Coming to terms with the longitudinal: cross-national comparisons of education-work transitions

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The longitudinal complexity of education-work transitions

Longitudinal research on education-work transitions repeatedly tells us that these transitions are long and complex. For many years researchers studying young people’s early labour-market careers have found instability, rapid job-changing and spells of unemployment. In recent decades the rise in youth unemployment and the growing importance of intermediate statuses, such as temporary jobs and employment and training schemes, have added further to the length and complexity of transitions. The very concept of a completed transition, of defining an end point when we may judge the success or failure of the transition process, has been seen as problematic. But if the end point of transition is problematic, so too is its starting point. Instead of treating the level and type of a young person’s initial education as given, and as the independent variables in transition analysis, researchers have come to regard transitions within education and training as part of an overall transition process which starts at the point when educational pathways first diverge and ends at the point when their labour-market position is at least relatively stable. And instead of seeing education and work as distinct categories between which young people make a single, abrupt transition, researchers have come to see education and work as overlapping and interdependent statuses. At successive decision points young people choose between continuing in education and entering the labour market; they may combine education and work as apprentices or through part-time jobs or part-time study; or they may move from work to education and back again. The transition process is therefore long, complex, multi-stage and multi-directional. For this reason I refer to ‘education-work transitions’ rather than the linear concept of ‘transition from school to work’.

The complexity of the transition process has been well documented by longitudinal researchers, who have recorded the variety of itineraries which young people follow between education and work (Byner, Ferri, Shepherd, 1997; Lamb, McKenzie, 2001; Thiessen, Looker, 1999). Some sociologists link this complexity with broader processes of social change in late modernity and with the individualisation of youth transitions (Beck, 1992; Furlong, Cartmel, 1997). Others have used complex transition patterns to criticise the assumptions underlying current policies (Dwyer, Wyn, 1998; Bloomer, Hodkinson, 2002). These critiques are acknowledged in the policy discourse of lifelong learning which emphasises the need to provide open and flexible transition pathways and to develop the skills of self-management which people need to negotiate them (EC, 2000; Raffe, 2003). Another set of policy debates concerns the educational implications of different combinations and alternations of education and work, whether through formal apprenticeship or alternance training, or through less formal opportunities provided by part-time jobs and courses.

My starting point, therefore, is that this longitudinal complexity, and in particular the complex and variable interactions between education and work, are a fundamental feature of modern education-work transitions, and that they are of considerable theoretical and practical importance. Research on education-work transitions which ignores this complexity or tries to assume it away risks misrepresenting its subject matter.
The comparative study of institutional effects

In this paper I link the longitudinal complexity of education-work transitions with another theme of recent research: the study of ‘institutional effects’. This starts from the observation that the institutional arrangements for education-work transitions – the education system, the organisation of vocational training, the structure of labour markets, the arrangements for recruiting new entrants and so on – vary across countries. But so do the processes and outcomes of transition: the level of school-leaver unemployment, the level and security of the jobs which new entrants find, the relation between educational qualifications and these outcomes, and the characteristic patterns of gender, social and ethnic inequality, all tend to vary across countries. This cross-national variation prompts the question, posed alike by national policy-makers and by academic researchers: how do national differences in institutional arrangements shape the processes and outcomes of transition?

I use the term ‘transition system’ to describe the relatively enduring features of a country’s institutional arrangements. Researchers have drawn on different theoretical traditions to conceptualise differences in transition systems and their effects on transition processes and outcomes. Many have started from Maurice, Sellier and Silvestre’s (1982) distinction between organisational and qualificational space and from related distinctions in the literature on labour-market segmentation: between internal and occupational labour markets (Marsden, 1986), or between different modes of exclusion and inclusion in youth labour markets (Garonna, Ryan, 1991). Another starting point, more directly related to policy interests, is the analysis of education and training systems. During the 1980s there was a strong policy interest in the contrast between school-based and work-based (or dual) systems of vocational training, and in the different ways that education systems organised general and vocational tracks and pathways (OECD, 1985, 1989). Allmendinger (1989) attempted to link these educational differences more systematically to differences in the processes and outcomes of transition, by distinguishing two main dimensions of education systems, stratification and standardisation (the standardisation of curricula, assessment and certification) and showing that these were associated with the outcomes of transition in a comparison of Germany, Norway and the United States. In subsequent studies researchers explored additional dimensions of system variation such as: the role of work-based versus school-based training, the specificity of vocational training, the size of the tertiary sector, the strength of linkages between education and the labour market, the distinction between occupational and internal labour markets, and the strength of labour-market regulation (Hannan, Raffe, Smyth, 1997).

