patterns seem therefore related to the general economic and labour market context and to the intensity of the crisis. This relationship is clearer when the analysis is restricted to those who were already on the labour market in 2008. In addition to these countries where the general labour market situation is not favourable, the UK and Austria also stand out by high proportions of continuous inactivity. Nordic countries are very specific concerning the importance of studies in the labour market trajectories of out-of-education youth. the cluster 'others-studies' amounts to more than 5% in Sweden, Norway, Finland, and even 14% in Denmark. This reflects how porous the border is between labour market and



education system in these countries that favour transitions back to education after a period of work experience.

**Figure 12. Typologies (T4 and T5) by country (out of education youth)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

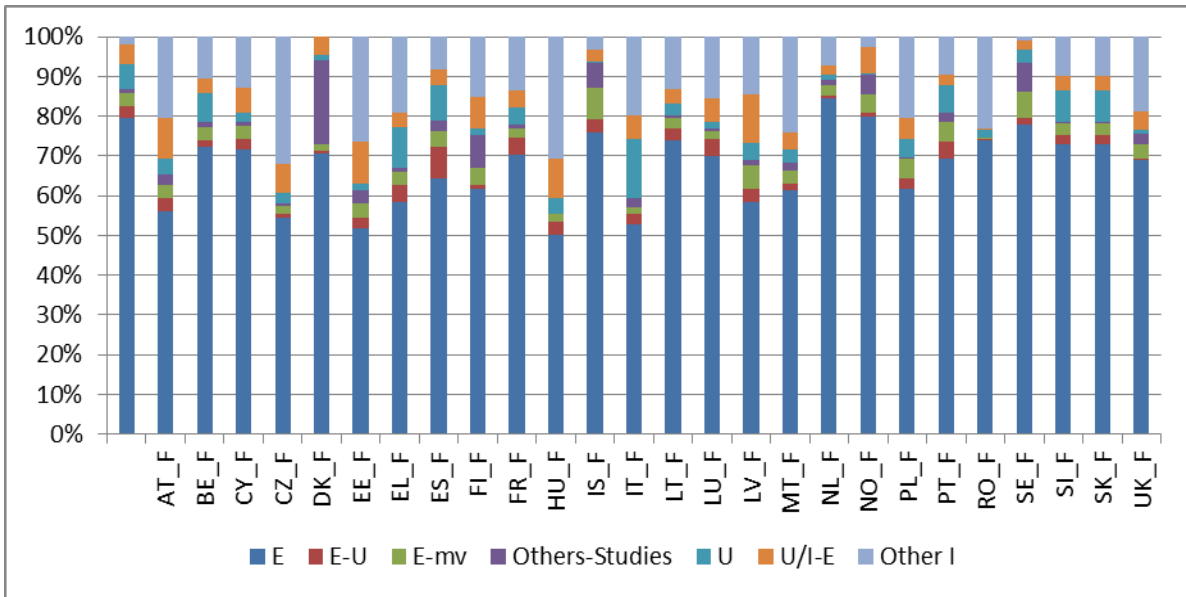
Note: see footnote 9 for the meaning of the different sequences.

The decomposition by full-time and part-time employment is consistent with national working time regimes: the share of continuous part-time is the highest in the Netherlands (33%), and is also quite important (over 10%) in the UK, Sweden, France, and Belgium. Continuous full-time appears to be over-represented in New Member states (Slovenia, Slovakia, Czech Republic, Lithuania...) where part-time remains an exception (see Figure 12).

