OCCUPATIONAL SEX SEGREGATION :
A COMPARATIVE STUDY BETWEEN BRITAIN AND JAPAN

Thesis submitted for the degree of D.Phil.
in Sociology at the University of Oxford

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ABSTRACT

Occupational sex segregation is often regarded as the central component of gender inequality in the labour market in contemporary industrial societies. Through comparing the situation between Britain and Japan, which have contrasting features in their patterns of occupational sex segregation and in the position of women in the labour market, this thesis examines the mechanism of occupational sex segregation - how it is constructed and maintained - in the two societies with different social and economic backgrounds. Particular focus is on the impact of occupational sex segregation on individual workers' experiences, and systematic analysis is applied to investigate the impact by using a range of national-level large-scale data sets. The findings suggest that the implications of occupational sex segregation differ for Britain and Japan; for the former, occupational sex segregation contributes to gender inequality in the labour market, but this is not the case for the latter. It is suggested that occupational sex segregation could be one of the components of gender inequality in the labour market, but not necessarily the principal one. This thesis argues that the implications of occupational sex segregation in a society very much depend on the given social and economic institutions in the society that differ across countries, and thus occupational sex segregation should not be treated *a priori* as the central component of gender inequality.

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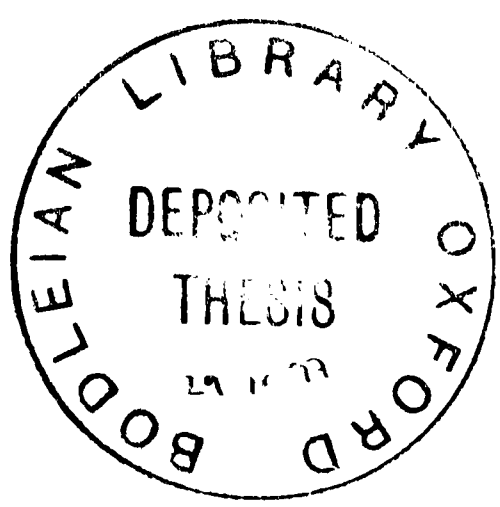

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CHAPTER 1

INTRODUCTION

Introduction

This thesis is about occupational sex segregation in Britain and Japan. Through comparing the two countries - Britain and Japan - which have different economic and social backgrounds, I will examine the mechanism of occupational sex segregation: how it is constructed and maintained. In other words, I will try to understand the mechanism of occupational sex segregation by focusing on the interaction systems in which occupational sex segregation is constructed and maintained.

Occupational sex segregation refers to the situation where men and women are disproportionately represented in specific occupations. Complete occupational sex segregation means that all men work in occupations in which all the workers are men, and all women work in occupations in which all the workers are women. Therefore, there is no chance for men and women to work with the other sex in the same occupations. Complete segregation is rarely found in the present industrial societies, but in many, indeed in all the industrial societies that have been studied, occupational sex segregation exists, though the extent and pattern differ between countries (for example see Charles 1992, Jacobs and Lim 1992, Rubery and Fagan 1995).

Occupational sex segregation is of sociological interests because it is believed to be the central component of gender inequality (Crompton and Mann 1986, Reskin and Padavic 1994, Jacobs 1995). If occupational sex segregation lacks this feature, research on occupational sex segregation would be just the study of different distributions of men and women across occupations within a country or between

countries. However, there are many empirical studies which show that occupational sex segregation does generate gender inequality in the labour market. The most notable is the impact on pay inequality between men and women; workers in female-dominated occupations are found to be paid less than those in male-dominated occupations. This is reported in the US (England and McLaughlim 1979, Roos 1981, Hadson and England 1986, Tomaskovic-Devey 1995) and in Britain (Millward and Woodland 1995). Other influences of occupational sex segregation are reported in various employment spheres, such as occupational prestige, authority, and promotion chances; female-dominated occupations are often regarded as of low prestige, provide low authority and low promotion chances (Jacobs and Powell 1985, Reskin and Roos 1990, Tomaskovic-Devey 1993b 1995, Reskin and Padavic 1994). Also, various case studies suggest inferior employment conditions in female-dominated occupations compared to male-dominated occupations, arguing that the deterioration of employment conditions leads employers to hire women as men lose interest in such jobs, or that the fear of deterioration of employment conditions leads male workers to resist women's entry to their occupations (Cohn 1985, Reskin and Roos 1990, Siltanen 1994).