Connecting longitudinal complexity with institutional effects

How are these two strands in transition research – longitudinal complexity, and the comparative study of institutional effects – connected? In the first place, they are empirically linked. Complex transition processes vary across countries. If we represent the transition process as a variable sequence of educational, labour-market and mixed statuses, then the nature of these statuses, their typical ordering and the overall length of the process vary across countries. For example, in some countries many young people enter the labour market before they complete their initial education; in other countries these are discrete and distinct stages. Such contrasts reflect differences in countries’ transition systems: in the structure and flexibility of educational pathways, in the ease with which young people can re-enter education, in the institutional possibilities for combining education and work through apprenticeship or alternance training, in the organisation of employment and training schemes and in the contractual forms of employment.

Second, there are theoretical links. The research on institutional effects draws in part on theories of labour-market segmentation which predict that a country’s labour-market structure will influence the dynamics of labour-market entry. For example the relative importance of internal and occupational labour markets in a country will be reflected in the average level of job entry, in the extent of subsequent upward mobility, in the frequency of job changes between and within employers, and in the speed with which new entrants converge towards ‘adult’ labour-market patterns. However these theoretical predictions concern patterns of movement within the labour market. Institutional effects on
transitions within education, and above all on the interactions and combinations of education and work, are less well theorised.

Third, linking complex transition patterns with the comparative study of institutional effects raises methodological issues. Researchers need longitudinal data to observe these patterns, but the complexity of transition processes and their national variability make it hard to find data that are comparable across countries. Good longitudinal data for single countries are scarce enough (OECD 2000); comparative longitudinal data are even scarcer. José Rose (2001) has described the ‘multiple temporalities’ of longitudinal analysis; these are multiplied further when we look across transition systems. The transition process in different countries varies in terms of the age span, the main transition points, the main statuses and the relevant independent variables to measure, no single data set can easily encompass this variety. The logic of complex transitions is that we need to compare transition sequences, not individual transitions. But how do we do this, and what is our reference point for defining comparable longitudinal cohorts? How do we resolve the tension between longitudinality and comparability?

Below I explore this question by reviewing the strategies followed by four case studies of recent research on ‘institutional effects’.

Müller and Shavit: cross-sectional analysis focusing on ‘first job’

A typical study of institutional effects follow what I call the dimensions approach. It identifies one or two dimensions of difference between the transition systems of selected countries and tests their effects on the processes and outcomes of transition. However, the sample of countries is usually tiny – two or three, at most four - and the available data often lack comparability. Such studies therefore provide only weak evidence on institutional effects. My first case study, led by Müller and Shavit (1998) sought to escape these limitations by using rigorously comparable data for a larger sample of countries. Their collaborative approach involved researchers from each of 13 countries, who identified relevant national datasets, constructed comparable variables and performed a set of parallel analyses to a standard specification. The core of each analysis was the correlation between initial education, defined by the CASMIN scale, and the occupational prestige or social class of the first job; further analyses examined the effects of vocational compared with general qualifications and the effects on labour-force participation and unemployment. These correlations varied across the 13 countries, and Müller and Shavit linked this variation with four dimensions of transition systems: standardisation, stratification, the scale of tertiary education and the occupational specificity of vocational education (the effect of standardisation appeared to be explained by the other three dimensions). The more standardised, stratified and vocationally specific an education system, and the smaller its tertiary sector, the stronger the correlation between level of education and the level of first job. Vocational specificity was also associated with the effect of vocational qualifications on access to skilled versus unskilled manual jobs.

