Regional Differences in Labour Market Participation of Young People in the European Union

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Abstract

The passage from education to employment is one of a number of 'transitions' experienced by young people. There was a tendency in the 1980s and 1990s for youth transitions to lengthen and become more diverse. It is now the norm for young people to undergo further education/training after the end of compulsory education. As a result, labour market entry has often been delayed, and has become more protracted and complex. Labour market participation is moulded by a number of inter-related factors, including: the demographic and economic context, the organisation and structure of the labour market and of education and training systems, the role of the state in shaping labour supply and the organisation of the family economy. Using the economic activity rate, together with other measures constructed from the European Labour Force Survey for 1993-97, this paper is concerned with describing, exploring and tentatively explaining labour market participation rates of young people in NUTS 2 regions across the European Union. A range of exploratory data analysis and multivariate regression analysis techniques are employed, and the implications of the findings for understanding current and future regional variations in labour market activity are addressed.

KEY WORDS * European Union * youth transitions * labour market participation *economic activity rate * regional differences * exploratory data analysis

Introduction

There is an ongoing interest in exploring, and seeking to understand, variations in labour market participation by age and by gender, at national and regional levels, from both theoretical and policy perspectives. Much recent theoretical work on regional development has focused on interlinkages between economic, social and cultural theory (Peck, 1996; Lee and Willis, 1997; Rodriguez-Pose, 1998), and on the role of labour market and welfare regimes in understanding regional variations in economic activity and employment (Esping-Anderson, 1990; Gonas, 1998). There is a growing body of work focusing on gender differentials in labour market participation and employment. Much of the emphasis of this work has been on interpreting such differentials in the context of gendered welfare regimes, gender contracts, gender arrangements and differentiated patriarchy (Perrons and Gonas, 1998; Duncan, 1994, 1995, 1996; Lewis, 1992; Walby, 1994; Perrons, 1995, 1998; Rubery *et al.*, 1999). Generally, the main focus has been on 'all' women and men, or all those of prime working age, although recent work on preference theory has highlighted differences in labour force participation amongst women (and men) (Hakim, 2000). To date, little attention has been paid to regional and gender differentials in labour market entry amongst young people.

From a policy perspective, variations in labour market participation are of interest in the context of fostering social inclusion (European Commission, 1999; Social Exclusion Unit, 2000). There is an increasing emphasis on initiatives to ease the transitions of young people most at risk of 'failing' in the education system and facing disadvantage in the labour market (Bentley and Gurumurthy, 1999; Social Exclusion Unit, 1999; Green *et al.*, 2001). Moreover, from a strategic planning perspective, policy makers and analysts at European, national and regional levels have an ongoing need for regional population and labour force projections.

This paper describes differences in economic activity rates for young people (conventionally defined as persons aged 15-24 years) in the European Union (EU) at the regional level, using data from the EU Labour Force Survey (LFS).[1] There are substantial barriers to accessing detailed sub-national labour market data at the EU scale, and hence this represents one of the first studies to contrast national and regional patterns of labour market participation of young countries across all EU member states.

The first part of the paper sets the context for subsequent analyses by discussing two key concepts: youth transitions and labour market entry, drawing largely on contributions from the sociological literature. Substantive analyses of EU LFS data over the period from 1993 to 1997 are presented in the second part of the paper. Key methodological issues in conducting such an exercise are addressed before highlighting the main features revealed by analyses of national and regional variations in labour force activity of young people, disaggregated by gender. The main focus of this part of the paper is on exploratory data analysis to uncover key features of difference and similarity in economic activity rates at the regional level. This leads into a preliminary attempt at 'explaining' differences in labour market participation at regional level using a regression model informed by previous findings from the economics literature. The final section of the paper provides a synthesis of key findings emerging from the study and the implications of the results for understanding current regional labour force differences amongst young people, and for informing regional labour market projections for strategic planning purposes.

Context

Youth transitions

The concept of transition

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A 'transition' may be defined as a sequence of statuses or positions achieved over a period of time from a 'starting point' to an 'end point'. It may take the form of a smooth progression, or a succession of more abrupt changes.

In the case of young people, a number of different transitions from childhood to adulthood may be identified. They are associated with major life course events: such as leaving the parental home, finishing school or college, getting a job and forming a couple (Eurostat, 1997a, 1997b). There are two main transitions, which are of such significance that they can be considered 'rites of passage'. The first is the transition associated with labour market participation – i.e. from education to work (i.e. the transition linking the events of finishing school/college and getting a job[2]). The second is the transition encompassing leaving the parental home and establishing an independent household (the latter event may also be associated with forming a couple and/or getting married). It is the labour market participation associated with the first transition that is the focus of interest here, although there may be important inter-relationships with other transitions. The transition from education to work is one of the most crucial in the entire life course of individuals because it often channels and shapes individual careers and life chances.

Ambiguity and diversity

During the 1980s and 1990s youth transitions have tended to lengthen, become more ambiguous/uncertain and more diverse (Bynner *et al.*, 1997; Evans and Furlong, 1997; Wyn and White, 1997). Transitions are slowing down (Chisholm, 1992; Chisholm and Horrelmann, 1995; Cote, 1995; Nagel and Wallace, 1997; Lagree, 1997; Roberts, 1995, 1997). In the EU it is not unusual to continue in full-time education beyond the age of 20 years. Indeed, the median age of entry into the labour market in the EU increased from 18

years in 1987 to 20 years in 1995. Moreover, young people are tending to stay longer in the parental home, and are tending to marry later (CERI, 1996). In EU statistics, 'young people' are conventionally defined as being under 25 years, yet with the lengthening of transitions, it seems that the 'youth phase' of the life course may be more appropriately set around the age of 29 years rather than 24 years. Therefore, a key feature of this paper is the incorporation of individuals aged 25-29 years, alongside those aged 15-24 years, in exploratory data analyses.

The greater ambiguity/uncertainty in transitions is indicated by the fact that the 'crossover' from one status to another is less clear-cut than formerly. Outcomes tend to be more uncertain than formerly. So much so that it has been posited that increasingly young people tend to live in an "extended present" where current work-life priorities remain sharply in focus due to the difficulty of planning for future work and family arrangements (Lewis *et al.*, 1999). The range of transition routes has increased in terms of both number and complexity, and often the sequencing of events has changed (Furlong and Cartmel, 1997). Berger *et al.* (1993, 57) have likened these changes to: " ... a shift from a 'train model' of life-course with a relatively small number of different trains, fixed tracks and timetables, to a 'car model' of life-course patterns, where individuals and families can and have to choose between different routes, departure timesand travelling speeds." Young people are tending to take increasingly varied and incremental routes into the adult world than formerly – with more combining part-time work with education and training (Green *et al.,* 1999a).

Hence, the context for the empirical analyses presented in this paper is that the life course for young people has tended to become more protracted, shattered and fragmented (Bash and Green, 1995; Chisholm, 1995; Pollock, 1997). The implication is that 'describing' and 'explaining' labour market participation associated with the transition from education to work at individual or at area level is likely to be more difficult than was formerly the case.

Factors influencing transitions

The age profile of transitions is moulded by a number of inter-related factors. These include the demographic context, the economic context, the organisation and structure of the labour market, the organisation of the education and training system, the role of the state in shaping labour supply and the organisation of the family economy. The key relevant feature of the demographic context is the decline in the numbers and proportion of young people in the EU population (Hall and White, 1995; NIDI, 1999; Kodz et al., 1999; Lindley, 1999; Collis et al. 2000). Also of relevance here is the fact that, to some extent, the size of a particular cohort relative to previous cohorts as well as other age groups will influence the nature and speed of transitions.

Turning to the economic context, the state of the international, national, regional and (more particularly) local labour market is likely to influence opportunity structures and decisions regarding 'staying on' in education and labour market participation (Furlong et al., 1996; Galster and Killen, 1995). In terms of the organisation and structure of the labour market, the nature of links between education/training and work is paramount. However, there are many potentially important factors, including recruitment norms/policies, the strength of internal labour markets, the structure of the labour market (in terms of the part-/full-time, permanent/temporary, industrial and occupational structure of employment), and the extent and nature of active labour market policy measures (Dunford, 1996; Clasen et al., 1997). The inter-linkages between these dimensions will impact on decisions on when and how individuals choose to participate in the labour market.

The organisation of the education and training system is a further important factor, and one of central relevance to any cross-national study of labour market entry amongst young people. The minimum school leaving age, recruitment norms/policies, the length of further/higher education courses, opportunities for lifetime learning, and the relative strength

of general and vocational education all represent cleavages of particular contextual importance in studying aspects of the timing of youth transitions.

The state may also play an important part in shaping labour supply. Through incentives to enter education/training or work, and support for the inactive, it may have a role in influencing the labour market activity decisions of young people.

Finally, the organisation of the family economy may be important in shaping the labour force participation of young people, and for women, in particular (Garcia-Ramon and Monk, 1996). Also of relevance here are changing gender roles (notably the closing of the 'gender gap' between men and women's orientations to work and family) and the growing diversity of family forms.

