

1 The European Socio-economic Classification

A prolegomenon

David Rose, Eric Harrison and David Pevlin

Introduction

In 1999, as part of its Statistical Harmonization Programme, Eurostat (the Statistical Office of the European Communities) commissioned an Expert Group to make recommendations for the development of a new statistical tool for understanding differences in social structures and socio-economic inequalities across the European Union (EU). In its subsequent report to Eurostat (Rose *et al.* 2001) the group recommended the development of a common socio-economic classification for all EU Member States based on the concept of employment relations (see below) and outlined a work programme to achieve this objective.

A research project to develop a prototype version of a harmonized European Socio-economic Classification (ESeC) commenced in 2004, funded under Framework Programme 6, and was completed in 2006. This project involved a consortium of two National Statistical Institutes (NSIs), the UK Office for National Statistics (ONS) and the French National Institute for Statistics and Economic Studies (INSEE), and academic researchers from six countries: Germany, Ireland, Italy, the Netherlands, Sweden and the UK. Most of the other EU NSIs, as well as additional academic experts from across Europe, participated in the two project conferences and also provided written advice (see below and also the project website for further details: www.user.essex.ac.uk/research/esecc). At a Eurostat meeting in Luxembourg in September 2006, it was recommended that NSIs across the EU should seek to implement the classification, subject to the resolution of a number of outstanding statistical issues. These included the need to align the ESeC with changes in national occupational classifications arising through the introduction of the new 2008 version of the International Standard Classification of Occupations (ISCO), the harmonized classification used across the EU for reporting occupational statistics (see Elias and Birch 1994a, 1994b).

While Eurostat has, quite appropriately, taken responsibility for the final stages of the work involved in implementing the ESeC as a harmonized variable within the European Statistical System, the success of this indicator in facilitating our understanding of inequalities across the EU depends upon

demonstrating its value as an analytical tool. That is the fundamental purpose of this book. The chapters that follow are all written by members of the ESeC consortium and report the findings of their work for the project.

In this chapter we set the scene in terms of both ESeC and the rest of what follows. In the second section, largely for the benefit of non-*afficionados*, we begin with a discussion of terminology regarding socio-economic classifications (SECs) and the particular form that ESeC takes. This is followed, in the third and fourth sections, by an account of why ESeC is necessary and why a clear conceptual basis is crucial. In the fifth and sixth sections respectively, we explain the conceptual underpinnings of ESeC and describe its categories, rules and variants. In the final three sections of the chapter we examine validation issues in relation to ESeC as a precursor to explaining the plan of the book, discussing the other chapters and drawing some conclusions. We commence with an explanation of what we mean by a socio-economic classification.

What is a 'socio-economic classification'?

The term 'socio-economic classification' (SEC) is merely a descriptive one; that is, in and of itself it has no theoretical, conceptual or analytic status whatsoever.¹ Consequently it may be applied as a generic term for a variety of different measures designed to reflect how societies are stratified. Social stratification refers to social inequalities that may be attributed to the way a society is organized, to its socio-economic structure. SECs all share in common the idea that in market economies it is market position, and especially position in the occupational division of labour, which is fundamental to the generation of social inequalities. The life-chances of individuals and families are largely determined by their position in the labour market and occupation is taken to be its central indicator; that is, the occupational structure is viewed as the spine of the stratification system. The question then becomes how we use occupation as an indicator of social position in terms of an SEC. Two broad approaches exist, reflecting different aspects of inequality. First there are occupational scales which tend to measure the distributive aspects of inequality, and second, there are categorical schemas intended to measure relational as well as distributive issues.

As Ganzeboom and his colleagues (1992) have noted, social scientists have become divided between those who favour categorical approaches to socio-economic classification and those who prefer continuous measures. That is, some favour SECs that divide the population into a discrete number of categories or social positions. Others prefer measures that allow for an unlimited number of graded distinctions between occupational groups which assume that 'differences between occupational groups can be captured in one dimension' represented by a single parameter (Ganzeboom *et al.* 1997: 2). At the other extreme, these two approaches, while noting

that each uses occupational information for its derivation (for further discussions of the different types of SEC see Lareau and Conley 2008: ch. 1; Svallfors 2006: ch. 2; Rose 2005; Ganzeboom and Treiman 2003; Bergman and Joye 2001; Hauser and Warren 1997).

American research post-1945 led to attempts to construct quantitative socio-economic scales, scores or indices, generally referred to under the umbrella term of *socio-economic status* or *SES* measures. At first sight, these continuous measures might be seen as more awfully 'socio-economic' in the sense that they combine information on occupation, education and income, i.e. they summarize social and economic variables relating to occupations. Their primary aim is to reveal the distributive aspects of social inequality (see Egidi and Schizzerotto 1996). For example, Duncan's (1961) 'Socioeconomic Index' or SEI brought together 'social' (in this case status or prestige) measures of occupations with educational and income measures in an attempt to predict status from information on education and income. In Duncan's view, the SEI made a link between occupation on the one hand and education and income on the other. Thus, the overall status of each occupation was simultaneously estimated in terms of both its social and economic statuses. Thereby, the correlation of status with education and income became a matter of definition. This type of approach (commonly associated with the status attainment form of mobility research) remains the commonest explicit description of a socio-economic measure (and, confusingly for what follows, is often termed a measure of class position in the USA; see Lareau 2008). An internationally comparable SEI measure has been developed (see Ganzeboom *et al.* 1992).

However, there is another tradition in socio-economic classification that is rather different from Duncan's synthetic, unitary approach. Many social scientists would prefer to see occupation, education and income as separate dimensions relating to social stratification. Indeed, it is the synthetic rather than gradational aspects of SES measures that worry many analysts, i.e. the construction of indices that combine education, income and occupation rather than exploring their interconnections via multivariate analysis (see Lareau 2008: 11–12 and *passim*). Hence, the alternative approach is one which sees individuals as being distributed across a range of positions in the social structure in terms of social and economic power and thus also concentrates on the relational aspects of inequality as well as the distributive ones. In other words, individuals possess certain resources by virtue of the positions they occupy and consequently face a range of possibilities and constraints in terms of their behaviour. Those who share comparable resources, and thus similar structural positions, will share comparable possibilities and constraints in terms of 'life-chances' (e.g. chances for educational attainment, health, material rewards, economic security and social mobility). Therefore, they may also be expected to act in similar ways. Accordingly, in this approach, the structural base of social power provides a link between the organization of society and the position and behaviour

of individuals' (Breen and Rottman 1995a: 455, emphasis added; see also Wright 2008; Egidi and Schizzerotto 1996; Goldthorpe and Marshall 1992). While there are many bases of social power, such as race, gender and social status, it is generally agreed among sociologists that the most important in modern market economies is that of social class, i.e. social power based on market or economic power (see e.g. Crompton 2008: ch. 2; Wright 2008, 2005; Marshall 1997: ch. 1; Scott 1996; Breen and Rottman 1995b). Thus, we can also see categorical social class measures as being 'socio-economic' classifications.

Social class is fundamental to the distribution of life-chances in industrial and post-industrial societies. The classes themselves (i.e. the categories within a class schema) are seen as 'sets of structural positions. Social relationships within markets, especially within labour markets, and within firms define these positions. Class positions exist independently of individual occupants of these positions. They are "empty places"' (Sørensen 1991: 72, emphasis added). Empirical research then addresses the issue of how structural position, as objectively defined in this manner, affects life-chances. This tradition is one influenced by the theories of both Marx and Weber (see Lareau 2008: 19, n. 17). Again, a comparable international measure has been developed, commonly known as the Erikson-Goldthorpe-Portocarero (EGP) class schema (see Erikson and Goldthorpe 1992) and ESeC is a new instantiation of it. It is therefore this approach to the meaning of the term 'socio-economic classification' that we advocate in what follows. This form of SEC, a typological classification, aims 'to arrange a set of entities into groups, so that each group is as different as possible from all other groups, but each group is as internally homogeneous as possible' (Bailey 1994). We expand on these points later. We may also note that a number of NSIs in the European Economic Area employ this typological approach in their own official socio-economic classifications which they use to illustrate the social patterns associated with a variety of life-chances such as health, education, deprivation, poverty and so on (see Grais 1999: Appendix 2). However, until now there has not been an equivalent European classification which would allow researchers to compare the relationship between social organization and life-chances cross-nationally. This is what ESeC provides, but why is it needed?

Why is an ESeC needed?

Taking the approach to SECs that we advocate, a harmonized ESeC may be used by NSIs to provide univariate and bivariate tabulations for both comparative and (where a national SEC is lacking) national purposes relating to other key variables such as income, health status and education. That is, the ESeC should be a vehicle with which we may monitor social structure and social change, one of the most crucial purposes of social statistics. In particular, given that politicians are generally concerned with

the impact of social and economic policy on different social groups (see e.g. Cabinet Office 2009; Manza and Brooks 2008; Aldridge 2001; Egidi and Schizzerotto 1996: 249-250; see also Marshall *et al.* 1997), an ESeC should prove a useful diagnostic tool in this regard. Moreover, as Grais (1999: 1) has observed:

Classifications of the socio-economic categories (SECs) in use in a certain number of European Union Member States have demonstrated their broad explanatory capacity and acted as an unparalleled integrating factor in social statistics at national level. A harmonised European classification of socio-economic categories could play the same unifying role by providing a common language for improving the integration of social statistics within the Community, horizontally in each Member State and vertically at European level.

There is, however, a tension between the requirements of NSIs, who tend to eschew theory and favour a general or empiricist socio-economic classification for univariate and bivariate descriptive analysis; and those of academics who need a more specific instrument which captures the class concept and may be used for multivariate explanatory analysis. Although ESeC may be used descriptively by NSIs, it is because of this latter purpose that ESeC is not contaminated by education or income measures. That is, it is a pure class measure: 'one concept, one measure' is the rule that ESeC follows. This allows academic researchers to explore how far we are from the goal of greater equality and why. How are social inequalities generated? How far is social structure (in terms of the ways in which employment is socially organized) implicated? How might inequalities be reduced? To begin to tackle these questions, we need a classification that is authoritative through having an appropriate conceptual basis for reflecting labour market positions and hence this crucial aspect of social organization. We shall develop this point in the next section.