The main ‘transition outcome’ studied by Müller and Shavit was the correlation between level of initial education and first job. In other words their response to the tension between comparability and longitudinality was to emphasise comparability and to abandon longitudinality: to focus on cross-sectional analysis. And certainly, had they attempted to study longitudinal change they could never have achieved the same formal comparability in their data. Nevertheless their approach has limitations. A cross-sectional analysis cannot reveal the effect of transition systems on the longitudinal dynamics of labour-market entry. In an article which draws on Müller and Shavit’s work Kerckhoff (2000) introduces the notion of a ‘transition period’ and shows how transition systems influence the number of early job changes, the extent of early career mobility and the extent to which individuals increase their educational attainment after the first job, for example through part-time study. In other words he identifies further ‘longitudinal’ transition outcomes, in addition to the ‘cross-sectional’ outcome studied by Müller and Shavit.
However, the conclusions even of Müller and Shavit’s cross-sectional analysis may partly be artefacts of the lack of comparability in the definition of ‘first job’. Thus, in Germany and Switzerland apprentices’ first jobs are defined as those entered after completing the apprenticeship; not surprisingly these are strongly linked with qualifications, because these have often been acquired with the same employer. Kerckhoff points out that in other countries, such as Britain, a relatively weak initial association between education and occupation may become stronger over the ‘transition period’ that follows entry to the labour market. The point is not that Müller and Shavit defined ‘first job’ wrongly; it is rather that no definition of a single transition event such as first job can be perfectly comparable across countries, because each event must be understood as part of a sequence that is nationally determined. Müller and Shavit’s cross-sectional approach rests on a paradox: in order to study the effects of national institutional differences they define an outcome variable in a standardised way which assumes away those very differences. Can a longitudinal study avoid this paradox?

_CATEWE_ analyses of European Labour Force Survey – pseudo-cohorts defined by date of completing education

My next case study is the analysis of the European Labour Force Survey (ELFS) by Müller and colleagues as part of the project of Comparative Analysis of Transitions from Education to Work in Europe (CATEWE), conducted by a six-country partnership between 1997 and 2000. They used data for the 15 EU countries for 1997 and earlier years, to address the same question as the earlier study – how do national transition systems shape transition processes and outcomes?

The project used a variety of approaches (Müller, Gangl in press). One analysis compared trends over time in the educational qualifications of new entrants to the labour market. Another analysis used cross-sectional ELFS data to examine the incidence and distribution of dual statuses which combined education and work. A third group of analyses used multi-level techniques to examine the individual and system-level effects on employment and occupation, alongside changes over time associated with cyclical economic conditions and of changing educational and occupational distributions.

However at the core of the ELFS work were analyses which explored differences between national transition systems (Gangl in press, a, b; Couppié, Mansuy, in press). Did transitions differ in countries with strong occupational labour markets compared with countries where internal labour markets were dominant? One way to test for this was to compare the dynamics of labour-market entry in the different types of systems. The CATEWE analyses found that in countries with strong occupational labour markets, such as Germany, Austria, Denmark and the Netherlands, the labour-market position of new entrants differed less from that of more experienced workers and the two converged more quickly. In these countries transitions to work were smoother, the competitive position of new entrants to the labour market was stronger, occupational allocation was more strongly based on skills and gender segregation was stronger, compared with other European countries. However, instead of finding a bipolar distribution of countries, as had been suggested by earlier analysts (Hannan et al., 1997; Heinz, 1999; Kerckhoff, 2000), the CATEWE research found very different patterns in the remaining Northern European countries and in the Southern European countries respectively. Southern European systems were distinctive because of the prolonged search period (especially for the highly qualified) and the relative immobility of young workers once in employment. They also had low historic educational levels and high rates of unemployment, low levels of apprenticeship and in-company training, and a strong family and ‘supply-side’ effect on transitions.

These analyses thus demonstrated that different transition systems had different effects on the dynamic patterns of labour-market entry and integration. Longitudinal analysis was therefore central to the research, but the ELFS did not provide micro-level longitudinal data. The research addressed the tension between longitudinality and comparability, in part, by studying pseudo cohorts. It used ELFS data for different years to follow the same cohorts over time at an aggregate level, even if the data did not describe the same individuals over time. Each cohort was defined by the estimated date at which it
completed initial education. Because this information was not collected by the survey, it had to be estimated from the highest qualification achieved by each sample member and the ‘normal’ age of graduation corresponding to the qualification in the country concerned. A similar approach was used to generate the transition indicators for the recent Eurostat Key Data on Training (CEDEFOP, 2001). A strength of the ELFS for this purpose is that it enables new entrants to the labour market to be compared with more experienced workers; this would not be possible using cohort data.