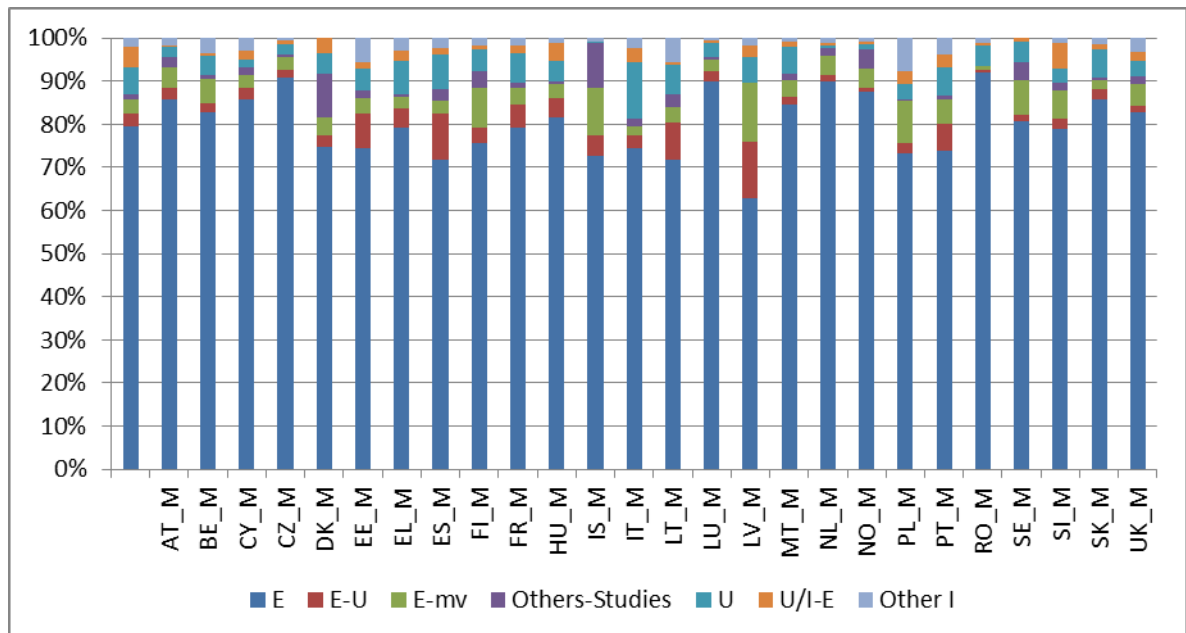
Additional country specificities appear when young men and women are considered separately. As for the general population analysed in the previous section, young women appear to be disadvantaged in most Southern and Eastern European countries where they experience less stable employment trajectories and a higher share of durable inactivity. The gender gap for stable employment patterns exceeds twenty percentage points for Austria, Czech Republic, Estonia, Hungary, and Italy, whereas it is less than five percentage points in Sweden, Denmark, the Netherlands or Portugal.