So, to be truly useful, ESeC should not only help us to describe but also to understand how socio-economic position relates to relevant key social indicators, variables and social domains (see Part III of this volume; and see Breen and Rottman 1995a, 1995b; Goldthorpe and Marshall 1992). These comprise not only the sixteen indicators identified for the Eurostat Statistical Harmonization Programme (see Ostby *et al.* 2000; Everaers 1998), but also those analytic benefits of an ESeC identified by NSIs and experts during the ESeC project. These include the improvement of social statistics for the purposes of international comparison and dialogue.

Among the areas where the ESeC should prove to be a useful discriminatory analytic tool for both policy and academic purposes are: fertility, mortality, morbidity, consumption, social behaviour, education, equal opportunities in age, gender and ethnicity, labour market processes, income, social exclusion, social stratification, social reproduction, mobility and

various cultural practices. In all of these areas, a common measure such as ESeC will allow us to see if the effects on life-chances of social organization, in the sense of structural position in the labour market, are significant and whether class is changing in importance over time. ESeC should thus provide a common language for international comparisons in relation to these issues.

Apart from the analyses reported in Part III of this book, we can point to a range of other relevant investigations using SECs in central policy fields such as education (e.g. Breen *et al.* 2007, 2009a, 2009b; Lupton *et al.* 2009; Erikson and Jonsson 1996); health (e.g. Sassi 2009; Atherton and Power 2007; Erikson 2005b; Krieger *et al.* 2005;² Drever *et al.* 2004; Fitzpatrick 2003; Kunst 1996; Ostberg 1996; Vagero and Lundberg 1995; Kunst and Mackenbach 1994); poverty (Whelan and Maitre 2008; Layte and Whelan 2002; Layte *et al.* 2001); social mobility (Breen 2004; Erikson and Goldthorpe 1992); and employment (McGovern *et al.* 2007; Oesch 2006; Gallie *et al.* 1998; Elias and McKnight 1997, 2003). We can also indicate some more general comparative work regarding SECs and their uses (e.g. Lareau and Conley 2008; Goldthorpe 2007c, *passim*; Svallfors 2005, 2006; Marshall *et al.* 1997; Egidi and Schizzerotto 1996).

In summary then, we can say that ESeC should serve as a general background variable in social statistics as well as an explanatory tool in basic and applied social research. It will therefore have a wide field of applications for both NSIs and academic researchers. It will be applicable to a range of national and international datasets, given its principal purpose as a means for international comparison and explanation. As one respondent to Grais' (1999) questionnaire put it:

Most rigorous analyses of trends in employment and unemployment require the introduction of an occupational class variable, both for its intrinsic importance and as a control for the analysis of other factors. In the growing area of comparative European research, the lack of a comparative SEC severely hampers the progress which can be made in research.

The importance of conceptual approaches

We have several times mentioned the importance of a clear conceptual approach and now we expand on the reasons for this. If we wish to use ESeC to examine life-chances across different national populations and show what the cross-national patterns of life-chances revealed by its application *mean*, it must be clear what it is measuring. A clear conceptual basis is a *sine qua non* for a comparative classification such as ESeC. Grais (1999: Annex) notes two contrasting approaches to the derivation of SECs by National Statistical Institutes (NSIs): the 'theoretical' and the 'intuitive/empirical'. The latter are

context. However, they are rendered possible because, to an astute inside observer, national social structures are 'visible'. This is not so when we wish to create SECs that are applicable cross-nationally and are thus comparative in purpose. Only an explicit conceptual approach will suffice.

We shall return to this matter later in relation to measurement and broader methodological issues and the concerns of Parts I and II of this book. For now we will observe that although almost any sensibly derived intuitive SEC will have the capacity to *display variation*, it will not have *analytic transparency*. That is, without a clear conceptual rationale, we shall not be able to understand the causal pathways which lead to the regular patterns revealed by the use of an SEC in research (that is, the processes that generate empirical regularities: see Breen and Rottman 1995a). In addition, if we cannot get a handle on causal pathways, then it is not apparent how recommendations can be provided on relevant policy actions that might address these persistent variations. Examples include the difficulties encountered in setting targets for reducing health variations between states that can be linked to achievable policies and, more generally, in developing policies to target deprived groups. Needless to say, any SEC must also be used and interpreted correctly by analysts if the benefits of analytic transparency are to be realized, as we explain throughout the book.

Obviously, a clear conceptual rationale does not thereby remove all barriers to explanation. Not everything can be explained in terms of what a particular SEC is measuring. As we noted earlier, there are many forms of social stratification, only one of which, social class, is measured by ESeC. Nevertheless, we would argue that a conceptually clear, properly constructed and well-validated SEC removes some barriers to the explanation of both empirical regularity and cross-national variability in respect of issues such as the distribution of life-chances and welfare. It also facilitates a focus on other variables when searching for explanations of remaining differences.

Finally, the lack of a conceptual rationale renders the task of *validating* a classification impossible and of *maintaining* a classification over time much harder, if not impossible. As we shall explain in the final sections of this chapter, validation involves both demonstrating that a measure does indeed measure what it is supposed to (criterion validity) and that it usefully discriminates other variables in theoretically predicted ways (construct validity). In addition, once (criterion) validated, a measure may be re-validated to assist with maintenance over time. While NSIs might understandably be less concerned with the explanatory issues relating to a clear conceptual base, they should be concerned about the maintenance aspects of SECs.

We will now turn our attention to ESeC itself. We begin with its conceptual underpinnings before discussing its operationalization, outlining and describing its categories and their variants, and illustrating how the classes are derived in relation to the underlying conceptual model.

The ESeC classes explained

Conceptual basis

As mentioned earlier, ESeC is based conceptually on the widely-used EGP social class schema (see Erikson and Goldthorpe 1992; cf. Breen 2005). The primary distinction made by EGP is that between: (1) *employers*, who buy the labour of others and assume some degree of authority and control over them; (2) *self-employed* (or '*own account*') *workers*, who neither buy labour nor sell their own labour to an employer; and (3) *employees*, who sell their labour and thus place themselves under the authority of their employer. Any SEC based on employment relations (i.e. which defines positions in terms of social relationships at work) must include these three basic class positions. Why these positions exist should be obvious for any society based on the institutions of private property and a labour market. In addition, in ESeC we have allowed for a fourth basic class position, the '*excluded*', i.e. those who are barred from an employment relationship because they have never worked (involuntarily) or are long-term unemployed. We now need to see how these positions may be further differentiated for the purposes of developing a useful analytic classification. We begin with employee positions.

Employees

In the EU Member States, employees account for anything up to 90 per cent of the active population. Clearly, however, they do not all hold identical class positions. That is, employers do not treat all employees alike in respect of the explicit and implicit terms of employment contracts. There is differentiation in employers' relationships with employees. Thus, crucial to our conception of an ESeC is a further level of distinction relating to the *employment relations* of employees. How, therefore, do we make conceptual distinctions to reflect this and hence to produce class differentiation among employee positions?

To state that there are quite diverse employment relations and conditions among employees is another way of saying that they occupy different *labour market situations* and *work situations* as expressed through employment contracts. Labour market situation equates to issues such as source of income, economic security and prospects of economic advancement. Work situation refers primarily to location in systems of authority and control at work, although degree of autonomy at work is a secondary aspect (see Lockwood 1958/1989). Hence, in this conceptual construction, as we shall see in the final sections of this chapter, variation in employment contracts provides the main basis for establishing ESeC's construct validity. The ESeC categories must thus distinguish broadly different *positions* (not persons) as defined by social relationships in the workplace (i.e. by how employees are regulated by employers through employment contracts) (see Goldthorpe

Employees are thus subdivided into classes according to the type of contract they have with, and thus the way their work is regulated by, employers. Two basic forms of contract or employment regulation are distinguished: the *labour contract* and the *service relationship*. Each is seen as a response by employers to certain problems or moral hazards they face in ensuring employees perform as required (see Goldthorpe 2007a for more details; cf. McGovern *et al.* 2007: 19–28). Summarizing Goldthorpe's argument, different modes of regulating employment emerge on account of two contractual hazards faced by employers: those of *work monitoring* and *human asset specificity*. These problems may occur to a greater or lesser extent depending on the kind of work and positions to which employees are contracted.

Monitoring problems are particularly difficult when the amount and quality of work cannot be scrutinized directly or easily, as in the case of higher professional and higher managerial occupations. This situation can easily be contrasted with, for example, assembly line work which, with its standardized work tasks and fixed production pace, may be easily monitored.

Asset specificity concerns the amounts of job- or organization-specific skills, expertise and knowledge ('human capital') required by employees and/or the investments by the employer in employees' work competences. Where amounts are high, both employers and employees are encouraged to be interested in long-term employment relationships.

Different forms of employment relationship are conceived as viable responses to the weaker or stronger presence of monitoring and asset specificity issues in different work situations. Work situations with low monitoring problems and low asset specificity can be adequately and efficiently handled by a 'labour contract' in which a quantity of labour is purchased on a piece- or time-rate basis, the most typical example being the case of 'unskilled' ('manual') work. In contrast, for work situations with high monitoring problems and high asset specificity (e.g. higher professional and higher managerial work), the 'service relationship' is a more adequate and better suited response; that is, a contractual exchange of a relatively long-term and diffuse kind in which compensation for service to the employing organization comprises a salary and important prospective elements, such as salary increments, occupational pensions, expectations of continuity of employment (or at least of employability) and promotion and career opportunities.

Modified versions of these basic forms of employment regulation are likely to occur with lower technical ('skilled') occupations and routine non-manual occupations (lower sales, services and clerical) in the case of the labour contract; and lower level professional and managerial occupations and higher level technicians in terms of the service relationship. That is, the service relationship and labour contract may each be actualized to different degrees (see Erikson and Goldthorpe 1992: 43; Goldthorpe 1997: 42).

A third, intermediate or 'mixed' form of employment regulation, that combines elements of both the labour contract and the service relationship, is also identified by Goldthorpe. Mixed forms are especially prevalent in large, bureaucratic organizations and are typical for clerical occupations, as well as for some sales and service, technical and lower supervisory occupations, in the intermediate classes 3 and 6. Figure 1.1 (adapted from Goldthorpe 1997: 118) illustrates the assumed class-specific work situation and the contractual response for the labour contract (the working classes in 7, 8 and 9), the service relationship (the professional/managerial/higher technician classes 1 and 2) and mixed forms (classes 3 and 6). Table 1.1 outlines the ESeC classes themselves. Chapter 4 provides some analysis of how the ESeC classes actually relate to their assumed positions in Figure 1.1 (and cf. McGovern *et al.*, 2007: 69–80).³

Finally, it should be noted that the contrast between the service relationship and the labour contract is *ideal-typical*. In the real world, actual employment relations may only approximate these types. This is not only why we recognize the third ('mixed') form of intermediate employment regulation, but also why we should recognize in the actual classification 'attenuated' forms of both types (e.g. classes 2 and 8). Erikson and Goldthorpe (1992: 42) have also noted that the distinction between the service relationship and the labour contract is similar to the conventional distinctions made in several European countries. France distinguishes between *cadres* or *employés* and *ouvriers*; Germany between *Beamte* or *Angestellte* and *Arbeiter*; and the UK between *staff* and *workers*.