Labour market entry

There have been two dramatic changes in the youth labour market in recent years (Bynner *et al.*, 1999). The first is the demographic downturn in the numbers of young people - contributing to a reduction in the volume of young people available for entry to the labour market and an ageing of the labour force. The second is increasing participation in education beyond the minimum school leaving age. The trend for increasing participation in post-compulsory education arises from the choices and decisions made by young people in the context of labour market conditions, changing skill requirements, and an increasing tendency by their peers – and competitors – to stay in education and training for longer (Green *et al.*, 1999a). Combining the effects of declining cohort size and increasing participation in non-compulsory education, the number of young people entering the labour market has declined considerably.

Under these circumstances, if the demand for youth labour remained unchanged, it might have been expected that youth unemployment rates would fall and the scale of youth

training / labour market insertion programmes would be reduced considerably. It might also be expected that the ratio of the earnings of young people relative to older workers would increase, and young people may be tempted to enter the labour market earlier rather than enrol in post-compulsory education/training. In general, however, the youth labour market is characterised by relatively high unemployment rates (Hasluck, 1999): across the EU youth unemployment rates remain high relative to adult unemployment rates, and are disproportionately influenced by the economic cycle. Changing industrial and occupational profiles have tended to reduce the number of formerly typical 'entry' occupations in craft & related and clerical & secretarial occupations, and have been amongst the factors promoting an increase in flexible working. These changes, coupled with the expansion of upper secondary and higher education, have led to a greater diversity of entry jobs for more highly qualified young people. Hence, in general, change in the supply and demand of young workers has resulted in a juxtaposition of a reduced flow of 'young' (i.e. those from the younger end of the youth spectrum) labour market entrants (who tend to be disproportionately poorly qualified) with a reduced number of job opportunities for young people, while employers require new and more general skills (for which more qualified, older, labour market (re)entrants are likely to be more suited).

The variety of education to work transitions

The literature on transitions from education to work in Europe emphasises the range and variety of youth labour market activity patterns across Europe (Nagel and Wallace, 1997). It also highlights the importance of national level differentials in the form, shape and length of transitions, relating to the 'institutional embeddedness' of transition processes (Green *et al.*, 1999a). First, there is a wide variety of education systems; in the words of Cailloids (1994, 241): "Over time countries have developed vocational training and education

systems which diversely reflect their level of development, their industrialisation strategies, and the relations between the various partners concerned, i.e. the state, enterprises, and representatives of employers and workers." Across EU member states the age at which compulsory schooling ends ranges from 14 to 16 years. In Belgium, Germany, the Netherlands and Austria it is 18 years if part-time schooling is taken into account. There are further variations between countries in the starting age for higher education (ranging from 17 to 19 years) and the normal length of study for a first degree. The expected leaving ages from higher education range from 21 years in the UK, to 22-23 years in the majority of member states, to 26 years in Italy and 28 years in Greece (Eurostat, 1997a, 1997b; Rubery and Smith, 1999).

Furthermore, educational systems differ on dimensions of standardisation, differentiation, school-to-work linkages and youth training. Standardisation relates to the extent to which curricula, examinations and certification are standardised and quality assured on a national or regional basis. In general, all Member States are highly standardised in terms of their initial education systems, but there is greater variation in post-compulsory education, and particularly in the extent to which vocational training is nationally standardised. Education/training systems may differentiate between young people either by track (e.g. academic/vocational at the same stage), by formal ranking/sorting individuals in different ways at the end of each stage or by having different routes of progression to the next stage. In terms of school-to-work linkages, employers may be more or less involved in education/training systems. Finally, the nature of youth training relates both to the education/training system and to the labour market.

Since education/training systems vary across all of these dimensions, so education to work transitions are moulded in different ways. Hence, at opposite extremes of a spectrum (see Gangl et al., 1999) it is possible to identify the German 'dual system' and the Irish 'open market' model. In the former employers may be more or less institutionally involved in

education/training systems, whereas in the latter there are fewer institutionalised connections between education, training and the labour market, and potentially more competition between those with different levels and types of education for the same labour market positions.

The differing relative importance of general education versus training across Member States also has implications for the shapes of education to work transitions, and more specifically, for labour force participation rates. For instance, the apprenticeship-type vocational training systems of Germany, Denmark and Austria would be expected to be associated with higher labour force participation rates amongst young people than in those systems where vocational training is school-based (as in the Netherlands, Finland, France, Belgium and Italy). By contrast, Ireland, Spain and Greece are characterised by a mainly general education system.

Given the variety of education and training systems and education to work transitions, labour force participation rates of young people would be expected to vary markedly between member states and by age group. In 1996 a quarter of young people across the entire EU had entered the labour force by the age of 17 years, half by the age of 20 years, and two-thirds by the age of 23 years. Yet the variation around these averages was marked. The median age of entry into the labour force for people ranged from 16 years in Denmark and 17 years in the UK and the Netherlands, to 21 years in Belgium, Luxembourg, Greece, Italy and Spain, and 22 years in France (NIDI, 1999).

Analyses of Regional Differences in Labour Market Participation

So what are the implications of the increasing ambiguity and diversity of transitions of young people into the labour market and the variety of education and training systems for measuring regional differences in labour market participation amongst young people? The following

sub-section considers relevant methodological issues and assesses the strengths and shortcomings of the EU LFS used in subsequent analyses, before moving on to explore key national and regional variations in labour force participation amongst young people.

Methodological issues

Concepts

The term 'transition' implies a longitudinal perspective. From the foregoing discussion it is evident that for some individuals the transition from education to work has not been completed by a pre-determined age (such as the conventional 24 years 'cut off' point used for young people in most European Commission publications). Moreover, it is evident that the shape of transitions varies between countries. If a 'snapshot' is taken at a particular point in time, different countries and regions are likely to be at different stages in the transition process.

Labour force participation rates for young people aged 15-24 years (i.e. adopting the standard definition of youth) represent an 'averaging' of very different participation rates for young people at different ages. In addition to a conventional two-fold distinction between 15-19 year olds and 20-24 year olds (i.e. standard 5-year age groups), some of the analyses in this paper are also undertaken using a categorisation of young people into those aged 16-18 years, 19-21 years, aged 22-24 years, and 25-27 years. (The first three three-year age groups are centred on the age at which a quarter, a half and two-thirds of young people across the EU were participating in the labour force in 1996). The labour force comprises both those in employment (i.e. those in paid work) and the unemployed (i.e. those who would like,

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and are currently searching for, paid work but who are currently without a job). Although the focus in this paper is on labour force participation, it is salient to note that there are marked national and regional disparities in unemployment (Adnett, 1996; Townsend, 1997; European Commission, 1999).

Young people in education/training may be economically active or inactive. In the 15-19 age group the vast majority of young people who are economically inactive are in education/training. However, in member states with relatively high labour force participation rates, a relatively large proportion of the economically active tend to be in education/training. For example, in Denmark, 57 per cent of males and 51 per cent of females aged 15-19 years are 'economically active in education/training', while less than 10 per cent are 'economically active not in education/training'. The Netherlands, Austria and Germany display economic (in)activity by education/training profiles most similar to those in Denmark. In the UK the higher than average shares of economically active in the 15-19 years age group are relatively evenly subdivided between those in education or training and those not in education or training. In Italy, Greece, Spain and Portugal, where around a quarter of the 15-19 cohort are economically active, the majority of the economically active are not in education or training. In the 20-24 years age group the majority of males and females who are economically inactive are in education or training. In the Netherlands and Denmark at least 30 per cent of the cohort are 'economically active in education/training'. Hence, participation in education/training is spread between the economically active and inactive populations, and the pattern of spread varies between member states.

Issues of data quality and availability

The LFS is widely promoted as the key source of labour market information at national and international level, and increasing use is made of the European LFS for comparative studies. Hence, the LFS was the obvious candidate for the prime data source for cross-national analysis of regional variations in labour market participation of young people. However, the LFS provides cross-sectional (rather than longitudinal) data. Despite increasing emphasis on the development and use of longitudinal data sources, no available sources are available on a cross-national basis that could be used analyses of regional differences in labour force participation across the EU. Thus, from a conceptual perspective, it is important to note that the analyses presented below are concerned with investigating regional differences in transition processes, rather than regional differences in 'end states'.

Even though harmonised, it should be borne in mind that the indicators from the LFS used in the analyses presented here are not necessarily fully comparable across member states and regions (see Eurostat, 1996). For example, in the LFS results are compiled for private households only. For young people the treatment of two groups in this respect is of particular importance. First, those young people who are conscripts (and this category is not applicable in all Member States) are generally, but not always (Greece and Italy are exceptions), included in private households. Secondly, persons in student homes are generally not included, although in some member states (Spain, the Netherlands, France and the United Kingdom) they are included.

For regional level analyses, sample size constraints mean that the LFS cannot yield reliable figures at detailed levels of regional disaggregation, or for detailed sub-groups of the population, for a single year. Given the focus of this paper on regional level differences and on sub-dividing the conventionally defined 'youth' 15-24 years age group by both age and gender, it was necessary to aggregate across the years 1993-97 (and 1995-97 for Austria, Finland and Sweden) in order to increase sample size. In an ideal world, sample size constraints would not necessitate such temporal aggregation. In this instance, exploratory

data analyses revealed that relatively little temporal variation in the data set was lost from such an aggregation process. The statistical necessity of aggregation of data across several years, does have the conceptual advantage of averaging individual observations across the business cycle, which itself is nationally and regionally differentiated.