**Figure 13. Typology (T4) by gender and country (out-of-education youth)**

Women



Men



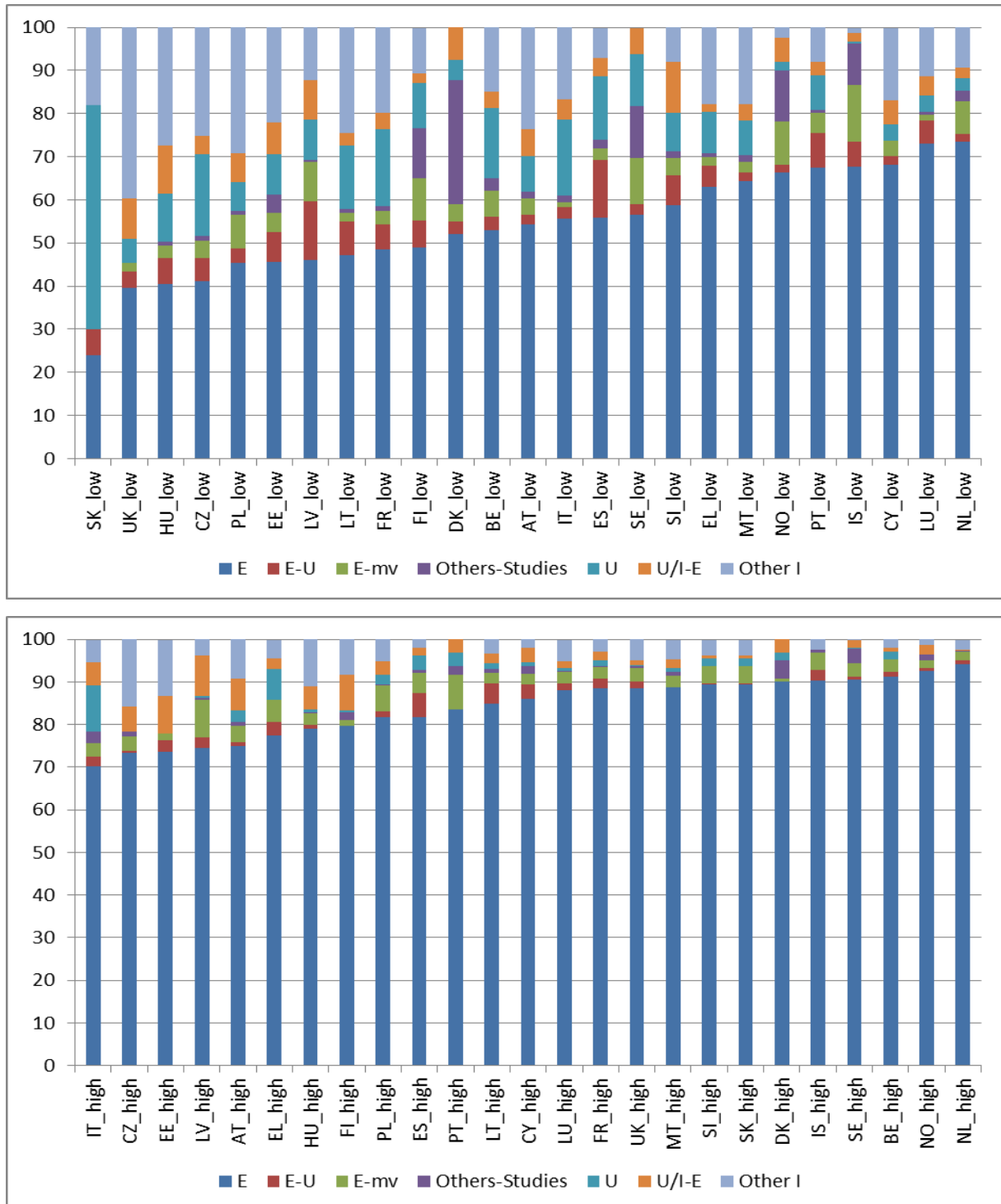
Source: EU-SILC 2008, 2009, 2010, authors' computation.

Note: see footnote 9 for the meaning of the different sequences.

The picture obtained for full-time employment in the second typology is quite similar (see Figure A5 in Appendix), except for the Netherlands and the UK where women are

underrepresented in stable full-time employment (fifty percentage points gap between men and women in the Netherlands, thirty percentage points in the UK). In these two countries, stable part-time is far more frequent for young women than for men, which is also the case (with smaller differences) in Austria, Belgium, France or Sweden.

**Figure 14. Typology (T4) by country and education levels (out-of-education youth)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

Note: see footnote 9 for the meaning of the different sequences.

Disaggregating by education levels (for the same population) also brings interesting results in a comparative perspective. The higher-educated usually experience high continuous

employment patterns (over 80%), low-unemployment or inactivity. Nevertheless, continuous unemployment is more frequent in Italy or Greece, and inactivity is more developed in Austria, Finland, Czech Republic, and Estonia. The heterogeneity across countries is higher for low-educated youth. For that population, continuous employment sequences exceed 70% in the Netherlands and represent less than 40% in the UK. Continuous unemployment ranges from 50% in Slovakia to 3% in the Netherlands, and stable inactivity from 40% in the UK to almost 0% in Sweden or in Denmark. These results are not only influenced by the intensity of the crisis: despite their depressed labour market, Spain and Greece display relatively high shares of stable employment sequences for low-educated youth, contrary to France or the UK. It may reflect different types of relationships between education levels and the labour market in EU countries, depending on economic specializations and firm recruitment and further training practices. In France for example, diplomas are usually seen as signal for human capital quality and some qualified youth are hired on lower qualified jobs resulting in quite frequent skills mismatch (over-education). In general in the EU, the results also show that unstable trajectories and 'bad' transitions are more frequent for low-educated youth: in nine countries (Finland, Czech Republic, Denmark, Lithuania, Czech Republic, Estonia, Latvia, Spain, and Norway) more than 10% experience a transition from full-time employment towards non-employment over the two years studied, whereas such sequences are very rare for the higher educated. Low-educated people scarcely get back to studies, except in the Nordic countries (especially Denmark where these trajectories represent almost 30% of the sample).