This approach nevertheless has its limitations. In the first place, the researchers found that ELFS data were not always comparable across countries, or at least that it was difficult to judge their comparability. There was inadequate documentation to show how countries had recoded their national data to fit the standard categories defined by Eurostat. Second, pseudo-cohort data cannot address the questions which require micro-level data – for example, questions of causality. Third, the ELFS does not allow us to compare transition patterns within the education system, or movements between the labour market and education, even in terms of pseudo-cohorts. It enables us to compare the numbers of people in dual statuses which combine education and training (Wolbers, in press), but it does not show the individual itineraries and transition patterns which are hidden beneath these ‘stock’ data. Finally, even the longitudinal comparisons of pseudo-cohorts are open to the objection, that they are based on an arbitrary definition of the starting point of transition: if young people leaving education in ‘occupational labour market’ have smoother transitions and converge more swiftly towards adult labour market patterns, might this not be because many of them had entered the labour market (as apprentices) many years before completing their education?

The European Labour Force Survey transition module – cohorts defined by date of completing education

In 2000 Eurostat added a module to the ELFS to provide additional longitudinal data on education-work transitions. The module was added to the annual LFS in all EU countries except Germany, and also in Hungary, Latvia, Romania, Slovakia and Slovenia. Sample members aged 15-35 who had left initial education within the previous ten years (five years in some countries) were asked additional questions to identify their qualification level at the time of leaving education, their last field of study, details of the ‘first significant job’ after leaving education, details of job search and their parents’ level of education.

Indicators and early analyses based on the module are in the process of publication (Kogan, Müller, 2002; Kogan, Schubert, 2003). The module has considerably enhanced the potential of the ELFS for analyses of education-work transitions. In the first place it provides occupational details based on a relatively standardised measure of first job, rather than providing details only for current job which might have been entered at a variable length of time after leaving education. Second, it provides additional data, for example on field of study, job search, and parental background, which are important for the study of transition. Third, it provides scope for longitudinal analysis of transitions between first job and current job. Fourth, because the sample is based on those leaving initial education for the first time it potentially provides valuable comparative information on national patterns of re-entry to education, an under-researched feature of complex transitions.

However the module was troublesome to implement (Iannelli, 2002). Countries varied in how they interpreted the new items. Some delivered the module to those who left education in the past ten years, others restricted it to the past five years’ leavers. Some countries omitted key variables, such as parental education or job search, or used different operational definitions of variables such as field of study and first job. Many countries gave the module low priority or (to put this more positively) they did not want to compromise the existing strengths of the ELFS by adding further demands to an already overcrowded survey. As a result the data collected by the module sometimes lacked comparability across countries, although most of the problems are capable of being remedied when the module is replicated in 2004.

The biggest difficulty concerned the identification of the sample, in other words the definition of ‘leaving continuous education’. There were different interpretations of what counted as continuous
education, especially in countries with more modular provision or whose data recorded very short spells of education. Eurostat included part-time education and training in its definition of continuous education, but some countries included only full-time education and in other countries it was difficult to distinguish between training and jobs (Iannelli, 2002). Nevertheless the evaluation report concluded that the current definition which included part-time education should be retained in future replications of the module; a definition based on full-time education only would underestimate the age at which people left education and ‘erroneously include young people on apprenticeship and those combining education with working within the group of leaver from continuous education’ (Müller et al. 2002). The module was designed on the assumption of a linear model of transition: Eurostat’s definitions assumed that young people could only enter their first job after leaving education, and many countries had difficulty applying this to their own experience.

**Catewe analyses of School Leavers Surveys: cohorts of secondary education leavers**

My fourth case study is drawn from the second strand of the CATEWE project, led by Damian Hannan and Emer Smyth, which analysed integrated micro-level datasets constructed from the national school-leaver surveys for France, Ireland, the Netherlands, Scotland and Sweden. The analyses explored the same research questions – of institutional effects – but with greater attention to the detailed transition processes, and with more use of educational variables, than was possible using the ELFS. They covered leavers from secondary education, who made a variety of transitions including to higher education, to apprenticeship or other training, or to the labour market. The surveys thus covered transitions within education and training system as well as transitions from education to the labour market.