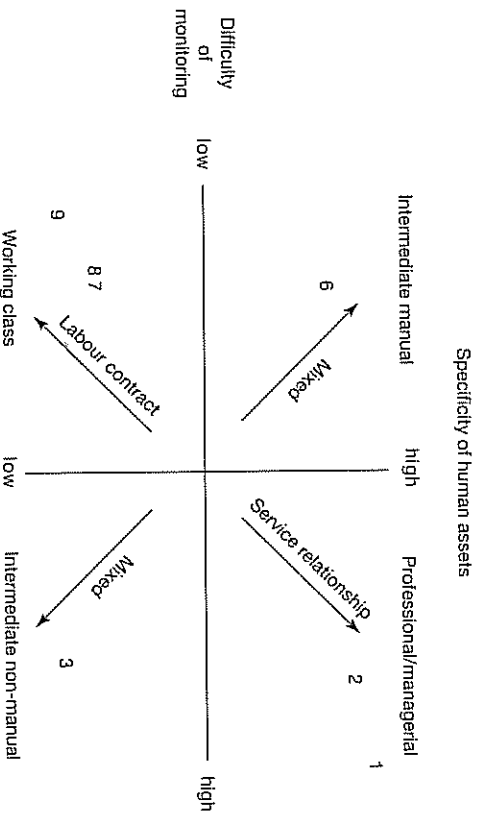


Figure 1.1 Difficulty of monitoring, specificity of human assets and the ESeC classes

Table 1.1 The European Socio-economic Classification

ESeC class	Common term	Employment regulation
1 Large employers, higher grade professional, administrative and managerial occupations	Higher salariat	Service relationship
2 Lower grade professional, administrative and managerial occupations and higher grade technician and supervisory occupations	Lower salariat	Service relationship (modified)
3 Intermediate occupations	Higher grade white-collar workers	Mixed
4 Small employer and self-employed occupations (exc. agriculture, etc.)	Petite bourgeoisie or independents	Not applicable
5 Self-employed occupations (agriculture, etc.)	Petite bourgeoisie or independents	Not applicable
6 Lower supervisory and lower technician occupations	Higher grade blue-collar workers	Mixed
7 Lower services, sales and clerical occupations	Lower grade white-collar workers	Labour contract (modified)
8 Lower technical occupations ^a	Skilled workers	Labour contract (modified)
9 Routine occupations ^a	Semi- and non-skilled workers	Labour contract
10 Never worked and long-term unemployed	Unemployed	Not applicable

^a Note
 If analysts wish to identify agricultural workers separately from others, classes 8 and 9 may be subdivided into 8a, 8b, 9a and 9b. In each case subclasses 8b and 9b would be for farm workers. ISCO minor groups 600 and 610–613 go to 8b, 614 and 615 could go here if analysts wished to include forestry and fishing workers in 8b. ISCO 920 and 921 form class 9b. Readers should note that in cases where we refer to minor groups ending with a zero (e.g. 600, 610, 920), this refers to the convention that this code is employed where it is not possible (either because of lack of information or because of the need to ensure respondent anonymity) to code occupation more precisely to a particular minor group.

Employers and the self-employed

ESeC must also separately identify categories for the other two basic class positions: employers and the self-employed. Employers need to be divided between 'large' and 'small'. The distinction here is between employers who delegate at least some managerial tasks ('large') and those who tend to undertake these tasks themselves ('small'). Similarly, owing to their different

market and work situations, we must also distinguish between professional and non-professional small employers. This latter consideration also applies to the self-employed.

The excluded

The fourth basic position in the ESeC model is for those *involuntarily excluded from paid employment*. This category was not specified in the EGP schema. The excluded comprise the long-term unemployed and those who have never worked but would wish to.

So we can summarize all of the above by the following brief descriptions. In the next section, these will be related to a discussion of the ESeC classes.

The labour contract

Labour contracts involve a relatively short-term and specific exchange between employers and employees of money (a wage) for effort. This is the situation which pertains for the whole working class, although its most basic form is found in the case of 'non-skilled' occupations, with modified (i.e. slightly more favourable) forms for 'lower white-collar' and 'skilled' work.

The service relationship

The service relationship, however, is typical for higher managerial, professional and senior administrative positions, with a slightly less favourable form in the lower levels of managerial and professional groups. This form of contract involves a longer term and more diffuse exchange in which employees render service in return for both immediate and future compensation.

Mixed or intermediate forms of employment regulation

Other types of employee, for example, clerical and technical workers and lower supervisors (i.e. higher grade white- and blue-collar workers) are defined as intermediate in terms of employment regulation, having contracts with elements of both the service relationship and the labour contract.

The ESeC classes described

The model we have outlined gives us the classes shown in Table 1.1. Since the schema is designed to capture *qualitative* differences in employment relationships, 'the classes are not consistently ordered according to some inherent hierarchical principle' (Erikson and Goldthorpe 2002: 33). However, so far as overall economic status is concerned, classes 1 and 2 are advantaged

over classes 3, 6, 7, 8 and 9 in terms of greater long-term security of income; being less likely to be made redundant; less short-term fluctuation of income since they are not dependent on overtime pay and so on; and a better prospect of a rising income over the life course (see Goldthorpe and McKnight 2006; cf. Chapters 4 and 8, this volume). Nevertheless, we should not become obsessed with the idea that classes must form a hierarchical order. When analyses indicate that classes do not fit the assumed hierarchy, this may signify that other mechanisms are at work which require further investigation.

Operationalizing the model

We observed previously that the form taken by classifications such as EGP and ESeC is one of socio-economic positions as defined by employment relations (i.e. of empty places and not of persons). It is in this sense that the classification is a *schema*, a conceptual construction. To convert it into an empirical instrument, we need an algorithm that maps occupations and employment statuses on to the schema's categories; that is, we need a *derivation matrix*. In turn, to create this algorithm we require data on employment relations for each combination of occupation by employment status within the matrix. Only then can we allocate people to the empty places and subsequently validate the classification (see Goldthorpe 1997).

The information required to operationalize the ESeC model relates to ¹occupation, ²employment status and, mainly for employers, ³size of establishment or organization. Occupations are coded to ISCO-88 (COM), the harmonized EU occupational classification. A simple employment status variable is constructed to distinguish between employed, the self-employed, managers, supervisors and employees. Size of organization is used to distinguish between large and small employers and, in some cases, between higher and lower managers. All of this information is readily available in most datasets on which researchers would be likely to want to use ESeC (see Chapters 2 and 3 for more detail; cf. Harrison and Rose 2006).

Each combination of occupation, employment status and size is then assigned an ESeC class position. For employees, supervisors and managers this position was initially determined by the average combined scores of employment relations indicators taken from UK Labour Force Survey data (see below and Chapter 2; cf. Rose and Pevalin (with O'Reilly) 2005: ch. 6). For employers, size of organization is the determining factor for allocations between classes 1 and 4. A class derivation matrix table is constructed with ISCO occupational groups in the rows (*r*) and employment status and size information in the columns (*c*). Class allocations for each *r* by *c* combination are given in the cells. Relevant SPSS syntax based on the matrix is supplied to researchers so that they may then derive the classes from data on occupation, employment status and establishment size. As we shall see in Chapters 2 and 3, the classes may also be constructed in the absence of data on size ('reduced ESeC') or with only information on occupation ('simplified ESeC').

The non-employed

Leaving aside those we have retrained the excluded (the never worked and long-term unemployed in class 10) most of those not in paid employment, such as the retired, the short-term unemployed, the sick and disabled, are classified according to their last main occupation. Full-time students could potentially be treated similarly if desired, by reference to part-time employment, for example, but we do not think this very useful and prefer them not to be included in ESeC. The class position of students is best seen in terms of that of the family of origin and thus the household reference person in the family home (HRP; see Chapters 3 and 13, this volume; Harrison and Rose 2006: 18; cf. Rose and Pevain 2003: 21–24). Those married or living as such and looking after the home could also be classified in respect of their former main occupation. However, the longer they are in this situation, the more they will come to depend upon another household member for their life-chances and so (contrary to our original advice given in Harrison and Rose 2006: para 3.2), they should perhaps rather be given the class of the HRP. Thus, it is possible to classify most of the adult population within the ESeC (and see Chapters 3 and 13, this volume), but researchers must think about how they classify both the excluded and the other non-employed in relation to the research problem being examined (see e.g. Chapters 9 and 10, this volume).

Further details about operationalization are on the project website and in the *ESeC User Guide* (ibid.) which also explains how a household-level ESeC may be created (op. cit.: 18; see also Chapters 3 and 13, this volume; cf. Bakker and Jol 1997; Erikson 1984). We will now examine the classes in more detail and see how each is typified by a particular form of employment relationship. Example occupations are also given for each class.

*The ESeC classes**Class 1: Large employers, higher grade professional, administrative and managerial occupations: 'the higher salariat'*

Large employers are allocated to class 1 on the assumption that their businesses involve a similar degree and exercise of managerial authority to that of higher managers. In this sense, they are seen as different from small employers in classes 4 and 5. Nevertheless, it might still be asked why large employers are placed in the same class as higher managers and professionals rather than in a separate class. Partly it is because they are too small a group for separate analysis (less than 0.1 per cent of those in employment). Equally, the majority are not 'heroic' capitalists. Most employ fewer than 50 people. In addition, ownership and control are difficult to disentangle in larger businesses. For example, owners of companies may be formally employed as 'managers' of them. That is the distinction between being an employer and

a chief executive or a managing director is often blurred. For all these reasons, it makes social scientific as well as pragmatic sense to include large employers in class 1. Because of the ISCO size rule used in its major group 1 (see below and Chapter 2), *fainte de mieux* a size rule of 1–9 and 10+ employees is used to distinguish small from large employers.