## **CONCLUSION**

The analysis of labour market trajectories in Europe confirms the role of individual and country variables. In a life course perspective, it shows that stable employment is the highest in the midlife period, whereas youth and older people are more likely to experience unstable patterns over a three-year period. In general, all over the life course, women's trajectories involve higher shares of persistent inactivity or transitions from/towards inactivity, and the incidence of part-time is higher than for men. Education level plays an important role in labour market dynamics in Europe for the general population as well as for youth: differences between low and high-educated are noticeable for stable employment trajectories, as well as persistent unemployment patterns.

Our study also reveals important differences in country regimes. Some of them might be related to the consequences of the 2008 recession, but others appear to be more structural and confirm other comparative analyses of European labour markets. In general, Southern and Eastern European countries are disadvantaged in terms of employment stability. That is not only due to higher rates of trajectories involving unemployment, but also to higher shares of persistent inactivity, which might be explained by some specific policies (for instance, parental leave policies for women in the New Member states). In these countries, youth generally experience less favourable trajectories. This result can be related to the specific context of the crisis since previous analyses of European transitions (Erhel, Guergoat-Larivière, 2013) tend to show that youth (and older people) were relatively more disadvantaged in continental countries while the main determinants of inequalities in Southern and Eastern countries were gender and education level respectively. Nordic countries stand out by some very specific features, like the importance of transitions towards studies for young people, and especially low-educated youth: this has to be related to

specificities of their education systems which favour transitions between labour market and education. Results on the relative situation of youth in Northern and Southern countries confirm – on the basis of an analysis of longer individual trajectories – some recent results (Madsen *et al.*, 2013) pointing out an increasing deterioration of labour market situations for youth in Southern countries and a widening gap between these two groups of countries. The contrast between Southern and Nordic countries may be considered as illustrating the different ways flexicurity policies may impact labour market in times of crisis depending on how they are implemented: while they seem to favour transitions between labour market and education in Nordic countries, youth in Southern countries seem reversely “more exposed to the flexibility dimension and less protected by its compensating security measures” (Madsen *et al.*, 2013). In the UK, young people are more likely to remain inactive over three years, and low-educated youth appear to be particularly disadvantaged. In general, country differences are the highest for low-educated youth, whereas the situation of higher educated young people is more homogeneous across Europe. Differences in institutions, labour market policies, employers’ attitudes, and social division of gender roles... might play a stronger role for the lower educated. Finally, our results are consistent with differences in working time regimes: the incidence of part time (as a continuous employment pattern or as part of a trajectory) is higher in Continental Europe, the UK and the Nordic countries. However, transitions from full time to part time (or the other way round) remain relatively rare.

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## **GLOSSARY**

### **Countries**

At Austria  
BE Belgium  
CY Cyprus  
DK Denmark  
EE Estonia  
EL Greece  
ES Spain  
FI Finland  
FR France  
HU Hungary  
IS Iceland  
IT Italy  
LT Lithuania  
LV Latvia  
MT Malta  
NL The Netherlands  
NO Norway  
PL Poland  
PT Portugal  
RO Romania  
SE Sweden  
SI Slovenia  
SK Slovakia  
UK United Kingdom

### **Labour market statuses**

E Employment  
FT Full-time Employment  
I Inactivity  
NE Non-Employment  
PT Part-time Employment  
U Unemployment