The school leavers’ surveys, with their greater detail on transition processes and their greater sensitivity to different national circumstances, reveal much more country-specific variation than the ELFS, where such variation tends to be concealed behind standardised variables and broad classifications such as ISCED (Hannan et al. 1999, 2000; Smyth et al. 2001). The analyses showed how national transition systems shaped transition sequences, gender and ethnic inequalities and the impact of vocational education; they also demonstrated national differences in the roles of seemingly comparable institutions such as apprenticeship and youth programmes.

The strategy of the SLS analyses was to combine longitudinality with comparability: to use longitudinal data for the different countries but to combine them into integrated datasets to support cross-national analyses. Of the strategies discussed so far this was perhaps the most ambitious but also most fraught. In the first place, the available data were severely limited. Relatively few countries have nation-wide secondary school leavers surveys, and they are not a representative sample of transition systems. For example, none of the five countries has a dominant dual system and none is in southern Europe. School leaver surveys, it would appear, are a product of particular types of transition systems and their characteristic transition patterns and policy interests; they cannot therefore be used to compare very different types of systems. Even among the five countries, the surveys varied widely in their purposes and design. In the Netherlands they were designed primarily to inform schools about their students’ destinations; the other surveys were designed primarily to inform national policymakers. They had varying emphases on educational and on labour-market issues; the French survey covered only entrants to the labour market while the others covered all secondary school leavers. The surveys varied in their sample design, the timing and number of observations, in the data collected and in the classifications used to record them. It was particularly difficult to find comparable data covering a significant longitudinal time span. Data covering the first five years after leaving school were available for only two countries. Most analyses were based on simple comparisons of ‘first destination’ after secondary school. Even comparisons based on ‘first destination’ were based on a definition of secondary education that was applied differently across countries. For example, the definition of secondary education included many apprenticeships, while in other countries apprenticeships were classified as post-secondary. This naturally affected cross-country comparisons, for example of the effect of vocational compared with general qualifications. Once again, the point is
not so much that the definitions were wrong as that no single transition point can define a comparable point in the transition sequence of all countries.

Summary: conclusions from the four case studies

I started this paper by describing two themes in recent research on education-work transitions: the ‘longitudinal complexity’ of these transitions, and the comparative study of ‘institutional effects’. How have researchers combined these two strands – the longitudinal and the comparative? I will suggest five broad conclusions.

First, my four brief case studies demonstrate the importance of longitudinal analysis for the comparative study of education-work transitions. Cross-national differences can only be fully understood, then, if we look at the contrasting dynamics of transitions in different countries; and theoretical perspectives on ‘institutional effects’, notably those based on labour-market segmentation, are based on a longitudinal perspective.

Second, there has been a reasonable volume of research on education-work transitions that is, then, both comparative and longitudinal; and there is more research than I have summarised in this brief review. Even where micro-level analysis is not possible, pseudo-cohorts can be used to address the specific questions that arise in the comparative analysis of transition systems.

Third, most of this research is restricted to young people’s progress within the labour market after they have left education. It is based on an outmoded linear model of transition, and it omits one of the most important aspects of current transitions – the overlap and interaction of educational and labour-market itineraries. At best it treats these aspects of the transition process as anterior, independent variables. But one of the most important sources of institutional effects may be the different typical sequences and combinations of transition events. For example, the educational and social roles of vocational education and training are very different depending on whether this training precedes or follows selection to the labour market (Raffe, 1992). Patterns of gender differentiation may vary according to whether the main differentiating factor is selection to occupationally specific training or to the occupations themselves (Smyth, 2001). But there is hardly any comparative longitudinal research which covers the whole transition process, within education as well as within the labour market.