Higher grade professional occupations: Since they have both high levels of asset specificity and are difficult for the employer to monitor, these occupations are regulated through a service relationship. Examples of professional occupations which would be typical of class 1 are lawyers, medical practitioners, scientists, higher education teaching professionals and professional engineers. The self-employed and small employer higher professionals are allocated to the same class as employees in their profession; that is, we regard professional status as paramount. Professional self-employment is different in nature from non-professional self-employment. Professionals who are self-employed generally have more control over their market situations than do non-professionals. They also share more in common with employed professionals than with self-employed non-professionals; and in many professional occupations there is often movement into self-employment or partnership as careers progress.

Higher grade administrative and managerial occupations: Again, and for similar reasons to higher professionals, regulated via a service relationship, the most typical occupations in this part of class 1 are chief executive officers, other company directors and the most senior levels of the Civil Service or state bureaucracies. For other managerial occupations it is much more difficult operationally to distinguish higher from lower grade positions. However, ISCO Minor Group 123 ('specialist' managers) is more likely to have a preponderance of higher grade managers (e.g. finance managers).

Class 2: Lower grade professional, administrative and managerial occupations: higher grade technician and supervisory occupations: 'the lower salariat'

In the case of lower professionals, skills are more readily transferable and less organizationally specific. Hence they do not have the full service relationship but a modified form of it. Most educational, welfare and health professionals (e.g. schoolteachers, social workers, nurses, medical ancillaries) are thus allocated to class 2, as are aircraft pilots and journalists for other examples. The self-employed and small employer lower professionals are also allocated to class 2.

For administrators and managers (and also higher grade supervisors) asset specificity is likely to be high in the sense that people in such occupations possess an elevated degree of organization-specific knowledge. Here the modified service relationship derives from the fact that work is more routinely monitored. Of course, people working in these occupations will often have career ladders that, if successful, would take them to more senior

positions in class 1. Production and operations managers seem to be good examples. All managers in small (<10 employees) organizations are also in class 2.

Higher grade technicians are more similar to lower grade managers; that is, it is the degree of asset specificity rather than difficulty of monitoring which is paramount and leads to a modified service relationship. Examples would be computing technicians, physical and engineering science technicians and civil engineering technicians.

Class 3: Intermediate occupations: 'higher grade white-collar' ('non-manual') workers'

This class contains some elements of the service relationship, although overall the form of employment relationship is mixed. The problem here for the employer is not asset specificity but monitoring. Positions in this class exist on the borders of bureaucratic structures and share similar conditions to managers and administrators in terms of being salaried, having incremental pay scales and some autonomy with regard to time. Typical occupations here include most clerical work (but see class 7) and administrative assistants, occupations which involve working alongside managers and professionals in ancillary roles. There is no career structure comparable to that found in classes 1 and 2 (other than, perhaps, into supervisory or very junior ('first line': see Hales 2005) managerial class 2 positions). Often these positions involve employees in adhering to and carrying through bureaucratically defined rules with little in the way of discretion but some emphasis on efficiency.

Classes 4 and 5: Small employers and self-employed in non-professional occupations: 'petite bourgeoisie or independents'

Small employers and the self-employed form two of the basic positions in the class schema. Employers buy labour and so have some authority and control over employees. The self-employed neither buy nor sell labour. Small employers are distinguished from large employers by the size rule 1-9 and 10+ employees. However, professional and higher technician small employers and self-employed go to the same class as employees in their occupation (classes 1 or 2). Hence class 4 refers to non-professional occupations (excluding agriculture, etc.) only. Class 5 covers the self-employed and small employers in agriculture, fisheries and forestry.

Class 6: Lower supervisory and lower technician occupations: 'higher grade blue-collar' ('manual') workers'

This class, like class 3, has a mixed form of employment regulation, but in distinction from class 3, class 6 has mixed regulation because of problems employers have with asset specificity (i.e. employees in class 6 possess an

important element of organization-specific skills, especially in terms of knowledge of organizational needs). For this reason, some facets of an internal firm labour market operate for these occupations.

Lower supervisors are found in occupations which, for employees, would place them in classes 7, 8 or 9. Again they have a certain degree of asset specificity. *Lower technicians* have greater organization-specific skills than other 'manual' employees. Typical occupations are telegraph and telephone line installers, precision instrument makers and electronics fitters.

Class 7: Lower services, sales and clerical occupations: 'lower grade white-collar' ('non-manual') workers'

This class is regulated via a modified labour contract. The precise reasons for this situation may not be immediately apparent since, *prima facie*, it might be thought that there would be no real monitoring problems for occupations in this class, nor any great issues of asset specificity. However, this class does have raised levels of both asset specificity and monitoring problems. It is possible that the expansion of the service and retail sectors and the high amount of part-time employment in many occupations in this class has led to a worsening of overall employment contracts compared with class 3, where many of these occupations might once have been placed (e.g. retail assistants, in many countries the largest of all the ISCO occupational unit groups), but nevertheless better contracts prevail here than in class 9. Equally, for many occupations in this class there may be some positive employment relations effects of working in large organizations in the public and private sectors. Typical occupations are shop workers (retail assistants) and care workers.

Class 8: Lower technical occupations: 'skilled workers'

A modified labour contract is also typical for occupations in class 8. Here the employer has some monitoring problems with employees in terms of work quality, but asset specificity is also high. There might be a need to induce employees to invest in developing skills that are important to the employer and so to retain their services. Those working in 'skilled' or *lower technical occupations* are thus likely to have organization-specific skills and/or skills in short supply in the labour market. For all these reasons, some modifications to the basic labour contract are required. Typical occupations in class 8 would be tool makers, fitters, plumbers and locomotive drivers.

Class 9: Routine occupations: 'semi- and non-skilled workers'

In this class, a basic labour contract prevails since there are no real issues relating to either monitoring or asset specificity. Work is paid for by either the piece or by time (hourly paid). Both the quality and quantity of work are

readily monitored and employees are easily replaced without serious loss of productive value to the employer. Having nothing beyond statutory notice periods, they are also easy to lay off. Typical occupations here include cleaners, labourers, drivers of motor vehicles, assemblers, machine operators, porters and messengers.

Class 10: Never worked and long-term unemployed: 'unemployed'

This class is defined in terms of involuntary exclusion from employment relations. Thus, members of this class seek work but have either never been employed or have been unemployed for a considerable period of time (six months or more is what we recommend, although the EU uses a 12-month rule). If analysts do not wish to implement this class, then the long-term unemployed are reclassified to their last main paid job and the never worked to their household class.

The non-employed

Reiterating our earlier comments, in order to improve population coverage, ESeC treats those who are not currently in paid employment by allocating them via their *last main paid job*. Thus, for most non-employed persons (the unemployed, the retired, those on government employment or training schemes, the sick and disabled), the normal procedure is to classify them in this way. The main exceptions to this rule are those looking after the home and full-time students who are given their household class (indeed students are best excluded from ESeC); and the never worked/long-term unemployed who go to class 10 (see above).

Nine, six, five and three class models

Runciman (1990) once asked 'How many classes are there?' Not being essentialists (see below), Erikson and Goldthorpe (1992: 46) gave a nominal response to this question: 'As many as are required for the analytic purpose at hand.' ESeC follows this advice: It is an *instrument de travail* (cf. Chapter 13). Hence, as illustrated in Table 1.2, the principal 10-class model may be collapsed to nine, six, five or three classes. At each stage of collapsing, we respect the basic divisions between the three forms of employment regulation; we never collapse across these and only the three-class model eliminates a self-employed/small employer class. The nine-class model does not operationalize the never worked and long-term unemployed in class 10. In the six-class model, classes 1 and 2 are combined into a single 'salariat' class; classes 3 and 6 combine into an 'intermediate employee' class; classes 4 and 5 become a single class of 'small employers and self-employed'; classes 7, 8 and 9 remain as separate classes. To make the five-class model, classes 5 and 6 in the six-class model are combined into a single class of 'lower

Table 1.2 Collapsing ESeC from 10 to 6 to 5 to 3 class models

ESeC class	10-class version	6-class version ^a	5-class version	3-class version
Higher salariat	1	1+2	1+2	1+2
Lower salariat	2			
Higher white collar	3	3+6	3+6	3+4+5+6
Petite bourgeois	4	4+5	4+5	
Small farmers	5			
Higher grade blue collar	6	3+6	3+6	
Lower white collar	7	7	7	7+8+9
Skilled manual	8	8	8+9	
Semi-/non-skilled	9	9		
Unemployed	(10)	(10)	(10)	(10)

Note

^a A 7-class version could be created by not combining classes 1 and 2, of course.

technical and routine occupations'. In relation to the 10-class model, the three-class model combines classes 1 and 2 = salariat; 3, 4, 5 and 6 = intermediate; 7, 8 and 9 = working class. Class 10 may be added as an additional category in any of the models, if desired. However, note that class 10 is *not* a dump code for cases which cannot otherwise be classified.

The derivation of the ESeC model

Given the distinctions in the model between employers, the self-employed, employees and the excluded; and the further distinctions within the categories of employers (large and small, professional and non-professional), the self-employed (professional and non-professional) and employees (according to employment relations), class derivation is as given in Figure 1.2.