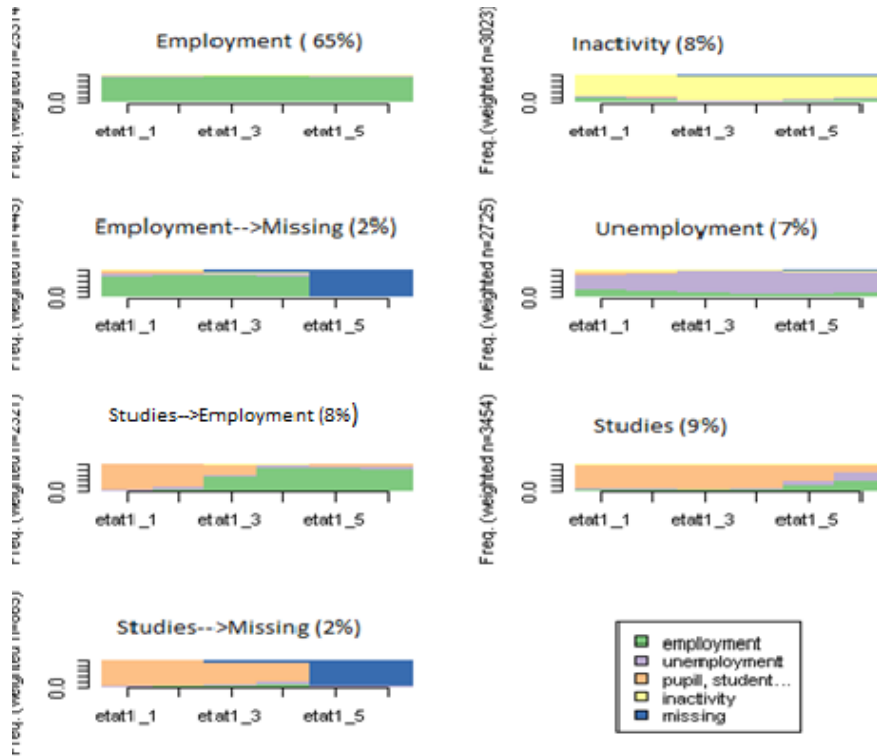




# APPENDIX

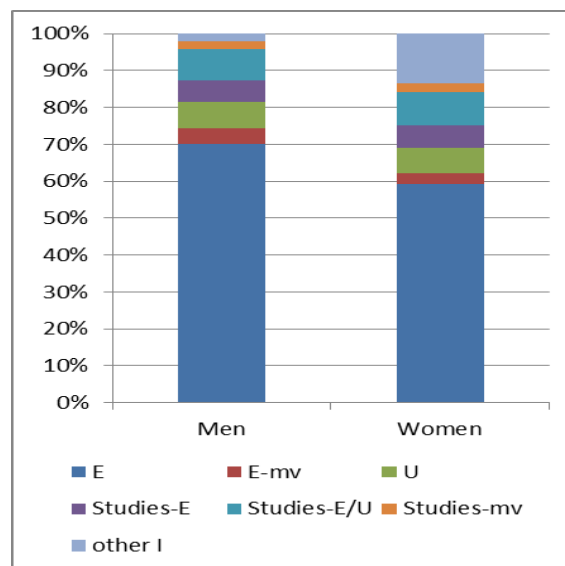
## Additional typologies and Figures

Figure A1. Typologies for all youth aged 16 to 34 (T6)



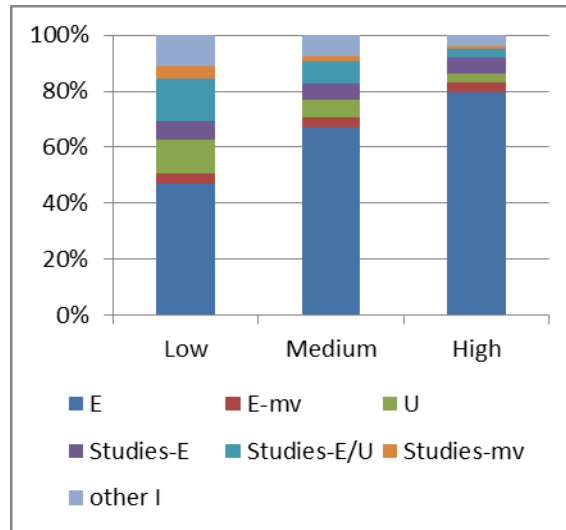
Source: EU-SILC 2008, 2009, 2010, authors' computation.