Changes in the definitions of regions pose difficulties for comparative analyses, and are compounded when boundary changes occur at different times in different member states or within a member state. Before any analyses could proceed it was necessary to code regions on to a consistent basis. As far as possible, the regions existing in 1997 (i.e. at the end of the time period) were used; (although for the United Kingdom it was be necessary to derive data for 1995-based NUTS 2 regions). For purposes of comparative analysis it should also be borne in mind that although broadly comparable in size, there are some extreme variations at NUTS 2 level and data for larger regions are likely to be more robust than for smaller regions. Moreover, NUTS 2 regions are generally based on administrative geographies and so may not conform with functionally-defined regions; (the 'ideal' would be to have functional regions defined on a consistent basis).

While shortcomings in data quality and availability place limitations on the scope and interpretation of any empirical analyses undertaken, there is substantial interest in policy analyses based on cross-national regionally-disaggregated data sources such as the LFS from a policy perspective. The LFS enables empirical investigation of phenomena that are crucial from a policy perspective, and can also be used contribute to theoretical debates on labour market developments and regional differentiation.

National level variations in labour force participation

Issues of data quality and availability are less problematic at the national than at the regional level. Hence, in Tables 1 and 2 it is possible to show male and female economic activity rates, respectively, from age 15 to age 29 by individual years of age, so illustrating labour market 'transition profiles' at national level.

Several key features are apparent from the data presented in Tables 1 and 2. First, there is considerable variation in transition profiles at the national level – particularly at the younger end of the age range. France and Belgium, for example, are characterised by lower than average economic activity rates up to the age of 22 years and higher than average economic activity rates in the older age groups. Denmark and the UK display higher than average economic activity rates across the entire age range. Italy exhibits lower than average economic activity rates from the age of 16 years onwards. The second key feature is convergence in economic activity rates with increasing age - particularly from around the age of 20 years. Thirdly, in most member states economic activity rates continue to increase after the age of 24 years (i.e. the conventional cut-off for defining 'young people'), so underlining the need to extend conventional analysis of youth beyond the conventional 24 years cut-off.

A comparison of single-year economic activity rates for males and females reveals that a similar degree of national variation is evident for both males and females up to approximately the age of 20 years. Thereafter male economic activity rates for member states converge to a greater extent than female economic activity rates. Although in many member states male and female economic activity rates are similar at the younger end of the age range, female economic activity rates do not rise to the levels reached by male economic activity rates from the early twenties onwards. As highlighted in previous analyses (see, for example, the collection of papers in the Special Issue on 'Gender Inequality in the European Regions' in *European Urban and Regional Studies* Volume 5, Number 1) in some member states the gender 'gap' in economic activity rates is wider than in others. Most notably, Italy

and Greece are characterised by a larger than average 'gap' between male and female economic activity rates, whereas in Sweden and Denmark the 'gap' in economic activity rates is narrower than average – reflecting different gendered welfare regimes.

Regional level variations in labour force participation

The extent of regional level variations in labour force participation

In order to summarise the dispersion of regional economic activity rates in each member state as a first step in exploratory data analysis, coefficients of variation were calculated for each of three age groups: 15-19 years, 20-24 years and 25-29 years, by gender (Green *et al.*, 1999b). The coefficients of variation revealed the greatest degree of regional variation in economic activity rates and employment rates at the younger end of the age range. There is greater regional dispersion in rates for 15-19 year olds than for 20-24 year olds, and for 20-24 year olds than for 25-29 year olds. In all three age groups, the general tendency is for more regional dispersion in economic activity rates for females than for males, and for the extent of regional dispersion to be more pronounced in the 25-29 years age group than in the two younger age groups. Important variations between member states in the degree of dispersion in economic activity rates by region, flagged up by previous research (see Perrons, 1998), are also evident. The most notable examples are Italy, which is well known for marked regional disparities in economic development and which consistently displays some of the highest levels of regional variation – particularly for females, and the UK, which displays amongst the lowest levels of regional dispersion of any member state.

Regions sharing similar labour market transitions

As a first stage in exploratory data analysis, a cluster analysis was undertaken in order to identify regions sharing similar labour market transitions. Three principal components accounting for 93 per cent of the variance across gender-specific economic activity rates, 1993-7, in each of four three-year age groups: 16-18 years, 19-21 years, 22-24 years and 25-27 years, were used as the classificatory variables.[3] A hierarchical cluster analysis technique was used, and classifications with 3 to 20 clusters were assessed. The preferred solution (assessed using both objective statistical and subjective criteria) which captured the key dimensions of variation was the 6-cluster classification. The 6 clusters are mapped in Figure 1 and the distribution of cluster members by EU member states is summarised in Table 3. The clusters vary in size, with the smallest containing 9 regions and the largest 46 regions. The key characteristics of each of the 6 clusters are as follows, commencing with those characterised by the highest levels of labour force participation in the youngest age groups:

- The 46 regions in *cluster 1* are characterised by higher than average economic activity rates in all age groups, but particularly in the youngest age groups. Hence this cluster is characterised by relatively early labour market entry. All regions in the United Kingdom and the Netherlands are members of this cluster, along with Denmark. Seven of the nine regions in Austria are members, and the remaining cluster members (15 regions) are located in Germany (mainly drawn from the eastern part of the country).

- In *cluster 2* (34 regions) economic activity rates are generally close to 'average', although economic activity rates are higher than average in the 19-21 years group (for males and females). Two-thirds of the regions in this cluster are in Germany (60 per cent of all regions in Germany). The majority of Swedish and Finnish regions are also members of this cluster, as are the two regions in Austria not in cluster 1.

- *Cluster 3* (49 regions) is characterised by lower than average economic activity rates in the younger age groups (16-18 years and 19-21 years) and close to average economic activity rates in the older age groups (22-24 years and 25-27 years) – i.e. slower than average labour market entry. This cluster has the most diverse membership of any cluster, drawn from eleven countries; (only the UK, the Netherlands, Denmark and Austria are not represented). Ireland and Luxembourg are included in this cluster, as are sixteen of the eighteen regions in Spain, all but one region in Portugal and eleven out of twenty regions in Italy.

- The 29 regions in *cluster 5* are characterised by much lower than average economic activity rates in the younger age groups (especially 16-18 years, but also 19-21 years), close to average economic activity rates by age 22-24 years and markedly higher than average activity rates amongst those aged 25-27 years. Cluster membership is drawn from three countries – France, Belgium and Spain. Over 80 per cent of all regions in France and Belgium are included in this cluster. In both Belgium and France relatively small proportions of the economically active are in education/training.

The two remaining clusters are the smallest in the classification:

- The gender differential is the most notable feature of the 12 regions in *cluster 6*. These regions are characterised by generally higher than average economic activity rates for males (except in the youngest age groups) and lower than average economic activity rates for females (particularly in the older age groups). All except one member of this cluster is in Greece, and only two regions in Greece fall outside this cluster.

- *Cluster 4*, containing 9 regions - all located in southern Italy, is the most distinctive cluster of all. This cluster is characterised by lower than average economic activity rates in all age groups; particularly amongst females.

The key feature to emerge from the cluster analysis is the way in which regions tend to form national groupings, so emphasising the dominance of the national dimension in regional variations in economic activity rates amongst young people. In the United Kingdom, Denmark, the Netherlands and much of Germany and Austria most (and in some cases all) regions are characterised by relatively early labour market entry. By contrast, in many regions in France, Belgium and Spain young people tend to enter the labour market rather later than average. However, by the age of 25 years many regions characterised by relatively low economic activity rates in the younger age groups have reached or exceeded the EU average rate. This exploratory data analysis is suggestive of the importance of national education/training systems and of labour market structures in different countries in tending to facilitate or preclude early entry to the labour market.

Regional:national differentials in labour market transitions

A second cluster analysis was undertaken in order to identify regions sharing similar regional:national differentials in labour market transitions. The cluster analysis was of the first two components (together accounting for 78 per cent of the variance) from a principal components analysis conducted on percentage point regional:national differences in gender-specific economic activity rates, 1993-7, in each of four three-year age groups: 16-18 years, 19-21 years, 22-24 years and 25-27 years.[4] A hierarchical cluster analysis technique was used, and classifications with between 3 and 20 clusters were assessed. The preferred solution was the 9-cluster classification. The clusters vary in size with the smallest, clusters 7 and 4, containing 1 and 3 regions, respectively,[5] and the largest cluster containing 40 regions.

As would be expected for a classification focusing on regional:national differences, a greater range of clusters are represented in each country (see Table 4 and Figure 2) than in the cluster analysis classification presented in Figure 1. Nevertheless, in several countries contiguous regions are members of the same cluster.

The key features of the major clusters are as follows:

- *Cluster 2*, containing 35 regions, comes closest to an 'average' cluster. Regions in this cluster are characterised by regional economic activity rates close to the national average for males, but slightly lower than average for females. All member states except Italy and Spain have representatives in this cluster.