The validation of ESeC

Once derived using the methods described earlier, the ESeC had to be validated; that is, two crucial issues required to be demonstrated. First, it had to be shown that ESeC is an adequate measure of employment relations (as defined and discussed earlier) and that it has internally homogeneous categories, each as different as possible from one another. Second, we had to establish that ESeC adds value by offering an improved understanding of other variables (such as health, income, employment, poverty and education variables). The first issue is that of *criterion validation* and the second of *construct validation*. Construct validation would also involve other issues, such as an assessment of ESeC as a comparative measure. In addition, of course, we had to show that ESeC has *operational validity*; that, in simple operational terms, it 'works' in the sense that it can be constructed and deployed on a variety of datasets. Chapters 2 and 3 are those primarily

Basic SEC positions

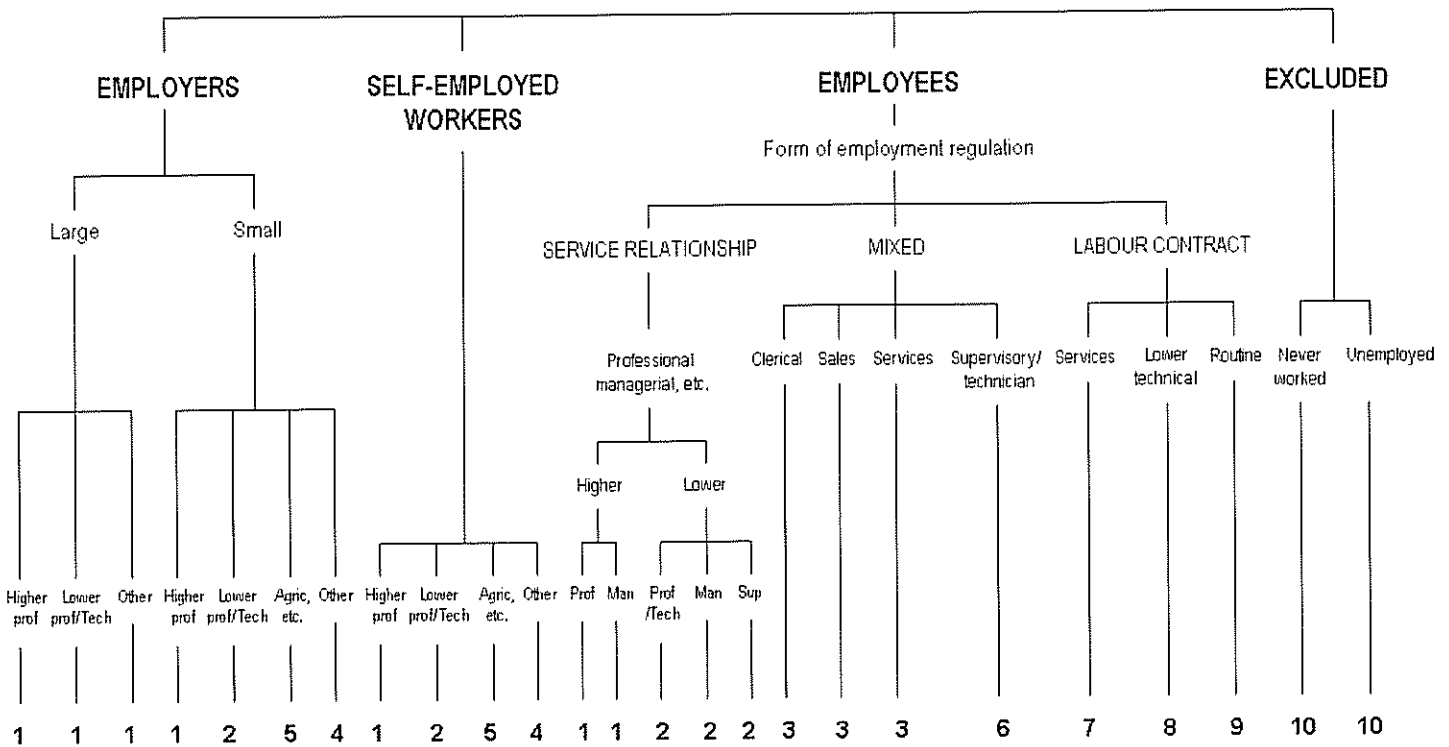


Figure 1.2 The conceptual derivation of ESeC

concerned with this issue, although most of the chapters are also relevant to it. Chapters 2 and 4 to 7 are germane to criterion validity and other related measurement issues. Construct validity is examined in Chapters 8 to 12. However, again, aspects of all types of validation are touched upon in most chapters. Further details about the three forms of validity may be found in Rose and Pevalin (with O'Reilly) (2005: Appendix 8).

Operational validity

As noted earlier, ESeC has to be derived from existing harmonized European variables and as a result can only be operationalized within the limits that these allow (see Rose 2005). By far the most important is ISCO-88 (COM). This is the harmonized variable that is included in the main comparative datasets covering the European Research Area: the Labour Force Survey (LFS), the European Community Household Panel (ECHP) and its successor, the Survey on Income and Living Conditions (EU-SILC), as well as in the European Social Survey (ESS), all of which are discussed in Chapter 3 as well as in subsequent chapters which use them in analysis. Individual EU Member States initially code to their own national occupational classifications. In the majority of cases, these are based very closely on ISCO, but in a few cases, for instance, the UK, Ireland, France, the Netherlands and Germany, there is a more distinct national classification that may be 'mapped' directly on to ISCO through a conversion table or 'crosswalk' (see Chapter 2; cf. Rose *et al.* 2001: ch. 8).

ISCO organizes occupations into a hierarchical framework. At the lowest level is the unit of classification, a job, which is defined as a set of tasks or duties designed to be executed by one person. Jobs are then grouped into occupations according to the degree of similarity in their constituent tasks and duties. As shown in Table 1.3, ISCO has four nested tiers reflected in the numbering of the occupational codes:

- 1 Major groups form the top-level, broad definitions of occupation, providing the first digit of the ISCO code.
- 2 Sub-major groups form the second-level definition of occupation, providing the first two digits.
- 3 Minor groups are at the third level of definition, providing the first three digits.
- 4 Unit groups give the most detailed definition of occupation, providing the complete four-figure ISCO code.

In practice, datasets usually contain ISCO coded to fewer than four digits. This can happen for a number of reasons: respondents may supply insufficient information for the most detailed coding at OUG level to be achieved; codes may be aggregated to comply with rules on confidentiality; crosswalks may not allow such precise coding. These and other measurement issues

Table 1.3 Hierarchical structure of ISCO-88 (COM)

Major group	Sub-major group	Minor group	Unit group	Group title
1				Legislators, senior officials and managers
	12			Corporate managers
		122		Production and operations managers
			1222	Productions and operations managers in manufacturing

relating to operational validity are discussed in more detail in Chapters 2 and 3. Here we would simply note that the ISCO coding problems are the reason why the ESeC derivation matrix uses three-digit ISCO minor groups. We shall return to the chapters relating to operational validity in the final section.

Criterion validation

A measuring instrument 'is valid if it does what it is intended to do. An indicator of some abstract concept is valid to the extent that it measures what it purports to measure... Validity concerns the crucial relationship between concept and indicator' (Carnine and Zeller 1979: 12). In the case of the ESeC, therefore, we need to know that it is a reasonably adequate index of the conceptualization of the class structure set out in previous sections. There are two methods by which the ESeC could have been constructed in order for its criterion validity to be assessed.⁴

The first method would have involved a special data collection exercise across the whole EU in which we directly measured employment relations at the level of OUG/employment status combinations. This could have been achieved only through a large survey such as the EU-LFS, yielding sufficient cases for national analyses at the OUG level. This would clearly have been a costly exercise and would have taken some considerable time to arrange with Eurostat and NSIs and then initiate, even if funding could have been found and agreement reached. It would have entailed the measurement and analysis of aspects of employment relations such as form of remuneration, job security, career opportunities, job autonomy, occupational perquisites, and so on, i.e. explicit and implicit aspects of employment contracts as undertaken for the creation of the UK National Statistics Socio-economic Classification (NS-SEC; see Chapter 2). An exercise such as this would have been designed to measure the extent to which occupations may be grouped together according to the model of employment regulation and classes specified in the previous sections. Issues of adequacy could also have been applied to employment status categories. We could have investigated, for

example, the adequacy of a size cut-off of 10 employees between large and small employers. We could also have examined whether a special employment status category is required for part-time employees or for the public sector. This sort of exercise is feasible, as demonstrated in the UK case (see Rose and Pevalin (with O'Reilly) 2005; Rose and Pevalin 2003; O'Reilly and Rose 1998), but was not logistically possible within the resources available to us or the influence we had.

The second method would involve, first, the construction of an ESeC derivation matrix in which each cell is assumed to be internally homogeneous in terms of employment relations. The best available evidence from official and academic data on terms and conditions of employment, as well as advice from experts in NSIs, sociology, economics and industrial relations, would then guide the actual allocation of ESeC values to the cells. However, this method entails a greater degree of subjective judgement and guesswork than the alternative one of directly measuring employment relations. For this reason, once the matrix is created, it has to be subjected to criterion validation using independent data. An analytic exercise of this kind would be designed to see how far the ESeC schema, as operationalized in this way, succeeds in capturing empirically the differentiation of classes that it is supposed to capture conceptually' (Goldthorpe 1997: 42). This was, in fact, the method we used, as explained in subsequent chapters.

Of course, we were fortunate in having a measure similar to ESeC that had already been created and validated using the first method of collecting employment relations data at the level of occupational groups, the UK NS-SEC. We were also able to build on previous European research aimed at developing a comparative measure of social structure similar to ESeC, the Comparative Analysis of Social Mobility in Industrial Societies (CASMIN) project which produced EGP (see Erikson and Goldthorpe 1992; cf. Chapter 13, this volume). Given the broad similarities of market economies and occupational and industrial structures across the EU, we expected that employment relations would also be similar. Thus, it was reasonable to begin by creating an ESeC derivation matrix with cell values based on UK employment relations data.

How could the resulting ESeC then be validated? Here we employed a similar exercise to that conducted by the CASMIN team. The matrix was submitted to experts from across the EU Member States as well as consortium members. These individuals were supplied with the fullest possible brief about the proposed ESeC, including details of the UK validation exercises that underpinned the draft ESeC derivation matrix. This was crucial so that each expert, when examining the matrix allocations, had the correct allocation criteria in mind (rather than their own, possibly fallacious ones). The experts then independently examined the matrix and flagged any allocations they thought incorrect for their state. In these cases, they were requested to provide evidence in line with the allocation criteria. They each supplied a report that was examined by the consortium. In

addition, consortium members undertook initial validation studies using the UK-based ESeC matrix which revealed various problems that needed to be addressed. We then held a conference of the consortium and all the member state experts to discuss outstanding issues from both the validation studies and the experts' assessments before finalizing a matrix to be used in the second round of validation studies.

However, subjecting ESeC to the test of independent data in order to see if it measures the concepts that underlie it in terms of employment relations was not an easy task. The exercise revealed the limitations of existing cross-national data (see Chapters 2, 3, 5 and 6).

Employment relations indicators

As the previous discussion of the conceptual model suggests, the most important indicators of the type of employment regulation contained or implied in contracts are form of payment (incremental salary against weekly wage calculated by time worked or payment by the piece), prerequisites (final salary pension, private healthcare, company car, profit-related bonuses, etc., or none of these), control over working time/pace of work (whether this is determined mainly by the employer or the employee), job security (for example, length of notice required to terminate contracts, protection against redundancy) and promotion/career opportunities (an internal organizational career ladder), i.e. the types of measure that were used to construct the UK NS-SEC (see Chapter 2; Goldthorpe 1997). However, such indicators are not readily available in either European or national datasets.