Figure A2. Typologies (T6) by gender (all youth aged 16 to 34)



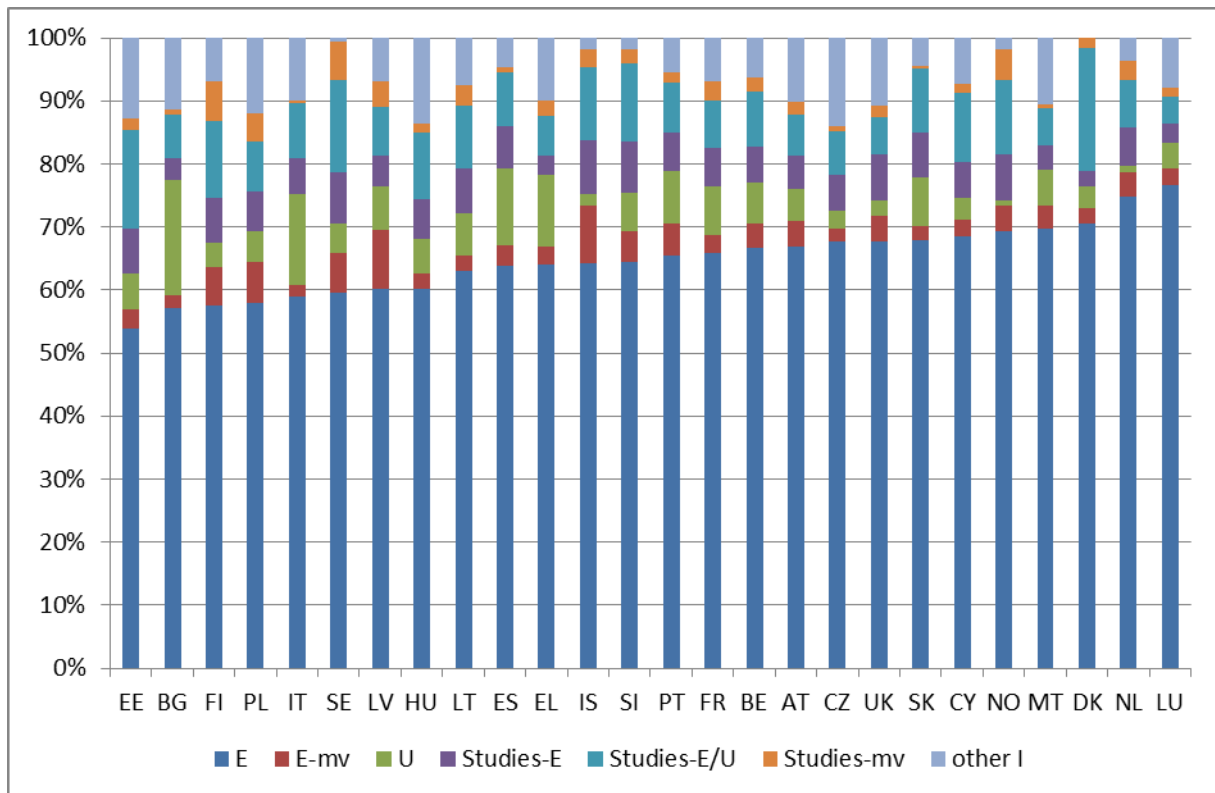
Source: EU-SILC 2008, 2009, 2010, authors' computation.

**Figure A3. Typology (T6) by education level (all youth aged 16 to 34)**



Source: EU-SILC 2008, 2009, 2010, authors' computation.