- The key distinguishing features of the nine regions in *cluster 3* are greater than national average economic activity rates for males in all age groups (particularly the younger age groups identified) and much greater than national economic activity rates for females (again, particularly in the younger age groups). Five regions in Greece and four in Germany (mainly concentrated in the southern and eastern parts of the country) are members of this small cluster.

- The 33 regions in *cluster 1* are characterised by economic activity rates in excess of the national average for males in all age groups, although regional:national differentials are generally less pronounced with age. For females regional economic activity rates tend to be greater than average - particularly for those aged less than 25 years. Hence, regions in this cluster are characterised by relatively early labour market entry, relative to the national average. All countries except Italy (and Denmark, Ireland and Luxembourg, are not sub-divided for purposes of analysis) are represented in this cluster.

- *Cluster 5*, containing 24 regions, is also characterised by greater than national average economic activity rates in all age groups, but in this instance regional:national differentials being particularly pronounced amongst older females. Hence, in the regions

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in this cluster relatively early labour market transitions are maintained up to the time young people reach their mid twenties, and labour force participation for young women is higher than the national average. There are two main geographical 'blocks' of regions in this cluster – one located in northern Italy and the other in eastern Germany. There are also representatives from Belgium, Austria, Spain, France and Sweden in this cluster.

- The 22 regions in *cluster 6* are also characterised by greater than national average economic activity rates amongst the older age groups, but in combination with lower than national average economic activity rates amongst the younger age groups. All countries except Austria and Portugal (along with Ireland, Denmark and Luxembourg) contain regions which are members of this cluster. Hence, these regions are characterised by slower than average labour force transitions, but higher than national average economic activity rates once young people reach their mid twenties.

- The 40 regions in *cluster 8* are characterised by lower than national average economic activity rates in all age groups, but particularly in the younger age groups. All countries (except Ireland, Denmark and Luxembourg) have at least one member in this cluster. The largest concentrations of such regions are in Germany and in Spain.

- The 12 regions in *cluster 9* share with those in cluster 9 the characteristic of having lower than national average economic activity rates in all age groups, with this regional:national differential being especially pronounced in the older rather than in the younger age groups, and for females rather than for males. The single greatest concentration of cluster members is in southern Italy, although Spain, Germany, Sweden, Greece, France and Portugal also have at least one representative in this cluster.

Overview

From an exploratory data analysis of regional variations in labour force participation it is apparent that national level differences in labour market transition profiles dominate differences in economic activity rates at the regional level. However, there are some important differences in the extent of regional variation in economic activity rates by member states. There is some evidence that regional differentials in economic activity are greater for females than for males, but the size of this gender 'gap' varies between member states.

For European Commission policy purposes there is considerable interest in identifying and 'explaining' regional differences in labour force participation. Yet the exploratory data analysis outlined above suggests that it is likely to be difficult to find a single 'model' to explain regional variations in economic activity rates across all regions. Rather, on the basis of the descriptive analyses presented, it seems likely that different 'models' may need to be sought for different groups of member states.

Towards an explanation of regional variations in labour market participation rates

Model specification

'Explaining' differences in labour market participation rates across the regions of the EU is an ambitious task, implying the aim of discerning patterns of cause and effect. Multivariate regression analysis was used in order to try to develop explanations of regional variations.

Key explanatory variables used by economists in seeking to explain variations in labour market participation include wages, non-wage income, presence of young children in the household, unemployment rates,[6] employment structure and social class (Bosworth *et al.*, 1996). Most previous studies have had a single country focus and are based on a rational decision making individual. For males, previous studies generally show a weak tendency for higher wages to depress participation, whereas for females, most studies indicate a strong

positive effect. Household income, including non-wage income and income of other household members, has generally been found to reduce economic participation. The presence of young dependent children in the household is normally found to depress economic activity rates, especially for women. Unemployment is normally found to have a depressing impact on economic participation, especially for younger and older workers; (i.e. the 'discouraged worker' effect). Measures of job opportunities and the structure of employment in the 'local labour market' have also been found to be important.

The development of an appropriate specification to explain variations in economic participation across the various regions of the EU poses some substantial problems. Theoretical models, based on the rational decision making individual, have to be extensively modified to deal with aggregate data for geographical areas. Moreover, it is often difficult, if not impossible, to develop empirical measures of many of the explanatory variables which theoretical considerations suggest are likely to be important determinants of labour market participation rates. Furthermore, such problems are exacerbated by the many differences between member states in the nature and availability of relevant information at regional level. A particular concern is the lack of an adequate measure of the market wage on offer.

Despite these difficulties, a general model was explored, taking the following form:

$Ai = A(GDPi, Ui, EMPSi, CHILDi, UALLi, EDUCATi, COUNTRY DUMMIES)$

where:

- Ai is the probability of the individual being economically active,
- $GDPi$ is a measure of income in the region,
- Ui is a measure of unemployment for the age/gender category concerned,
- $UALLi$ is a measure of aggregate unemployment,
- $EMPSi$ is a measure of employment structure,[7]
- $EDUCATi$ is an indicator of educational attainment in the region,

- *CHILDi* is an indicator of the number of children in the age/gender category,
- *COUNTRY DUMMY* represents a series of (0/1) dummy variables for each country.

The specification of this general model represents a compromise, partly enforced by lack of data – especially the absence of data on wages. Moreover, in a number of cases the role of the variables could be interpreted in alternative ways, some of which may have opposite effects on labour market participation rates. For example, a case can be made for including GDP as a proxy for household incomes, with an expected negative effect on participation rates, but a case could also be made that GDP is an indicator of the level of economic activity in a region. On this interpretation, the higher is GDP, the more jobs are likely to be available and hence the higher might be labour market participation rates. This illustrates the difficulty of finding regional indicators that can play an unambiguous role in such models.

Regression models were run for males and females, separately, for the two 5-year age groups (15-19 and 20-24 years of age) conventionally used to define young people, for the period 1993-7. Initially, an attempt was made to develop a general specification for all regions. However, as noted below, this proved problematic, with between country effects dominant. Given the problems encountered in arriving at a satisfactory model the same specifications were also run for three sub-groups of countries in an attempt to minimise between country differences. These country groupings were informed theoretically on the basis of the different welfare state models prevailing in different member states of the EU (after Rubery and Smith, 1999) and empirically on the basis of the exploratory data analyses outlined above. Moreover, in statistical terms, it was not feasible to run models for groupings of countries comprising only a small number of regions. Hence, the following country groupings represent a compromise between the desire to discriminate between different

member states with different institutional structures and labour force participation characteristics amongst young people, and the need to retain relatively large grouping in order to satisfy the statistical constraints of regression analysis:

- *Group 1*: Denmark, Sweden, Finland, Netherlands, Germany, Austria, United Kingdom, Ireland – characterised by relatively early entry into the labour market (sometimes in association with an established system of vocational work-based training). This group contains those member states conforming to the Nordic – 'everyone a breadwinner' welfare state model, along with the Netherlands. It also includes Germany and Austria from the Continental European welfare state model; and the UK and Ireland from the Liberal – 'more than one breadwinner' model;

- *Group 2*: France, Belgium, Luxembourg – characterised by relatively late entry into the labour market, all three member states have a welfare state conforming to the Continental European model;

- *Group 3*: Italy, Greece, Portugal, Spain – sharing the Mediterranean 'family as breadwinner' welfare state model.

Results

A preliminary exploration of the data set, selecting variables according to their correlation with the dependent variable and the marginal contribution they make to the explanatory power of the regression equation, revealed unemployment to be a particularly powerful influence on economic activity, together with the educational indicators. The GDP indicator, on the other hand, rarely came through as a significant variable, and where it did (in the case of the Mediterranean group of countries), it had a positive effect – suggesting that economic activity rates are higher in more prosperous regions. The results of this exercise also

revealed very different patterns across country groupings. Hence, these initial models confirmed that apart from the country dummy variables – capturing institutional and cultural differences, there was no obvious common specification that covered all the age/gender categories and all the groups of countries. Table 5 provides a summary of this most basic result. In a sense, this provides a benchmark, which other specifications need to 'beat' if they are to improve our understanding of the causes of regional variations in labour force participation rates of young people.

The results show the significantly lower rates of labour market activity amongst 15-19 year olds for certain countries such as France, Belgium and Luxembourg (and to a lesser extent Austria [females only], Portugal, Spain, Italy Greece and Ireland). In contrast, activity rates are significantly above the UK levels in Denmark. The Netherlands and Austria (males only) show no significant differences from the UK. All the other differences are highly significant from a statistical point of view. The patterns are very similar for males and females. Well over 80 per cent of the variation[8] is accounted for by these country dummy variables. The pattern for 20-24 year olds is similar, although the differences are not so marked. The overall explanatory power of this simple model is much less than for the younger age group (around 60 per cent of the variation is explained).

The most basic economic explanation possible, using the data outlined above, adds three variables to this basic specification: a measure of income (i.e. GDP) and two measures of unemployment - the unemployment rate for the age gender category concerned and the aggregate unemployment rate. The GDP variable is expected to influence activity rates negatively (the higher is income *ceteris paribus*, the more inclined parents may be to encourage young people to delay entry to the labour market). The age-specific unemployment rate is expected to have a negative influence: the higher the rate, the less the probability of finding work and so the less likely participation in the workforce. Finally, the aggregate unemployment rate is expected to have a positive effect on labour force

participation as households experiencing unemployment will encourage young people into the labour market to supplement household income.