Hence, two different types of indicator were used to validate ESeC, as will be seen in Chapters 2, 4 to 6 and 13: (1) indicators that capture the weaker or stronger presence of the basic problems of monitoring and asset specificity; (2) indicators that relate to the assumed response to these problems, i.e. indicators for the assumed contractual relationship, given by a labour contract or a service relationship.⁵ Examples include:

- 1 Measuring aspects of the *autonomy* employees have in their work situation to indicate the presence of *monitoring problems* at their place of work.
- 2 Measuring the *qualifications required* from employees and the training given in order to indicate the extent of *asset specificity* immanently required for performing work tasks.
- 3 Measuring *career prospects* and *long-term employment* that are understood as core elements of the presence of a *service relationship* contract.
- 4 Indicators of the presence of *piece-wise or time-related compensation* of work in order to examine the presence or absence of *labour contract* elements in contractual arrangements.

We discuss the chapters relating to criterion validity in the penultimate section.

Construct validation

Once the ESeC matrix was agreed upon, the classification could also be applied to the analysis of relevant data. Here the issue was whether ESeC adds value to the explanation of life-chances. In this respect, does it improve upon current comparative instantiations of the EGP schema? How does it compare with existing national socio-economic classifications? How useful is it for the investigation of relevant problems? These are issues of construct validation, namely: judging a concept and its measurement in terms of empirical consequences:

If the variable is intended to reflect a particular *construct*, to which attach certain *meanings*, then hypotheses can be constructed and tested based on what we understand about the construct. In other words, 'construct validity' focuses on the assessment of whether a particular measure relates to other measures consistent with theoretically derived hypotheses concerning the concepts (or constructs) that are being measured'.

(Rose and Pevalin (with O'Reilly) 2005: Appendix 8)

Hence, in all construct validation exercises, the following issues had to be recognized. Conceptually, the ESeC is based on a well-defined sociological proposition that employment relations and conditions are central to delineating the structure of socio-economic positions in modern societies. The positions defined by the ESeC categories exist independently of the individuals who occupy them at any particular time, but they condition and shape the lives, indeed the livelihoods of their occupants. That is, the economic security, stability and prospects and the life-chances of individuals and families depend mainly on their position in the division of labour and on the material and symbolic advantages that derive from it. Thus, for example, health inequalities are differences between ESeC categories in respect of morbidity and mortality. The study of these inequalities renders the social factors in the production of health outcomes more visible. We are therefore linking health with social organization. This is vital for a range of public policy and monitoring issues (e.g. government targets for reducing social differences in health).

To be sure, one may use other independent variables than an SEC to study outcomes. Examples that have been used in research include income, education level, housing tenure and other aspects of consumption (e.g. car ownership). However, as we explained previously, none of these alternatives measures the basic structuring principles of a market society in quite the way that an SEC does (and cf. Ostberg 1996: ch.1). Thus, when we pose questions about how the social structure shapes prospects, outcomes or life-chances,

our SEC variable should prove to be of prime importance. Hence, again, we need to keep the idea of what the SEC measures analytically distinct from the possible consequences that the occupancy of a SEC position may give rise to (e.g. income, consumption or housing: see Breen and Rottman 1995a). This separation will allow us to examine the mechanisms that link the SEC to outcomes.

Take, once more, the example of the relationship between ESeC and health, as will be discussed in detail in Chapter 10 below. As Rose and Pevain (2000) have argued, first, we accept that there may be situations where, for example, a relationship might diminish or become weaker when other variables are introduced into a model. Equally, however, we need to be clear about what this might mean. Second, we also have to think of the basic modelling and measurement issues, i.e. are our procedures technically correct and appropriate to the problem? For example, we should be careful in our analyses not to set up a 'variable race' between different independent variables that do not have a common metric (see e.g. Breen and Goldthorpe 1999: 7). Third, and most importantly, *we have to think theoretically before we think statistically*. We need an explicit causal or explanatory narrative formed into testable hypotheses about the class-health relationship. In analyses using variables such as housing tenure and income as explanatory variables, we would contend that these variables are themselves conditioned by ESeC position. It could certainly be argued that ESeC might have direct relations with aspects of health; but it might also be mediated via the life-chances that derive from class position. Introducing life-chance or deprivation measures into a model investigating the ESeC-health relationship may then be expected to reduce the direct effects of ESeC position, but it would be a mistake then to conclude that this reduces the contribution that ESeC makes to our understanding of health outcomes. On the contrary, *such a finding would be in line with a class-causal narrative*. Therefore we need first to think not of relations between variables, but of *social relationships*; and ESeC is, precisely, measuring a crucial form of social relationship.

Thus, clear causal narratives are vital to construct validation exercises. Breen and Rottman (1995a: 467) have pointed to the need to 'hypothesize and test a number of different intervening variables that would represent alternative mechanisms linking class and outcome', i.e. specifying causal narratives. For example, there is growing evidence that the amounts of control and autonomy a person has at work are important factors in explaining heart disease (Bosma *et al.* 1997). The service relationship's 'prospective perspective' associated with secure, career employment among top managers and professionals has components such as greater control and autonomy at work, more self-esteem, greater self-care with regard to factors such as diet and exercise, more choice over medical treatment and so on. This we have learned, for example, from the Whitehall Studies in the UK which show that, contrary to popular belief, it is those at the bottom of employment hierarchies who are most stressed (Bosma *et al.* 1997; Marmot

et al. 1991; see also Davey-Smith *et al.* 1997, 1998). Similarly, Jonsson (1993) and Jonsson *et al.* (1996) have demonstrated the capacity of a classification such as that we propose to display variations in educational attainment of a theoretically expected kind (and cf. Chapter 12).

What we require, therefore, are multivariate analyses that show how the effects of ESeC position are mediated via specific intervening variables. How class has its effect will vary according to what it is we wish to explain. We must thus construct and test different models designed to link a range of different outcomes with what the ESeC and its components measure. Finally, it should also be noted that the use of SECs in research is not simply to act as a proxy for income where income data themselves are unavailable. We use SECs because they are measures designed to help us identify essential forms of *social relations* to which income is merely epiphenomenal.

The contributions to this book

This volume comprises four parts. Part I introduces ESeC and also deals with issues of operational validity. Part II is concerned with criterion validity and other measurement issues in relation to ESeC. Part III contains five construct validation studies. Part IV draws conclusions regarding ESeC in both retrospect and prospect.

In the remainder of Part I, Chapters 2 and 3 illustrate some of the main issues involved in constructing ESeC from EU harmonized variables, as well as the effects on ESeC distributions when we use reduced and simplified forms of the classification and employ different cross-national datasets. As such, each of these chapters acts as a supplement for researchers to *The ESeC User Guide* (Harrison and Rose 2006). In Chapter 2 we trace the origins of ESeC in both NS-SEC and EGP and we also relate more details of how ESeC was developed over the course of the project. There is further discussion of ISCO-88 (COM) and some of the problems of cross-national occupational coding and mappings from national classifications into ISCO. We then discuss ESeC's flexibility, concentrating on how it may be operationalized in conditions of incomplete information using its reduced and simplified forms. Using ESS data, we show the consequences for ESeC distributions and the pleasingly high correspondence between versions of the schema. Switches between classes as a result of lack of detailed operational information are largely within rather than across forms of employment regulation. In similar manner we examine collapsed forms of ESeC (see Table 1.2). Finally, we discuss the three most problematic groups of occupations for the ESeC schema – managerial, supervisory and 'skilled manual' – and the decisions we took regarding their allocations to classes.

In Chapter 3 Davies and Elias concentrate on the application of ESeC within three major datasets: EU-LFS, ECHP and ESS. They examine in detail the information requirements for the creation of ESeC, how far each dataset can fulfil these requirements and with what consequences for ESeC

distributions. They also discuss the allocation of the non-employed to the schema and again the distributional outcomes. The problems of dealing with missing information are also fully aired. Overall, the chapter shows that ESeC can be successfully implemented across the principal European datasets to produce broadly similar class distributions.

Part II comprises four chapters relating to the measurement of social class and thus bearing on criterion validation, but also other relevant matters. Given that ESeC is a new instantiation of EGP, it makes sense to ask how the two compare and also whether there is an inherent UK bias to ESeC given its origins, as explained in this and the next chapter. This is the central issue in Chapter 4 by Bihagen, Nermo and Erikson. Using ESS data, they show the similar class distributions of ESeC and EGP and indicate where they differ and why. The tighter ESeC definition of class I is shown to be beneficial. Given their shared conceptual base, naturally one would not expect ESeC to outperform EGP to any significant extent, but it does appear to be a better measure of employment relations, no doubt because it benefits from the results of UK employment relations data. It also performs better as an indicator of wage growth for women; and ESeC class I produces a picture of greater advantages over other classes than EGP I. When they turn to an examination of ESeC as a measure of employment relations for different countries, and thus ask whether ESeC is equally suited to countries with varying economic and social structures, the results are again promising. There is no indication of a UK bias to ESeC.

Chapter 5 asks a similar set of pertinent questions concerning ESeC. Wirth and her colleagues also go further than Bihagen *et al.* in asking whether ESeC is a good comparative measure. Can it really cope with the range of national particularities in relation to employment law, practices and cultural specificities? Again this question is asked against the background of ESeC's origins as a UK measure, but this time by using Germany as a critical case study. Given that Germany is a conservative welfare state and the UK is a liberal one, and also that Germany has a more regulated labour market, institutionally distinct modes of employment relations between different categories of workers and a very different education system compared with the UK, can ESeC deal equally with both situations? To test this, Wirth *et al.* created a 'German' ESeC which takes account of national specificities and then compared it with the comparative, or as they term it 'international' version of ESeC. The differences between the two versions are not that pronounced. Indeed, the international variant is judged to come close to the more optimal version for Germany. Of course, by implication Chapter 5 raises the issue of whether ESeC should have a different or specific derivation matrix for each country (see Lambert *et al.* 2005), a point to which we return in the final chapter.

Chapter 6 is concerned with one of the problematic measurement issues raised in Part I, namely the operationalization and measurement of supervisory status.⁶ Pollak *et al.* show that the proportion of supervisors identified

in different surveys depends on the wording of the relevant question asked, as well as the extent to which different countries succeed in implementing it in cross-national surveys according to the overall rules specified for harmonizing measures by survey designers. They demonstrate this in relation to the different harmonization procedures of the LFS and the ESS. They also perform their own experiment to investigate alternative ways of operationalizing supervisory status in surveys. This indicates that a modified form of the ESeC recommended version (see Chapters 2 and 3; cf. Harrison and Rose 2006) produces fewer false positives in terms of identifying 'true' supervisors, but possibly some false negatives.