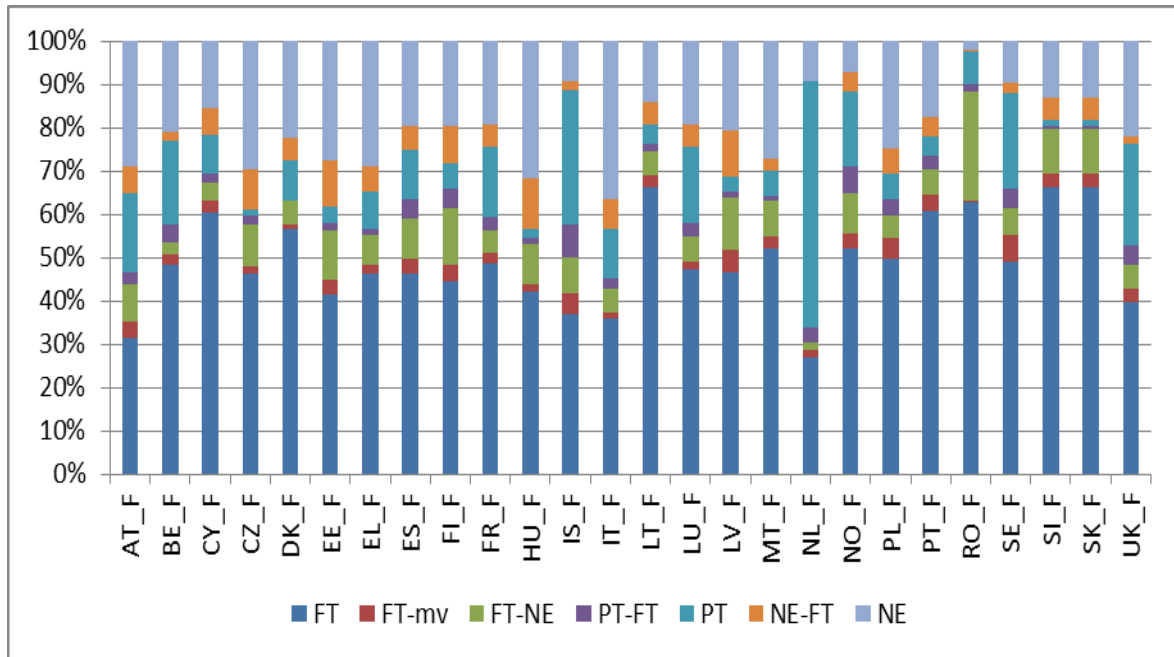
**Figure A4. Typology (T6) by countries (all youth aged 16 to 34)**



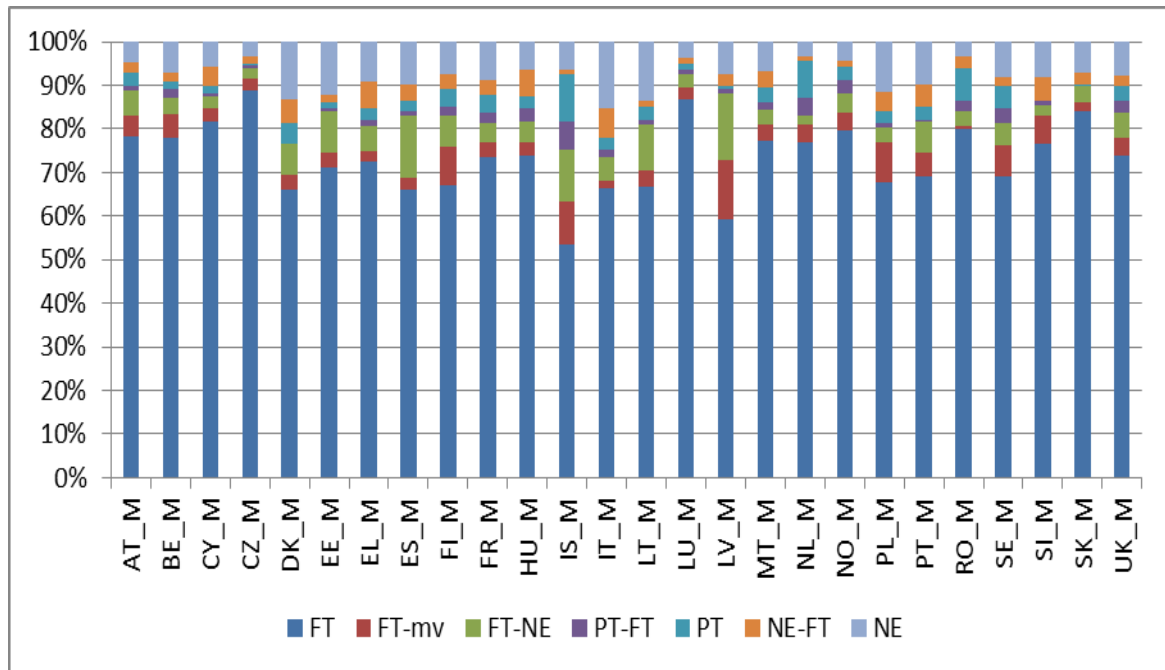
Source: EU-SILC 2008, 2009, 2010, authors' computation.

