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Measuring early employment insecurity and its effects

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Abstract In this paper we investigate the early employment insecurity of young people's career by applying the "index of complexity". This index measures the entropy and the number of transitions within a sequence (Gabadinho et al 2010). The entropy indicates the distribution of different positions within a sequence, hence its higher or lower degree of predictability; the number of transitions reveals the instability of the trajectory. This index is used to describe the quality of young people's trajectories in the UK using the UKHLS, also known as Understanding Society. The index is calculated for the trajectories covering the first four waves (2009-2013). The index is then used to unveil the relationship between a young person's past trajectory and their labour market position in the fifth wave (2013-2014). We expect that young people with unstable trajectories are more likely to be out of the labour market or in temporary employment. This will confirm the scarring effect of early employment precariousness.

Keywords: trajectories, early employment insecurity, index of complexity, scarring, UKHLS

1 Introduction

A large body of research recognised that first transitions in the labour market have become more hectic, less straightforward and more individualised (Vickerstaff 2006). In particular, transitions from temporary contracts into permanent contracts and their effects on the younger generations have found an increasing interest and stimulated prolific research (Scherer 2004; Gebel 2010; Ortiz 2010). Moreover, the crisis of the last few years has brought the challenge of youth employment again high on the agenda as the crisis has exacerbated the risk of downwards transitions or getting trapped into unemployment or inactivity for the younger generation (European Commission 2014; O'Reilly et al 2015).

Several studies have investigated the impact of the initial job position (Gebel 2010; Nickell et al 2002) as well as the impact of spending long spells in unemployment at the beginning of the work career (Hammarström and Janlert 2002; Strandh et al 2014). Findings confirm that first negative labour market experiences can have far-reaching negative impact on labour market opportunities but also several aspects of life (Cable et al 2008; Schmelzer 2011; Weish and Lewis 1998). This effect is known as "scarring effect" (Bell and Blanchflower 2011; Gregg and Tominey 2005; Tumino 2009).

2 Early job v. early employment insecurity

When condensing the increasing attention towards precariousness and churning (Standing 1999) particularly regarding young people, we argue that it is more interesting to switch the attention towards the concept of early-employment insecurity rather than of early-job insecurity. While the latter is limited to the single, though important, first work experience; the first is believed to better grasp the precariousness and the individual negotiated choices embedded in multiple changes overtime (Fuller 2009). Moreover, when considering the negative

consequences of precariousness - such as the deterioration of human capital, stigma, negative signalling and the status dependency (Ayllón 2013) - there is an important temporal dimension of accumulation that should not be overlooked and can be accounted for in longitudinal analysis.

3 Describing trajectories: some indicators

Looking at trajectories implies adopting a longitudinal perspective and adapted quantitative methods. Investigating trajectories has become increasingly common in the social sciences and in particular in life-course analysis looking at careers and social status (Abbott and Tsay 2000, Halpin and Cban 1998; Widmer and Ritschard 2009). A second generation of sequence analysis is being developed to answer the first criticisms and go beyond some initial limits (Aisenberg and Fasang 2010; Scherer 2001).

The quality of the trajectories investigated as been mainly assessed in terms of membership to clusters where one or more patterns could be easily identified. However, cluster analysis, on top of its arbitrary capacity of finding patterns even in unstructured data (Scherer 2001), has also the limit that the cluster membership is similar for all those individual observations belonging to that cluster. This implies that it does not provide a degree of quality for each single individual.

To our best knowledge, three contributions developed a measure to establish the quality of trajectories: the “turbulence” indicator developed by Elzinga and Liefbroer (2007), the “index of complexity” by Gabadinho et al (2010) and the volatility and integrative capability by Brzinsky-Fay (2007).

4 The quality of trajectories and scarring effect

Several aspects can be taken into account when looking at the trajectories: the type of statuses experience, their timing, the spell length of the statuses, the sequencing and the total time spent in a specific status (Studer and Ritschard 2014). Among these aspects, we expect that the number of statuses experienced and their distribution (i.e. time spent in specific status) are important in determining the instability and predictability of the trajectories. For this reason, we chose the “index of complexity” to measure the precariousness of a trajectory because it brings together two important aspects: *entropy* – i.e. the distribution of statuses within a sequence - and the *number of transitions* (Gabadinho et al 2010); besides, it implies manageable calculations and quite straightforward interpretation.

Taking into account the relevance of trajectories for future labour market outcomes and the current state of the art of the tools used for measuring the quality of trajectories, we argue that:

H: The more complex trajectories are, the more likely a young person will be to be unemployed, inactive or in temporary employment in the fifth wave.

5 Data analysis

The data used are a subsample drawn from the first wave of the UK Household Longitudinal Survey (Understanding Society) of young people, excluding students, in the early work career. Young people’s trajectories are investigated over four years and their labour market positions are grouped into six categories: « being employment on a permanent contract », « being employed on a temporary contract », « being in education/training/apprenticeship scheme », « being unemployed », « being inactive » (excluding maternity leave), and « other ».

The « index of complexity » (Gabadinho et al 2010) will be calculated for each individual trajectory and descriptive statistics will be used to show differences of the index according to the main socio-demographic variables.

The second step will be to adapt the index of complexity in order to make it suitable for being used as an explanatory variable in a series of logistic regressions. Because it is based on entropy and the number of transitions, a labour market trajectory only composed of a single employment spell will have an index of complexity equals to 0: no transitions and, as a result, no different proportions of different labour market statuses. A similar result would be obtained for a trajectory of a young person who spent the whole observation period in unemployment. The index of complexity would be, again, equal to 0. A solution based on a weighted entropy will be investigated where a subjective/utility of the spell is accounted for (Kannappan 1980) in order to account for the subjective utility of the spells.

Finally, to investigate the effect of the complexity of trajectories, the modified index of complexity will be then included, as an independent variable, in a set of logistic regressions investigating the probability of being in employment or outside the labour market in the fifth wave of the survey. The regressions will establish whether, all other things being equal, our hypothesis is validated or not.

6 Expected results

In line with the literature, we expect that young people with lower education, with a migrant background and with a fragile household position (e.g. namely single parents) will be more likely to have complex/precarious trajectories. Some other relationships between the quality of the trajectory and individual's living environment are also likely to be explored.

We also expect to find that a higher degree of complexity as a negative effect on the probability of being employed in the last year of observation (fifth wave).

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