It will not take a very perspicacious reader to notice that, in relation to the rest of this book, Chapter 7 is something of a dissenting report on ESeC by the INSEE group. In order to explain some of the underlying reasons for the differences between the INSEE approach to SECs and that of the rest of the consortium, it may be helpful at this point to take a short methodological *excursus* before we discuss the French chapter in more detail.⁷

Social scientists are more often in dispute over conceptual issues than any others. As Goldthorpe (1990) has noted, a conceptual approach such as that proposed for EGP and ESeC is advanced as a *nominal* proposition. It proposes that the world should be viewed in a certain way. This is different from a hypothesis, which is a *real* proposition that says the world *is* a certain way. It is with hypotheses that we should be ultimately concerned. However, we need a conceptual schema before we can hypothesize and make relevant observations. Nevertheless, concepts are tools that must be evaluated. The best way of evaluating them is in terms of how useful they are. Thus, in accordance with nominal principles and as already stated, ESeC is an *instrument de travail* and should be judged accordingly. Therefore, we need to ask: How well do our concepts aid the investigation of the problems that concern us? Do they allow us to pose interesting questions and obtain illuminating results? This is why construct validation is important. Concepts must always be judged in terms of their empirical consequences. They are neither true nor false in an empirical sense.

Opposed to nominalism is *essentialism* (alternatively known as *realism* or *idealism*: see Popper 1960) where a concept or definition is seen to indicate the essence of something rather than, as with nominalism, being simply a matter of convenience. For example, in referring to a 'socio-economic classification', the French tendency is to assume that the term has a real, intrinsic or essential meaning that may be investigated. This is clear from Chapter 7 and leads both to the brand of methodological approach to the construction of SECs and the inductive forms of analysis which the French team offers. In contrast, we regard a term like 'socio-economic classification' as purely instrumental (i.e. words that are merely a useful instrument of description), as we explained previously in this chapter.

Another important and pertinent methodological difference between the French approach and that advocated by other authors in this book is perhaps

best expressed in the distinction between *emic* and *etic* accounts in social science (see Harris 1980: 29–45; cf. Pike 1967). An *emic* approach is culturally specific and intrinsic. It concentrates on describing the indigenous values of a particular society in terms meaningful to actors, again something clear from the discussion in Chapter 7. An *etic* approach is culturally neutral and extrinsic. It applies broader theoretical models applicable across a number of societies. The French national SEC, Professions et Catégories Socioprofessionnelles (PCS; see Desrosières and Thévenot 2002; cf. Desrosières 1998: 264–268), itself something of a Durkheimian *representation collective*, takes the *emic* form⁸ and EGP the *etic* one. For reasons already stated, we believe the latter approach is a *sine qua non* for a comparative measure such as ESeC. *Emic* approaches would prove to be something of a cul-de-sac in these terms.

Perhaps we can best encapsulate these latter differences in methodological approach by reference to the following statement made by a French delegate at the final ESeC project meeting in Bleich:

In its current version the (ESeC) classification is based on very theoretical denominations. In as much as the proposed tool has a descriptive aim it will play an important role in social debate. It appears, therefore, necessary to check that the proposed nomenclature of the classification is easily understood and that it allows each respondent to classify him/herself in the classification. Through 'pilot' surveys one would be able to implement tests of questionnaires capable of measuring the quality of self-classification.

(See the *Report of Proceedings*: 14, emphasis added)⁹

All of these considerations need to be borne in mind when reading Chapter 7. Not only do we disagree with the methodological focus of the French team's approach to classification in general and ESeC in particular, however; there are also other aspects of Chapter 7 that concern us. First, the chapter is not transparent and so the main arguments are often difficult to evaluate. For example, the cluster analysis of the many *soi-disant* 'employment relations' items is difficult to follow. Precisely what the items are, how they relate to the different employment relations dimensions, how they were treated, how the analysis was done, what the results are and how they can be interpreted are all rather opaque. In its critical tone the chapter also judges ESeC against claims that have never been made for it and that no class schema could deliver, such as capturing and being responsive to dozens of specific aspects of work conditions. Indeed, the use of 68 variables to describe employment relations suggests that the French team have examined employment conditions in general rather than contractual relations.

Second, much is also made of the supposed high mobility rates observed for those with supervisory status. This is an old issue and, as Chapters 2, 3 and especially Chapter 6 make clear, depends on the form of supervisory

question asked. Although the French team saw all the findings from the other validation studies relating to supervision, they do not appear to have taken them into account. Similarly, the doubts they raise about the extent to which supervision still exists *tout court* is beginning to become something of a *canard*. Referring to French research, Brousse *et al.* ask not only whether supervision as envisaged in the EGP/ESeC approach is any longer significant, but also whether it still exists in reality. This, of course, is a variation on the 'death of supervisors' argument which has been promulgated by both post-industrial and Marxist theorists (as well as many management gurus) for decades (see Rose *et al.* 1987: 7–9). The French team appears to offer a combination of the post-industrial and management theories, but there is other evidence that casts doubt on this position (see e.g. Hales, 2000, 2005; Drexel *et al.* 2003; Mason 2000; Gallie *et al.* 1998; ch. 3). Supervision may be becoming more complex, but there is cross-national evidence that the role of supervisors in strategic decision-making is being enhanced rather than eliminated. There may, however, be some French particularities with regard to supervisors, as Drexel *et al.* (2003: 5) have noted:

The French situation is characterized by the customary employment of higher technicians as industrial supervisors; a formal correspondence between the pay band of the *matrisse* (the French equivalent to the industrial supervisor) and the qualification level of higher technicians, laid down in the collective agreements; the necessity to create a balance between the opportunities the rapidly growing supply of highly qualified technicians offer and the reduced recruitment capacities of companies; and the more numerous career opportunities for workers, emanating from the greater role medium-level positions play in contrast to other countries.

Regardless, there are good grounds for believing that supervision will always be with us, no matter how difficult it may be to measure. As Rose *et al.* have noted (1987: 22):

Industrial sociologists demonstrate repeatedly that capitalist social relations of production fail to induce great enthusiasm for labour among the majority of employees. Most routine manual and nonmanual employees share in a predominantly pecuniary orientation to work. So long as this is the case then first-line supervisors will remain a functional necessity rather than an historical anachronism.

Finally, even when it comes to the discussion of the social mobility patterns revealed in the French analyses, there are problems that arise from their failure to separate class *positions* from the *individuals* that occupy them at any one time.¹⁰ Moreover, claims that the ESeC might be undermined by such findings as the amount of 'mobility' between classes 7 and 9 for

occupations such as carers and domestic cleaners show a fundamental misunderstanding. This is hardly a world-shattering result; indeed, it is normal. They are very similar occupations, both are in the working class, and no doubt there is much exchange between them. However, carers in class 7 have a modified labour contract, predominantly because they are less casualized and more likely to work for large organizations in the health and welfare sectors. Equally, the pattern of mobility between classes 1 and 2, or any other similar movements which are between classes but *within* forms of employment relationship, is what we would expect.¹¹ In this context, we can usefully recall that Weber (1920/1968a: 302) once defined social classes in terms of clusters of 'class situations within which individual and generational mobility is easy and typical'.

We now turn to the chapters in Part III. One element of the enduring appeal of social class schemas is their ability to structure and discriminate in respect of a range of outcome variables in theoretically predicted ways (cf. Lareau and Conley 2008). In this volume, Chapters 8 to 12 focus on five issues respectively: wage growth, poverty and deprivation, health, unemployment risks, and educational attainment. More details on the link between the conceptual model and life-chances may be found in the relevant discussions by Goldthorpe (2007c *passim*); Goldthorpe and McKnight (2006); Rose and Pevalin (with O'Reilly) (2005); Rose and Pevalin 2003; Erikson and Goldthorpe (2002); and Breen and Rotman (1995b).

Recalling the underlying concept of employment relations, *inter alia* construct validity tests of a class schema must show that,

membership of the classes it distinguishes, as well as having differing sources and levels of income, also have differing degrees of stability of both income and employment and differing expectations as to their economic futures that together condition both their life chances and many aspects of their attitudes and patterns of action.

(Goldthorpe 2000: 1578–1579)

In other words, class positions should discriminate in terms of economic security, economic stability, economic prospects and their consequences. Chapters 8 to 12 tackle these and related issues in varying and critical national and cross-national contexts. Chapter 8 deals with stability of income, Chapter 9 with stability and prospects in respect of poverty and deprivation, Chapter 11 with stability and security of employment, and Chapters 10 and 12 with life-chances in relation to health and education, both of which have strong relationships with livelihood, of course.

In Chapter 8, Bihagen and Neramo provide a direct test of the relationship between class and income, i.e. the link between class position and economic stability (see Goldthorpe and McKnight 2006: 116–121). They discuss the relative success with which ESeC (but also EGP and SEI, the Swedish class schema) clusters occupations and the outcomes in relation to an analysis of

wage growth. They conclude that the predictive powers of EGP and ESeC are very similar, but that the latter is to be preferred because it is more flexible and user-friendly, as well as having a better defined higher salariat class.

In Chapter 9, Watson, Whelan and Maître examine economic stability and prospects (see Goldthorpe and McKnight 2006: 121–129). They use ECHP data to investigate the constraints and opportunities of class in relation to poverty and deprivation. In particular they wish to explore the sustained impact of class position as revealed by panel data. Their main hypothesis is that class will become ever more important as attention moves from low income to occasional episodes of poverty and deprivation and then to persistent forms. They also expect class to be more strongly related to persistent poverty than to persistent deprivation. In their analyses they take advantage of the hierarchical component of the ESeC schema referred to previously. Both individual and household measures of ESeC are used in analysis and they reserve ESeC class 10 for the never worked only, since unemployment is an important factor affecting their dependent variables. Here we see an example of the importance of thinking about the schema in relation to the problem at hand before analysing data, again an issue we raised in an earlier section of this chapter. Summarizing the findings in Chapter 9, class is shown to be more strongly related to lifestyle deprivation than income and does vary in its effects in the manner the authors had hypothesized. While the hierarchical aspects of ESeC do have expected effects, equally its employment status element in relation to the self-employed and small employers has an impact, too, including in terms of cross-national variations.