The results of this basic model are reasonably consistent and in line with prior theoretical considerations. Table 6 summarises these key findings. For all countries the coefficients are generally of the expected sign and statistically significant. The explanatory power of the equations is generally good and the adjusted R-squared improves compared to the 'benchmark' model results reported in Table 5.

This specification was also run for the three country groupings separately (see Table 6), but the results obtained were somewhat less satisfactory. Explanatory power, as measured by the adjusted R-squared, is significantly lower, especially for the younger age groups in the countries of Group 2. A number of the coefficients now have unexpected signs, some of which are statistically significant. The most notable example of this is the GDP variable, which comes in with a positive (and statistically significant) effect for females.

Synthesis

Finding a general specification, which draws on the theoretical insights encapsulated in the general model, and produces results which are both consistent across countries and in line with prior expectations, proved very difficult. While it was not hard to find individual regression equations that suggested significant relationships, these proved not to be very robust to minor changes in specification. They also failed to show many common patterns across age/gender categories and groups of countries. Although some variation is to be expected, this failure to find such common results suggests that these specifications are more likely to be spurious than indicative of strong causal relationships.

The most successful results are probably those from the most basic economic model. This suggests that a reasonable amount of the variation in economic activity rates can be

explained in terms of differences in levels of income (GDP) and in unemployment rates. This model applies equally well to males and females. The GDP variable has a strong negative impact on economic activity rates. This has been interpreted here as indicating the effect of higher household income in encouraging young people to delay entry to the labour market, while continuing with full-time formal education. However, for the group of Mediterranean countries there is evidence of a positive relationship, especially if other variables such as educational indicators are also included, which may represent the effect of more job opportunities in the more prosperous regions.

The unemployment rate for the group of young people concerned has a strong negative impact on activity rates. This is probably the most robust result of all. It suggests that young people are encouraged to delay entry to the labour if the probability of getting work is reduced. The overall aggregate unemployment rate also plays an important role in many (but notably not all) of the specifications, indicating a positive relationship. This has been interpreted as showing the effects of high unemployment encouraging young people to enter the labour market to supplement household income (perhaps when other members of the household are unemployed).

Subject to the caveats expressed above, the most basic economic specification could provide a mechanism by which some benchmark projections of regional labour force projections for young people might be made for strategic planning purposes, using predicted values for the key independent variables (GDP and unemployment rates) available in most member states from regular macroeconomic forecasts produced by public and private sector forecasters.

Conclusions

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The transition from education to work is one of a number of inter-linked youth transitions. Such transitions are moulded by the demographic and economic context, the organisation of the education/training system and the labour market, the role of the state in shaping labour supply and the organisation of the family economy. In recent years there has been a tendency for youth transitions to lengthen, become more ambiguous and more diverse in the context of the demographic downturn in the number of young people and the increase in participation in post compulsory education. These changes imply that in examining labour market transitions it may be useful to extend the conventional definition of 'young people' beyond the age of 24 years to include 25-29 year olds. Moreover, since the transition from education to work is becoming less clear-cut than formerly, and in some countries there is an increasing tendency to combine education with work - so increasing both labour force participation and educational participation rates, it is likely to be increasingly difficult to find a single model which can explain regional differences in the labour market activity of young people. Despite common economic and demographic pressures facing EU member states, there continues to be a wide range and variety of education and training systems. The implication of this is that national level variations in labour market transitions across the EU remain extremely important.

The exploratory data analyses presented reveal that there is considerable variation in profiles of transition into the labour market at the national level. Such between country differences tend to be greater than within country differences. Indeed, the cluster analysis of regions sharing similar labour market transitions, as measured by age- and gender-specific labour force participation rates emphasised the dominance of the 'national' dimension in regional variations in economic activity rates. Overall, regional variations around the national average tended to be more marked for females than for males, and for younger than for older age groups.

Stepwise regression was used to compare alternative explanatory models of regional variations in labour force participation. A 'general model' was explored in which economic activity (for the 15-19 years and 20-24 years age groups, disaggregated by gender) was a function of GDP, youth unemployment, aggregate unemployment, educational attainment in the region, presence of young children in the household, and country dummies. Most of the variation was accounted for by the country dummies - underlining the importance of variations between countries (reflecting institutional and cultural differences) which outweighed regional variations within countries.

When GDP, the aggregate unemployment rate and the youth unemployment rate (for the age and gender category concerned) were added to the basic 'country' specification the explanatory power of the model improved. GDP influenced economic activity rates negatively (i.e. the higher the level of income, the lower the economic activity rates of young people). The aggregate unemployment rate had a positive influence (i.e. the higher the unemployment rate in the region the higher the economic activity rate of young people, suggesting that youngsters enter the labour market at an early age to supplement household income), but age-specific unemployment rates had a negative influence (i.e. the higher the youth unemployment rate, the lower the economic activity rate of young people).

The results from the most 'basic economic model' suggest that a reasonable amount of variation in economic activity rates of young people can be explained in terms of differences in levels of income (GDP) and unemployment rates. The relative success of this specification suggests that benchmark projections of the economic activity rates of young people at the regional level could be made using projections of GDP and unemployment as independent variables.

Overall, however, the analyses of regional differences in economic activity rates for young people in the EU presented in this paper have demonstrated the difficulties of relying solely on a cross-sectional approach in understanding processes of transition into the labour

market and in searching for EU-wide explanations of regional differences. A focus on exploring regional labour force differences for individual member states may prove more fruitful, and from an operational perspective would enable use of country-specific data sources which were precluded from the analyses presented here. In order to advance understanding, it is also important that cross-sectional approaches are complemented by longitudinal analyses and insights from qualitative studies providing information on motivations underlying decisions to participate in the labour market and/or continue in education/training. Moreover, from a forecasting perspective, ongoing changes in education and training systems and labour market institutions mean that it may not be appropriate to project recent patterns of association between key variables into the future.

REFERENCES

Adnett, N. (1996) *European Labour Markets*. London: Longman.

Bash, L. and Green, A. (1995) *Youth, Education and Work*. London: Kogan Page.

Bentley, T. and Gurumurthy, R. (1999) *Destination Unknown: Engaging with the problems of marginalised youth*. London: Demos.

Berger, P.A., Steinmuller, P. and Sopp, P. (1993) 'Differentiation of life-courses? Changing patterns of labour-market sequences in West', *European Sociological Review* 9, 43-65.

Bosworth, D.L., Dawkins, P. and Stromback, T. (1996) *The Economics of the Labour Market*. Harlow: Adison Wesly Longman.

Bynner, J. Ferri, E. and Shepherd, P. (1997) *Twenty-something in the 1990s: Getting On, Getting By, Getting Nowhere*. Aldershot: Ashgate.

Bynner, J., Elias, P., McKnight, A. and Pan, H. (1999) 'The changing nature of the youth labour market in Great Britain'. Coventry: IER, University of Warwick. (mimeo).

Cailloids, F. (1994) 'Converging trends amidst diversity in vocational training systems', *International Labour Review* 133 (2), 241-57.

CERI (1996) *Education at a Glance*. Paris: OECD.

Chisholm, L. (1992) 'A crazy quilt: education, training and social change in Europe' in Bailey J. (ed.) *Social Europe*. London: Longman.

Chisholm, L. (1995) 'Youth transitions in the European Union', in Bash L. and Green A. (1995). *Youth, Education and Work*. London: Kogan Page. 203-217.

Chisholm, L. and Horrelman, K. (1995) 'Adolescence in modern Europe: Pluralised transitions patterns and their implication for personal and social risks', *Journal of Adolescence* 18, 129-58.

Clasen J., Gould, A. and Vincent, J. (1997) *Long-term Unemployment and the Threat of Social Exclusion*. Policy Press: Bristol.

Collis, C., Green, A.E. and Mallier, T. (2000) 'Older female workers in Britain and its regions: millennium prospects', *Local Economy* 15, 45-58.

Cote, J.E. (1995) *Generation On Hold: Coming of Age in the Late Twentieth Century*. New York: New York University Press.

Duncan, S. (1994) 'Theorising differences in European patriarchy', *Environment and Planning A* 26, 1177-94.

Duncan, S. (1995) 'Theorising European gender systems', *Journal of European Social Policy* 5, 263-84.

Duncan, S. (1996) 'The diverse worlds of European patriarchy' in Garcia-Ramon M.D. and Monk J. (eds.) *Women of the European Union: the Politics of Work and Daily Life*. London: Routledge. 74-110.

Dunford, M. (1996) 'Disparities in employment, productivity and output in the EU: the roles of labour market governance and welfare regimes', *Regional Studies* 30, 339-57.

Esping-Anderson, G. (1990) *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.

Evans, K. and Furlong, A. (1997) 'Metaphors of youth transitions: niches, pathways, trajectories or navigations' in Bynner J., Chisholm L. and Furlong A. (eds.) *Youth, Citizenship and Social Change in a European Context*. Aldershot: Ashgate. 17-41.

European Commission (1999) *Sixth Periodic Report on the Social and Economic Situation and Development of Regions in the European Union*. Luxembourg: Office for Official Publications of the European Communities.