**Figure A5. Typology (T4) by gender and country (all youth)**

Women

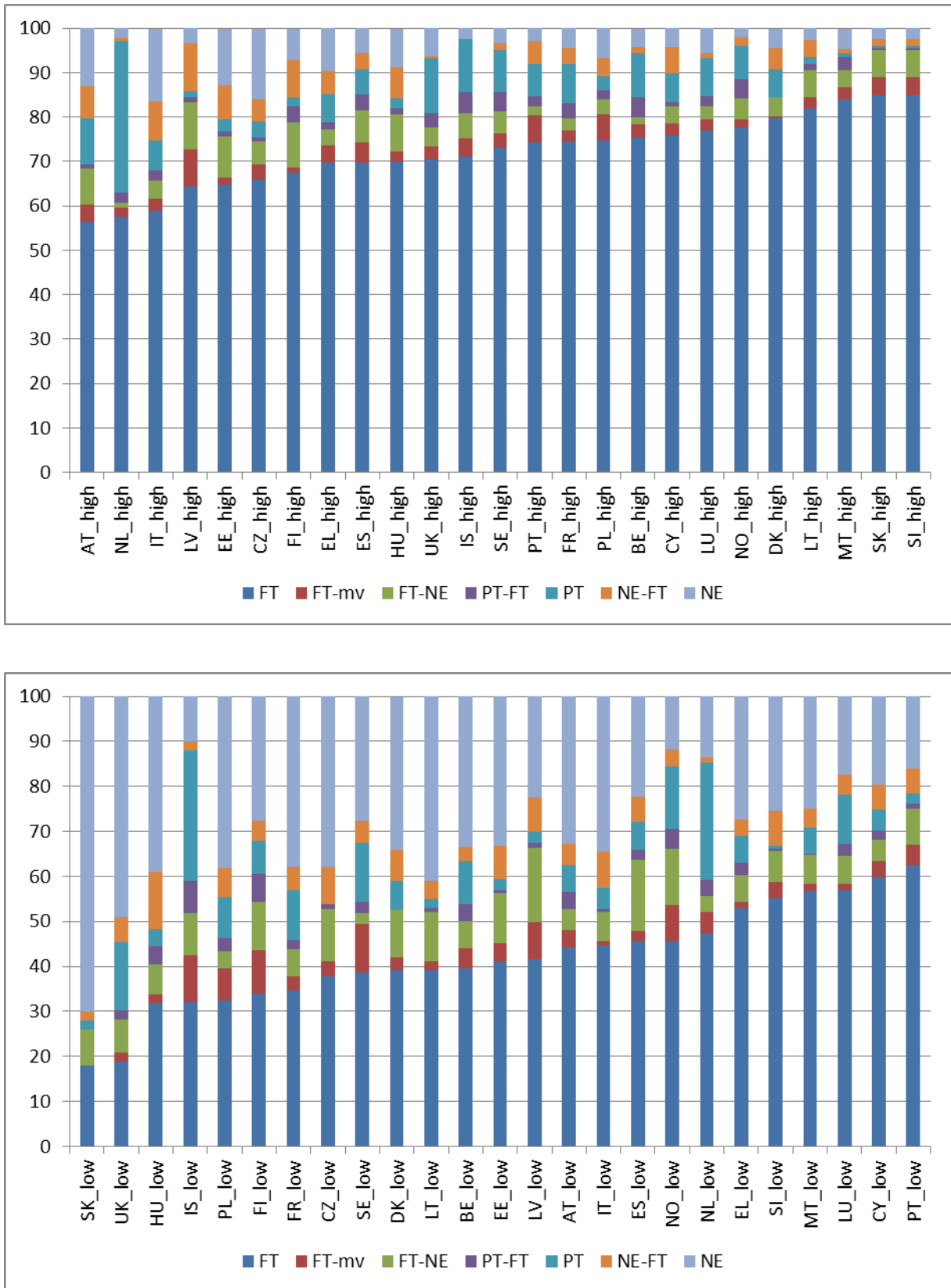


Men



Source: EU-SILC 2008, 2009, 2010, authors' computation.

Figure A6. Typology (T4) by country and education levels (all youth)



Source: EU-SILC 2008, 2009, 2010, authors' computation.

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