In Chapter 10, Kunst and Roskam, again using ECHP data, look at ESeC in relation to a key health inequality measure (and one also used in the NS-SEC validation: see Cooper and Arber 2003): self-assessed health. Like Watson and her colleagues, they too use both individual and household measures and ESeC's hierarchical component (hierarchy having a particularly strong appeal with health researchers). They note the general lack of class measures in EU countries, and thus the potential advantages of ESeC in terms of cross-national and national research on health inequalities (cf. Krieger *et al.* 2005). They also make extremely useful comments concerning what is required of a measure such as ESeC and how it may best be used by health researchers. These observations have a more general application too, of course, and we commend them (see Chapter 13).

Their results show a strong relationship between class and health for men in all 11 countries considered, but different patterns between Northern and Southern countries are observed for women. Kunst and Roskam also introduce income and education measures as controls. While these measures reduce the effect of class on health, they by no means eliminate the relationship. They conclude that ESeC performs in a manner which health researchers will find useful. Fundamental relationships between class and

health could be identified in all countries, despite their differing labour market structures. Nevertheless, the patterns revealed for Northern and Southern countries were different, with more irregular class gradients observed in the latter. Might this be indicative of a real difference or a problem with ESeC? We shall return to this issue in Chapter 13.

In Chapter 11, Lucchini and Schizzerotto consider ESeC in relation to unemployment risks. As Goldthorpe and McKnight (2006: 113) have observed, the risks of job loss and unemployment are the most obvious ways in which class positions affect economic security. In the validation of the NS-SEC, Elias and McKnight (2003) found a strong relationship between class and unemployment, just as Gallie *et al.* (1998) had previously using the EGP schema. In similar vein to Chapters 4 and 5, Chapter 11 asks whether such relationships hold across countries with very different economies, patterns of labour market regulation and welfare state regimes, the most significant macro-economic variables affecting unemployment. Using eight waves of ECHP data, they examine the hypothesis that unemployment risk increases monotonically as attention moves from the self-employed (classes 4 and 5), to the service classes (1 and 2), the intermediate classes (3 and 6) and the working classes (7, 8 and 9). The hypothesis is broadly confirmed by the analysis. Lucchini and Schizzerotto also suggest that their results cast doubt on the individualization thesis (see Beck and Beck-Gernsheim 2002).

Chapter 12, by Barone, Schizzerotto and Barone, uses the Italian case to study the relationship between class and educational inequality. They ask whether ESeC can reproduce results that are consistent with what is known for Italy, but also, as in Chapter 4, concentration focuses on a comparison between ESeC and EGP by inquiring whether the former can replicate the results previously found when using the latter. In both respects, their findings are encouraging. Employing data from five waves of the Italian Household Panel (IHLI), they conclude from their analyses that ESeC does succeed in identifying features of educational inequality that are unique to the Italian case as well as confirming what is generally known for other countries. Given our earlier comments concerning Chapter 10, this suggests that ESeC may well be suited to the Southern European case (and cf. Ballarino *et al.* 2008). Moreover, they find ESeC superior to EGP and indicate why they think this might be: an improved operationalization of the underlying employment relations model. In addition, they suggest that ESeC may be better suited than EGP to the situation of post-industrial societies.

Conclusions

In this chapter we have discussed the purpose and importance of SECs, their policy and social scientific uses. We have discussed why an ESeC is needed and why it is essential that it has a clear conceptual basis. We have explained the employment relations approach and the associated class theory. We have described the prototype ESeC schema and shown how it is

derived. We have also dealt with the central validation issues that are the concern of subsequent contributions to this volume. Many more details may be found on the project website.

Of course, ideally, additional research should be undertaken before we can be completely confident that we have the best possible categorial SEC for the EU context. In particular we would wish to conduct further criterion and construct validity analyses for Southern, Central and Eastern EU Member States. We shall also have to re-base the classification on the new version of ISCO, ISCO-08. Moreover, we could pursue further analysis on the second level of ESeC, 'socio-economic groups', which separately identify the component elements of each class so that analysts may look within the classes as well as between them. All of these matters are discussed further in Chapter 13. Now, however, in Chapters 2 and 3, we turn to a more detailed assessment of operational validity.

Notes

- 1 In fairness, we should note that the French team would not agree with this definition of an SEC, as is apparent from some of their comments in Chapter 7. We shall return to this matter when we discuss the other chapters in this book.
- 2 The article by Krieger *et al.* is particularly interesting since it successfully adapts the UK NS-SEC to analyse health disparities in the USA and shows how it provides 'a better gauge of access to health services and socioeconomic characteristics than the conventional U.S. occupational classifications based on status and skill' (2005: 227). This also demonstrates the facility with which an etic approach (see below), such as provided by the EGP family of class schemas, 'travels' (cf. Goldthorpe 2007a: 122–124).
- 3 Using data from the survey *Working in Britain in the Year 2000* (WIB), McGovern *et al.* provide a direct test of the version of the EGP schema as implemented in the UK NS-SEC. They employed 12 items from WIB to measure difficulty of monitoring work and five items measuring asset specificity to produce an empirically generated class map to compare with the schema set out in Figure 1.1. Scores were obtained for each NS-SEC category on the two dimensions of the EGP model from regressions in which membership of a category was predicted by their monitoring difficulty and asset specificity indicators. This produced scale scores that indicate distances between the NS-SEC groups. Modestly, the authors claim an 'encouraging' result for supporters of the EGP approach. In fact, it is more than that. Not only was the model in large part empirically confirmed, in the sense that monitoring difficulty and asset specificity were positively correlated in the manner suggested by Figure 1.1, but a stepwise structure emerged between NS-SEC groups (2007: 78, fig. 3.2). As the authors express it:

In short, the model of the class structure . . . is somewhat like a green stick: it bends at particular points but is still continuous. Occupational groups are differentiated first according to one principal (*sic*) and then according to another. Groups similar in terms of monitoring difficulty are differentiated by their degree of human asset specificity; and those with the same level of human asset specificity are differentiated in terms of monitoring difficulty. Some occupations seem to belong to one group in terms of one criteria and a second according to the other. There is nothing 'contradictory' about this;

it is a natural outcome of employers finding it rational to offer different contractual conditions to groups who differ along one or more 'problem' dimensions.

(McGovern *et al.* 2007: 79)

Chapter 4 contains a similar analysis, but one constrained to use more indirect indicators of the model's dimensions than those available to McGovern *et al.*, as indicated in our discussion of criterion validity below.

4 A third method, proposed by the French team and discussed in Chapter 7, was rejected by the rest of the consortium for reasons we have already alluded to (a disinclination towards inductively derived, synthetic measures).

5 For a succinct discussion of some of the problems with proxy measures of employment relations, see Goldthorpe (2005a) in response to Erikson (2005a).

6 For a discussion of the importance and problems of the measurement of supervisory status in relation to both official statistics and class schemas, see Rose *et al.* (1987).

7 Some of the differences in approach between the French team and the other consortium members are illustrated by an exchange available on the project website: <<http://www.iser.essex.ac.uk/research/ese/validate/validation-conference/validation-conference-supplementary>> (accessed 10 March 2009). For further insights into the French approach see Destroieses (1991, esp. pp. 206–209).

8 As Malonatas (2007: 445) has observed, the PCS are tightly linked to the local socio-political context, which attributes particular importance to collective bargaining in determining occupational status. (For instance, under the CSP (*sic*), mental jobs in the public sector have a relatively upgraded status due to the increased power of collective bargaining.) Furthermore, their main categories are widely used in the media and everyday life. This means they are the major scheme through which French society shapes its own class awareness.

Again, this helps to illustrate differences between the French team and the rest of the consortium as revealed in Chapter 7 and also in the documents referred to in both the previous note and the following one. For an extended comparative and historical discussion of British, American and French traditions in social classification, see Szreter (1993).

9 Indeed, this whole section of the *Report of Proceedings of the ESeC Conference* held at Bled further illuminates the French position (see pp. 12–14 of <<http://www.iser.essex.ac.uk/research/ese/events/nsi-conference>>). For an attempt by INSEE to discover whether people are able to classify themselves to ESeC see: <http://circa.europa.eu/Public/irc/dsis/ssd/library?l=/task_force_ese/2007_interim_reports&ym=compact&sb=Title> (section 4). Both sites accessed 10 March 2009.

10 In addition, there are well-known occupational measurement errors (see Chapter 3) which can be compounded in longitudinal surveys and which *might* explain some of the French mobility results. Respondents may describe the same occupation in different ways at different waves, leading to a change of occupational coding. Equally, different coders at each wave may code the same occupation in alternative ways. Whether the French team took these possibilities into account we cannot be certain, so much in their chapter remains opaque.

11 See *Constructing ESeC: A Paper from INSEE and a Response from the Consortium*: <<http://www.iser.essex.ac.uk/research/ese/events/validation-conference/validation-conference-supplementary>> (accessed 10 March 2009).

2 From derivation to validation

Evidence from the UK and beyond

Eric Harrison and David Rose

This chapter examines a series of issues relating to the operational and criterion validity of the ESeC classification. The first section discusses the derivation of the ESeC and its roots in the UK's NS-SEC. The second and third sections deal with the processes involved in adapting a nationally based classification to produce a comparative instrument based on an international harmonized framework of occupational measurement, ISCO-88 (COM). In the fourth section we offer some illustrations of how the schema holds up at different levels of data quality and precision. The final section focuses on three groups within the occupational structure, namely managers, supervisors and skilled workers, which were considered problematic in the construction of the classification and discusses how these problems were investigated and resolved.

From EGP to NS-SEC to ESeC

In order to understand how and why the ESeC schema takes the form it does, it is important to know something about its origins in, and relation to, both the EGP (Erikson–Goldthorpe–Portocarero) class schema and the UK's NS-SEC. Both ESeC and the NS-SEC are new instantiations of the EGP schema. However, the NS-SEC was created under particular conditions which required some departures from EGP. NS-SEC replaced two UK government SECs: social class based on occupation (IRGSC, formerly Registrar General's Social Class) and socio-economic groups (SEGs). The development of the NS-SEC was constrained by the need for sufficient 'backwards comparability' with the previous SECs to ensure the integrity of the many national time-series that depended on them. This necessitated the semi- and non-skilled occupations, which EGP combines in its class VII, be placed in separate classes. Being unconstrained in this way, ESeC reverts to EGP practice and combines the semi- and non-skilled in class 9. In addition, EGP class IIIb (a largely feminized class of lower services, sales and clerical occupations) was constrained to become part of class 6 (semi-routine occupations) in NS-SEC rather than being created as a separate class (see Rose and Pevlin 2003: ch 12). Not being inhibited in this way in the EU context, this group of