Eurostat (1996) *The Labour Force Survey – Methods and Definitions*.

Eurostat (1997a) *Education across the European Union: statistics and indicators*. Luxembourg: Office for Official Publications of the European Communities.

Eurostat (1997b) *Youth in the European Union: from education to working life*. Luxembourg: Office for Official Publications of the European Communities.

Furlong, A., Biggart, A. and Cartmel, F. (1996) 'Neighbourhoods, opportunity structures and occupational aspirations', *Sociology* 30, 551-565.

Furlong, A. and Cartmel, F. (1997) 'Risk and uncertainty in the youth transition', *Young* 5, 3-20.

Galster, G.C. and Killen, S.P. (1995) 'The geography of metropolitan opportunity: a reconnaissance and conceptual framework', *Housing Policy Debate* 6 (1), 7-43.

Gangl, M., Hannan, D., Raffe, D. and Smyth, E. (1998) 'CATEWE – A comparative analysis of transitions from education to work in Europe', *Eurodata Newsletter* 8, 10-12.

Garcia-Ramon, M.D. and Monk, J. (1996) *Women of the European Union: the Politics of Daily Work and Life*. London: Routledge.

Gonas, L. (1998) 'Has equality gone too far? On changing labour-market regimes and new employment patterns in Sweden', *European Urban and Regional Studies* 5, 41-53.

Green, A., Wolf, A. and Leney, T. (1999a) *Convergence and Divergence in European Education and Training Systems*. London: Institute of Education.

Green, A.E., Owen, D.W. and Wilson, R.A. (1999b) *Regional Labour Force Differences Among Young People in the European Union, 1993-1997*. Final Report ERDF 98/00/271/171 to the European Commission.

Green, A.E., Maguire, M.J. and Canny, A. (2001) *Keeping Track: Mapping and tracking vulnerable young people*. Bristol: Policy Press.

Hakim, C. (2000) *Work-Lifestyle Choices in the 21st Century: Preference Theory*. Oxford: Oxford University Press.

Hall, R. and White, P. (1995) *Europe's Population: Towards the next century*. London: UCL Press.

Hasluck, C. (1999) 'Employers, young people and the unemployed: a review of research', *Employment Service Research Report* 12. Sheffield: Employment Service.

Kodz, J, Kersley, B. and Bates, P. (1999) 'The fifties revival', *IES Report* 359. Brighton:IES.

Lagree J-C (1997). *Youth in Europe: Cultural patterns of transition.* London: LSE (mimeo).

Lee, R. and Wills, J. (1997) *The Geographies of Economies.* London: Arnold.

Lewis, J. (1992) 'Gender and the development of welfare regimes', *Journal of European Social Policy* 2, 159-73.

Lewis, S., Smithson, J. and Brannen, J. (1999) 'Young Europeans' orientations to families and work', *Annals of the American Academy of Political and Social Science* 562, 83-97.

Lindley, R.M. (1999) *The Impact of Ageing in the Size, Structure and Behaviour of Active Age Population and Policy Implications for the Labour Market.* Revised Final Report for the European Commission DGV. Coventry: IER, University of Warwick.

Nagel, U. and Wallace, C. (1997) 'Participation and identification in risk societies: European perspectives' in Bynner, J., Chisholm, L. and Furlong, A. (eds.) *Youth, Citizenship and Social Change in a European Context.* Aldershot: Ashgate. 42-55.

NIDI (1999) *Analysis and Projection of Labour Force by Gender and Age for the Countries of Europe.* Statistics Netherlands.

Peck, J. (1996) *Work-place: The social regulation of labor.* New York: The Guildford Press.

Perrons, D. (1995) 'Economic strategies, welfare regimes and gender equality in European employment', *Regional Studies* 25,465-76.

Perrons, D. (1998) 'Maps of meaning: gender inequality in the regions of Europe', *European Urban and Regional Studies* 5, 13-25.

Perrons, D. and Gonas, L. (1998) 'Introduction: perspectives on gender inequality in European employment', *European Urban and Regional Studies* 5, 5-12.

Pollock, G. (1997) 'Individualisation and the transition from youth to adulthood', *Young* 5, 55-68.

Roberts, K. (1995) *Youth and Employment in Modern Britain.* Oxford: Oxford University Press.

Roberts, K. (1997) 'Structure and agency: the new youth research agenda' in Bynner, J., Chisholm, L. and Furlong, A. (eds.) *Youth, Citizenship and Social Change in a European Context*. Aldershot: Ashgate. 56-65.

Rodriguez-Pose, A. (1998) *The dynamics of regional growth in Europe*. Oxford: Clarendon Press.

Rubery, J. and Smith, M. (1999) *The Future European Labour Supply*. Luxembourg: Office for Official Publications of the European Communities.

Rubery, J., Smith, M. and Fagan, C. (1999) *Women's Employment in Europe: Trends and Prospects*. London: Routledge.

Social Exclusion Unit (1999) *Bridging the Gap: New opportunities for 16-18 year olds not in education, employment or training*. London: The Stationery Office.

Social Exclusion Unit (2000) *Policy Action Team Report Summaries: A Compendium*. London: The Stationery Office.

Townsend, A.R. (1997) *Making a Living in Europe: Human Geographies of Economic Change*. London: Routledge.

Walby, S. (1994) 'Methodological and theoretical issues in the comparative analysis of gender relations in Western Europe', *Environment and Planning A* 26, 1339-54.

Wyn, J. and White, R. (1997) *Rethinking Youth*. London, Sage Publications.

Notes

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[1]   The empirical analysis reported in this paper is taken largely from one of three inter-linked research projects (Green *et al.*, 1999b) undertaken on behalf of the European Commission. The key aim of all three projects on (1) young people, (2) women aged 25-54 years, and (3) older people of working age, was to improve understanding of regional labour force dynamics and patterns, and so feed into work on regional labour force projections. All three projects used the same data set: the European Union (EU) Labour Force Survey (LFS), and adopted similar methodologies.

[2]   Arguably, the 'end point' should be a 'stable' job, rather than just any 'fill in' job. There may be a number of different statuses - including military/national service, government training schemes, spells of unemployment and temporary/more precarious jobs - between the 'end point' of education and the 'starting point' of stable employment.

[3]   The three principal components summarise different dimensions of variation in labour force participation by age and gender in the successive age groups. The first component may be characterised as a 'younger ages' component, with positive loadings on economic activity rates in all age and gender groups, but with highest loadings amongst the younger age groups (16-18 years and 19-21 years) and smallest loadings for those aged 25-27 years. The second component is an 'older ages' component, with positive loadings on economic activity rates amongst those aged 22-24 years and (more particularly) those aged 25-27 years, combined with negative loadings on economic activity rates in the younger age groups (16-18 years and 19-21 years). The third component captures a 'gender' dimension, with negative loadings on economic activity rates for females, especially in the older age groups (25-27 years and 22-24 years), combined with positive loadings on economic activity rates for males, which are highest in the older age groups (22-24 years and 25-27 years).

[4]   The two principal components summarise different dimensions of variation in region:national differece in age and gender-specific economic activity rates. The fist component has positive loadings on economic activity rate regional:national differentials in all eight age and gender groups identified, but with highest loadings amongst the three younger age groups (16-18 years, 19-21 years and 22-24 years) and smallest loadings for those aged 25-27 years. In general, the positive loadings are greater for males than for females. The second component has positive loadings on regional:national differentials in economic activity rates for older females (especially those aged 25-27 years) and

negative loadings on regional:national differentials for younger females and for males in all age groups - but particularly those in the youngest age groups.

5   *Cluster 7* contains a very small region in Finland. *Cluster 4* comprises two regions in the Greek islands and one region in Portugal characterised by greater than national average economic activity rates for males (especially in the younger age groups), and much lower than national average economic activity rates for older females. Since these regions are all quite small and distinctive, they are excluded from further consideration here.

6   Although the unemployed are included within the economically active, the unemployment rate was used as a dependent variable in the regression models reported here, following previous practice in economic modelling exercises focusing on labour market participation.

7   A number of variables measure the structure of the regional labour market were used, including indicators of industrial structure and occupational structure, as well as an urban/rural indicator based on population density.