Fourth, research in this area has been constrained by the availability and comparability of data. When looking for data we often have to choose between longitudinality and comparability. Many countries have good longitudinal surveys, but they cannot easily be used for comparative research. It is difficult enough to make national cross-sectional data comparable across countries; it is much harder to do the same for longitudinal data. It is easier if longitudinal studies are designed from the start as cross-national studies, but there are very few such studies. The limited longitudinal data provided by the European Labour Force Survey module may represent the best current compromise between longitudinality and comparability – especially if the teething troubles of its first year can be resolved. However even the ELFS module data cover the transition process only after young people have left initial education.

Fifth, all comparative transition research, whether it uses a cross-sectional, pseudo-cohort or longitudinal approach, faces what I have called the ‘single transition event’ problem. On the one hand we need to define a transition event, such as ‘first job’, ‘leaving education’, or ‘leaving secondary education’, on which to base our comparisons; on the other hand, complex transition patterns mean that no single transition event can be fully comparable across countries. For example, ‘leaving education’ does not mean the same thing in a country with a large dual system as in a country where vocational training is school-based. It does not mean the same thing in a country where it is easy to return to education or where there are opportunities for part-time study, as in a country with less flexible pathways. We need to compare transition sequences, not individual transitions.
Implications for future research

What are the solutions to these problems?

One solution, of course, is to provide better data, that are at once comparative and longitudinal. However, this is not an easy solution. It is hard to design longitudinal surveys that capture distinctive national patterns of transition, especially within education and training systems, but which also allow comparison across countries. Moreover, longitudinal surveys are expensive, and countries are reluctant to invest in longitudinal designs which compromise on their own country-specific needs in the interests of cross-national comparability. At a recent international workshop to discuss data on education-to-work transitions, there was disagreement over the extent to which comparative longitudinal data should be a priority in future data-collection (Raffe, 2001a). The CATEWE project developed proposals for future data-collection, which included an ‘ideal’ design for a prospective age-cohort survey (Raffe, 2001b); a similar survey was proposed to follow the 2003 PISA sample but so far few countries have been willing to support this. A more modest but perhaps more attainable proposal is to encourage a gradual if partial process of ‘harmonisation’ of existing surveys.

A second response is to pursue a more holistic approach to transition, and to prioritise the study of transition sequences rather than of individual transitions. Several recent commentators have noted that we need more developed conceptualisations of transition patterns and pathways (Sweet, 1991) and some studies, including analyses of the CATEWE school-leaver data, have demonstrated ways to compare transition sequences (Grelet, Mansuy, Thomas, 2001; Scherer, 2001). However research of this kind has focused on transitions within the labour market, after completing initial education. For comparative analysis of the full transition process, we may need to rely on longitudinal analysis within countries and cross-national comparison at a higher level of abstraction. This more holistic approach is consistent with the trend away from studying individual dimensions of system variation towards studying ‘transition systems’. An example is the OECD’s recent Thematic Review of the Transition from Initial Education to Working Life. This provided detailed within-country analysis of 14 countries, as the basis for synthesis at a more thematic level (but also informed by the OECD’s own indicators). Its final report rejected its earlier attempt to reduce country differences to a limited typology or set of dimensions, and focused instead of six ‘key ingredients’ of successful transition systems (OECD, 2000). These ingredients might be supplied by different institutional arrangements in different countries. This more holistic approach is consistent with the ‘new functionalism’ of some academic researchers (Ashton and Green, 1996; Van der Velden, 2001). It also points towards a third response to the problem of reconciling longitudinality with comparability: the need for closer attention to similarities among countries, rather than an exclusive attention to their differences.

Fourth, to complement the holistic approach there is need for detailed comparisons of particular processes and institutions within transition systems, such as the recruitment process, the role of networks (Rosenbaum et al. 1990), or the organisation and role of youth programmes or apprenticeship (Schröder, 2000; Hartkamp, Rutjes 2001).

Finally, we should continue to rely on a variety of analytical approaches and data sources, as such eclecticism is a potential source of conceptual and theoretical advance. In the last analysis the biggest barrier to progress in the comparative analysis of education-work transitions is not the availability or comparability of data but the need for better conceptual and theoretical understandings.

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1. These ingredients are: a healthy economy; well organised pathways that connect initial education with work and further study; widespread opportunities to combine workplace experience with initial education; tightly knit safety nets for those at risk; good information and guidance; and effective institutions and processes.
Bibliography