8   As measured by the R-Squared, adjusted for degrees of freedom.

Table 1: Economic activity rates for member states – Males aged 15-29 years

Age	AT	BE	DE	DK	ES	FI	FR	GR	IE	IT	LU	NL	PT	SE	UK	EU
15	20.7	0.7	2.8	39.8	0.0	17.2	1.1	7.1	4.2	13.7	1.3	25.8	8.8	1.2	0.0	*5.4*
16	49.4	2.3	14.2	67.2	16.9	25.2	8.1	11.2	11.1	18.5	7.4	39.8	19.6	12.0	42.7	*20.5*
17	57.0	4.4	40.7	72.6	29.3	27.3	13.5	16.2	21.5	25.0	16.8	49.1	28.4	16.5	64.6	*33.9*
18	58.6	11.9	56.1	72.1	33.3	40.4	18.8	26.1	38.8	27.6	23.8	56.0	39.2	22.0	71.3	*41.2*
19	66.9	23.2	65.9	76.2	40.3	53.4	26.7	30.1	54.9	32.1	36.7	60.4	46.9	35.4	76.7	*48.6*
20	70.8	37.9	72.9	80.1	52.6	65.9	38.8	47.0	62.9	47.0	49.7	65.2	55.8	53.8	78.3	*57.8*
21	74.6	50.7	74.0	79.9	61.8	67.6	51.2	62.5	70.7	57.3	60.3	69.7	66.0	61.8	81.0	*65.3*
22	75.3	60.0	75.1	78.9	68.1	70.0	62.5	69.1	76.9	65.3	71.8	74.1	70.9	67.4	85.1	*71.3*
23	75.3	73.3	75.9	83.0	73.1	76.4	75.2	75.3	83.8	69.0	70.3	80.6	77.0	73.6	88.5	*76.6*
24	77.2	82.0	76.2	88.6	78.1	75.5	85.7	81.9	87.5	72.2	81.5	85.2	81.4	77.4	91.8	*80.9*
25	83.7	89.1	79.3	86.7	84.8	84.4	91.6	87.2	90.2	76.9	81.2	89.0	86.2	78.2	92.3	*84.9*
26	84.1	92.0	82.5	89.7	87.8	84.7	93.9	90.9	91.2	81.4	91.3	90.7	89.3	86.7	93.0	*87.6*
27	89.6	93.7	85.9	89.7	90.5	90.4	95.0	93.7	92.3	84.3	94.8	93.3	94.0	86.5	93.4	*89.8*
28	92.4	94.8	89.3	90.9	92.8	91.5	95.4	95.0	93.8	85.8	94.0	94.7	94.0	89.7	94.2	*91.5*
29	92.2	95.1	91.8	93.6	93.9	93.0	96.1	95.8	93.9	85.0	95.2	94.6	94.2	90.4	94.3	*92.3*

Source: European Labour Force Survey, 1993-7.

Key to member states: AT – Austria, BE – Belgium, DE – Germany, DK – Denmark, ES – Spain, FI – Finland, FR – France, GR – Greece, IE – Ireland, IT – Italy, LU – Luxembourg, NL – Netherlands, PT – Portugal, SE – Sweden, UK – United Kingdom, EU – European Union

Table 2: Economic activity rates for member states – Females aged 15-29 years

Age	AT	BE	DE	DK	ES	FI	FR	GR	IE	IT	LU	NL	PT	SE	UK	EU
15	10.8	0.3	1.8	36.4	0.0	12.0	0.3	3.3	2.8	9.0	2.1	20.0	6.4	0.9	0.0	3.7
16	28.5	1.1	9.9	65.8	9.8	22.9	2.8	5.1	7.6	10.7	7.1	37.0	14.8	15.7	43.4	15.9
17	41.3	2.2	32.0	70.4	18.1	29.8	5.9	9.1	13.0	15.9	12.4	45.1	21.0	21.5	63.4	26.5
18	51.0	6.7	45.6	63.2	27.1	44.9	11.9	22.8	27.5	19.0	23.9	52.7	31.0	28.0	66.5	33.6
19	57.6	18.6	56.4	70.3	35.6	54.0	21.6	35.0	45.2	30.0	31.7	59.5	40.6	45.2	68.8	42.5
20	64.6	28.5	65.3	75.7	43.4	55.6	33.8	41.8	55.6	41.0	45.8	66.1	45.0	55.7	66.7	50.4
21	72.1	40.9	68.1	78.9	49.8	55.5	46.3	46.8	63.4	46.6	57.4	73.3	53.1	59.4	67.6	56.4
22	71.4	56.5	69.4	73.3	57.0	63.3	57.5	51.9	71.6	50.4	63.4	76.6	58.6	61.5	70.4	61.7
23	74.7	69.1	70.3	72.9	64.3	63.1	67.9	56.6	76.6	54.3	68.8	80.5	64.5	65.9	75.0	67.0
24	81.1	75.9	71.3	75.5	69.9	66.5	75.1	63.4	79.6	55.8	72.9	79.2	71.7	68.7	75.4	70.3
25	79.5	82.4	72.3	74.3	73.5	70.7	78.7	63.5	80.0	58.8	74.6	82.7	76.3	75.4	73.3	72.2
26	79.0	82.6	74.6	79.8	73.1	79.2	80.5	63.9	78.5	60.7	70.9	81.2	79.7	78.0	74.1	73.4
27	81.1	83.3	73.9	79.9	72.3	73.8	79.6	63.2	76.2	60.7	71.9	77.9	79.1	84.5	73.0	72.9
28	81.6	82.2	74.1	79.3	70.2	74.4	79.7	62.8	72.6	61.4	66.6	75.4	79.5	83.2	73.4	72.7
29	78.2	80.7	73.6	83.2	67.5	75.8	78.9	62.3	71.2	57.2	64.8	74.7	82.0	82.2	71.7	71.0

Source: European Labour Force Survey, 1993-7.

Key to member states: AT – Austria, BE – Belgium, DE – Germany, DK – Denmark, ES – Spain, FI – Finland, FR – France, GR – Greece, IE – Ireland, IT – Italy, LU – Luxembourg, NL – Netherlands, PT – Portugal, SE – Sweden, UK – United Kingdom, EU – European Union

Table 3: Crosstabulation of regions by country: 6-cluster classification

Country		Cluster						Total
		1	2	3	4	5	6	
AT - Austria	count	7	2					9
	row %	77.8%	22.2%					100.0%
	column %	15.2%	5.9%					5.0%
BE - Belgium	count			2		9		11
	row %			18.2%		81.8%		100.0%
	column %			4.1%		31.0%		6.1%
DE - Germany	count	15	23	1				39
	row %	38.5%	59.0%	2.6%				100.0%
	column %	32.6%	67.6%	2.0%				21.8%
DK - Denmark	count	1						1
	row %	100.0%						100.0%
	column %	2.2%						.6%
ES - Spain	count			16		2		18
	row %			88.9%		11.1%		100.0%
	column %			32.7%		6.9%		10.1%
FI - Finland	count		4	2				6
	row %		66.7%	33.3%				100.0%
	column %		11.8%	4.1%				3.4%
FR - France	count			4		18		22
	row %			18.2%		81.8%		100.0%
	column %			8.2%		62.1%		12.3%
GR - Greece	count			2			11	13
	row %			15.4%			84.6%	100.0%
	column %			4.1%			91.7%	7.3%
IE - Ireland	count			1				1
	row %			100.0%				100.0%
	column %			2.0%				.6%
IT - Italy	count			11	9			20
	row %			55.0%	45.0%			100.0%
	column %			22.4%	100.0%			11.2%
LU - Luxembourg	count			1				1
	row %			100.0%				100.0%
	column %			2.0%				.6%
NL - Netherlands	count	12						12
	row %	100.0%						100.0%
	column %	26.1%						6.7%
PT - Portugal	count			6			1	7
	row %			85.7%			14.3%	100.0%
	column %			12.2%			8.3%	3.9%
SE - Sweden	count		5	3				8
	row %		62.5%	37.5%				100.0%
	column %		14.7%	6.1%				4.5%
UK – United Kingdom	count	11						11
	row %	100.0%						100.0%
	column %	23.9%						6.1%
Total	count	46	34	49	9	29	12	179
	row %	25.7%	19.0%	27.4%	5.0%	16.2%	6.7%	100.0%
	column %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4: Crosstabulation of regions by country: 9-cluster classification

Country		1	2	3	4	5	6	7	8	9	Total
AT - Austria	count	2	3			2			2		9
	row %	22.2%	33.3%			22.2%			22.2%		100.0%
	column %	6.1%	8.6%			8.3%			5.0%		5.0%
BE - Belgium	count	1	4			3	1		2		11
	row %	9.1%	36.4%			27.3%	9.1%		18.2%		100.0%
	column %	3.0%	11.4%			12.5%	4.5%		5.0%		6.1%
DE - Germany	count	4	7	4		7	3		13	1	39
	row %	10.3%	17.9%	10.3%		17.9%	7.7%		33.3%	2.6%	100.0%
	column %	12.1%	20.0%	44.4%		29.2%	13.6%		32.5%	8.3%	21.8%
DK - Denmark	count		1								1
	row %		100.0%								100.0%
	column %		2.9%								.6%
ES - Spain	count	5				2	1		8	2	18
	row %	27.8%				11.1%	5.6%		44.4%	11.1%	100.0%
	column %	15.2%				8.3%	4.5%		20.0%	16.7%	10.1%
FI - Finland	count	2	1				1	1	1		6
	row %	33.3%	16.7%				16.7%	16.7%	16.7%		100.0%
	column %	6.1%	2.9%				4.5%	100.0%	2.5%		3.4%
FR - France	count	6	5			2	5		3	1	22
	row %	27.3%	22.7%			9.1%	22.7%		13.6%	4.5%	100.0%
	column %	18.2%	14.3%			8.3%	22.7%		7.5%	8.3%	12.3%
GR - Greece	count	3		5	2		1		1	1	13
	row %	23.1%		38.5%	15.4%		7.7%		7.7%	7.7%	100.0%
	column %	9.1%		55.6%	66.7%		4.5%		2.5%	8.3%	7.3%
IE - Ireland	count		1								1
	row %		100.0%								100.0%
	column %		2.9%								.6%
IT - Italy	count					7	4		3	6	20
	row %					35.0%	20.0%		15.0%	30.0%	100.0%
	column %					29.2%	18.2%		7.5%	50.0%	11.2%
LU - Luxembourg	count		1								1
	row %		100.0%								100.0%
	column %		2.9%								.6%
NL - Netherlands	count	4	3				3		2		12
	row %	33.3%	25.0%				25.0%		16.7%		100.0%
	column %	12.1%	8.6%				13.6%		5.0%		6.7%
PT - Portugal	count	2	2		1				2		7
	row %	28.6%	28.6%		14.3%				28.6%		100.0%
	column %	6.1%	5.7%		33.3%				5.0%		3.9%
SE - Sweden	count	1	1			1	2		2	1	8
	row %	12.5%	12.5%			12.5%	25.0%		25.0%	12.5%	100.0%
	column %	3.0%	2.9%			4.2%	9.1%		5.0%	8.3%	4.5%
UK – United Kingdom	count	3	6				1		1		11
	row %	27.3%	54.5%				9.1%		9.1%		100.0%
	column %	9.1%	17.1%				4.5%		2.5%		6.1%
Total	count	33	35	9	3	24	22	1	40	12	179
	row %	18.4%	19.6%	5.0%	1.7%	13.4%	12.3%	.6%	22.3%	6.7%	100.0%
	column %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 5: Country differences: benchmark results with economic activity rates as the dependent variable

	Males 15-19		Females 15-19		Females 20-24		Females 20-24	
	Coefficient	T statistic	Coefficient	T statistic	Coefficient	T statistic	Coefficient	T statistic
(Constant)	1.130E-02	.127	-.121	-1.242	1.809	20.008	.873	10.261
AUSTRIA	-3.394E-02	-.255	-.416	-2.851	-.671	-4.981	.172	1.357
BELGIUM	-2.416	-19.166	-2.762	-19.975	-1.402	-10.967	-.733	-6.090
FRANCE	-1.834	-16.794	-2.291	-19.130	-1.201	-10.846	-.576	-5.524
GERMANY	-.597	-5.916	-.773	-6.983	-.647	-6.320	-1.559E-02	-.162
IRELAND	-1.115	-3.611	-1.368	-4.040	-.675	-2.154	-8.344E-02	-.283
DENMARK	.700	2.267	.633	1.870	-.281	-.897	.236	.800
SPAIN	-1.287	-11.246	-1.563	-12.459	-1.142	-9.843	-.682	-6.249
FINLAND	-.824	-5.170	-.630	-3.601	-.877	-5.425	-.504	-3.312
SWEDEN	-1.462	-10.644	-1.001	-6.641	-1.062	-7.622	-.374	-2.850
GREECE	-1.364	-11.265	-1.570	-11.817	-.449	-3.658	-.768	-6.644
ITALY	-1.293	-11.650	-1.518	-12.471	-1.303	-11.579	-.868	-8.196
LUX	-1.618	-5.238	-1.617	-4.774	-1.090	-3.481	-.368	-1.249
PORTUGAL	-.901	-6.304	-1.299	-8.284	-.822	-5.671	-.617	-4.521
NL	-.173	-1.399	-.189	-1.395	-.675	-5.393	.273	2.314
R	.923		.928		.793		.818	
R Square	.851		.861		.629		.669	
Adj.R Square	.839		.849		.597		.640	
Std. Error	.2957		.3243		.2999		.2822	

Note: The country names indicate a 0/1 dummy, taking a value of 1 for regions within the country concerned. The UK is used as the comparator. The coefficients on the country dummy variables indicate the effect for any region of being part of that country compared to being a region within the comparator country.

Table 6: Summary of key findings: basic economic model

Males

Variable	Expected sign	15-19				20-24			
		All	Group1	Group 2	Group 3	All	Group 1	Group 2	Group 3
Urt (aggregate unemployment rate)	+	+	--	++	++	++	++	++	--
Ur (age group specific unemployment rate))	-	--	--	--	--	--	--	--	+
GDPEU100 (GDP expressed as an index of EU15 average)	-	--	--	--	--	--	--	--	--
Adjusted r²		88.5	78.3	67.7	44.1	69.7	61.3	44.0	60.7

Females

Variable	Expected sign	15-19				20-24			
		All	Group1	Group 2	Group 3	All	Group 1	Group 2	Group 3
Urt (aggregate unemployment rate)	+	+	--	+	++	++	++	++	++
Ur (age group specific unemployment rate))	-	--	--	--	--	--	--	--	--
GDPEU100 (GDP expressed as an index of EU15 average)	-	-	--	-	++	-	--	--	++
Adjusted r²		87.4	68.5	48.1	28.6	75.9	49.7	57.4	63.4

Notes: (i) A + or – indicates the sign of the corresponding coiefficient in the regression. Expected signs are shown in column 2.
(ii) A double ++ or – indicates a coefficient that is statistically significant at the 10% level or better.
(iii) Each equation also includes a full set of country dummies (limited to the group as appropriate).
Group 1: Denmark, Sweden, Finland, Netherlands, Germany, Austria, United Kingdom, Ireland. Group 2: France, Belgium, Luxembourg. Group 3: Italy, Greece, Portugal, Spain.

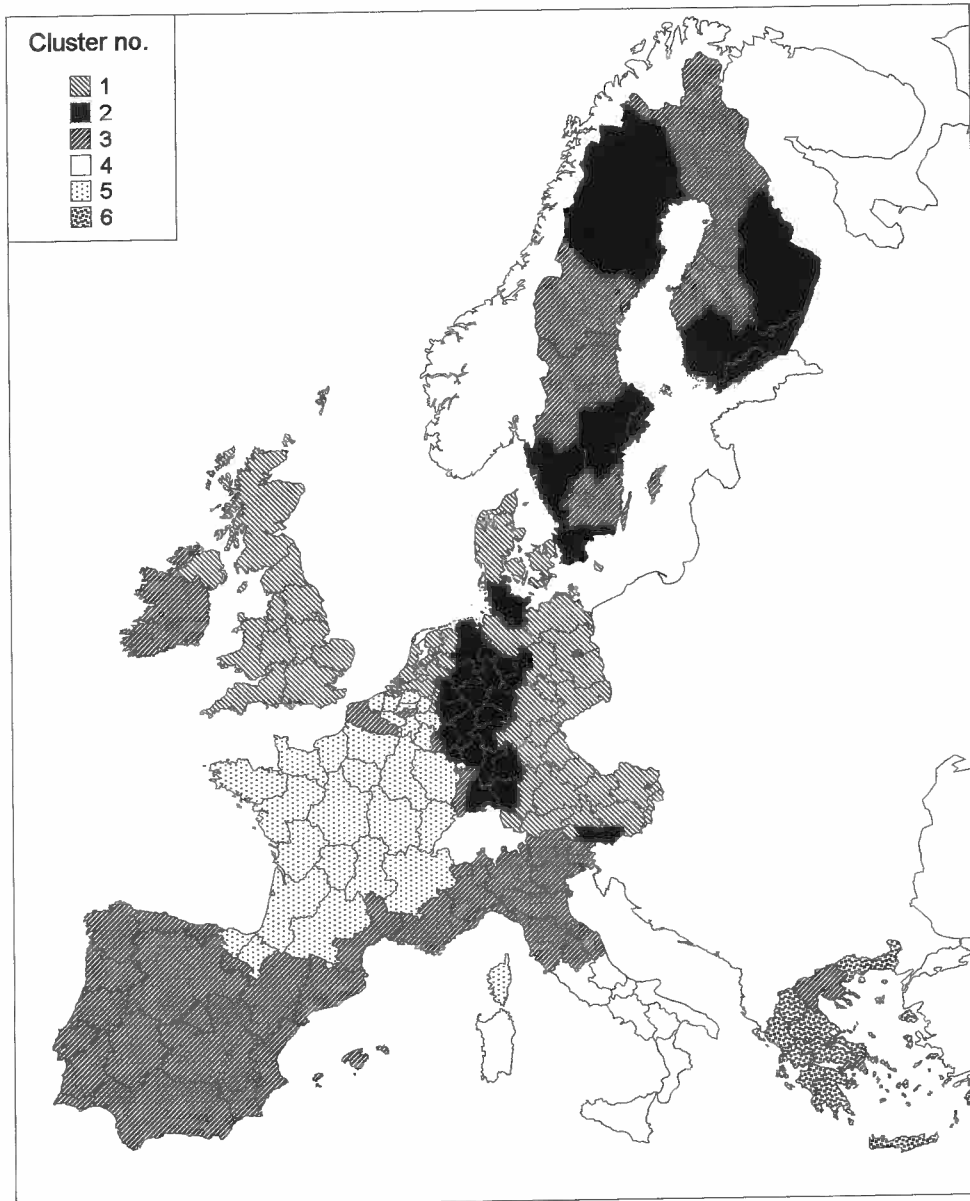**Figure 1: 6-fold cluster classification of regions sharing similar labour market transitions**

Figure 2: 9-fold cluster classification of regional:national differentials in labour market transitions