As Reskin and Roos (1990) point out, "sex segregation has a history as old as the labour force itself". However, it is only in the last two decades that research on occupational sex segregation has become a major concern in the study of the labour market or social stratification. There are basically two types of research on occupational sex segregation. One examines the trend and extent of occupational sex segregation, and the other examines the cause and consequence of occupational sex segregation.

Examining the trends and extent of occupational sex segregation has been of research interest in itself as an indicator of gender inequality and the way it has changed over time. Also the methodological complexities of the issue - the results depend on what kind of occupational data is used and how occupational sex segregation is measured - have been of central interest to researchers (Blackburn et al 1993, Watt 1994, Siltanen et al 1995). Some studies on the extent of occupational sex segregation focus on a single country and the long-term trends of occupational sex segregation. For example, we can trace the change of the extent of occupational sex segregation in this century from Jacobs' study for the US (Jacobs 1989a) and Hakim's study for Britain (Hakim 1981, 1994). Both of these studies show the enduring nature of occupational sex segregation throughout this century, though a little decline can be found after the 1970s for both countries. Other studies compare the extent and trends of occupational sex segregation among various countries (OECD 1985, Charles 1992, Jacobs and Lim 1992, Shirahase and Ishida 1994, Rubery and Fagan 1995, Charles and Grusky 1995). Though these studies on the trend and extent of occupational sex segregation examine different countries, using different data sets and different measurements, they all show that it is a universal phenomenon that men and women work in occupations predominantly done by their own sex.

Though occupational sex segregation is rather stable at the aggregate level, at the level of individuals it is more dynamic. Jacobs (1989b), for instance, examines individual mobility across gendered occupations in the US labour market. In spite of the stability of occupational sex segregation at the aggregate level, what Jacobs found is frequent movement of men and women across gendered occupations, thus his metaphor of "revolving doors". In Britain, Scott and Burchell (1994) also found that

many men and women have sex-mixed careers while at the aggregate level the extent of occupational sex segregation is stable.

The second type of research on occupational sex segregation examines the cause or the consequence of occupational sex segregation. These studies can also be divided into two types. One examines the cause and consequences in a single country or a few occupations, and the other investigates the cause and consequences in a comparative perspective. The major difference between these two is whether or not the influences of institutional differences are taken into account. As a study focusing on a single country, Reskin and Roos (1990) demonstrated how occupations were feminised in the US by pointing to various factors that led employers to hire or not hire women, as well as factors that led male workers to leave their occupations to women, or to prevent women from entering into their occupations. Also in Britain, Cohn (1985) explains how and why clerical occupations were feminised, and Siltanen (1994) examines how men and women were distributed into different occupations with different rewards. These studies give deep insight into the dynamic of occupational sex segregation by focusing on particular occupations, and carefully examine the behaviour of the agents involved in the process. There are also some quantitative studies which examine the consequences of occupational sex segregation in a single country in a more systematic way, by using large scale sample data, which makes it possible to control for the other relevant factors. These studies show that female-dominated occupations provide less favourable conditions compared to male-dominated occupations, such as low pay, less authority and promotion chances (Hadson and England 1986, Tomaskovic-Devey 1993a 1995).

The other research which focuses on the cause and consequences of occupational sex segregation investigates why the pattern of occupational sex segregation differs between countries from the point of view of different social and economic structures across countries. Charles (1992), in a comparison of the OECD countries, suggests that fertility rates, gender ideology, and economic structure all affect the extent of occupational sex segregation in these countries. Rubery and Fagan (1995), in their comparison of countries in the European Community, point to the importance of the factors such as women's labour market participation patterns, industrial organisation, labour market conditions, social attitudes, training systems and career paths, working-time arrangement and systems of pay determination, for the pattern of occupational sex segregation.

Thus, there are various empirical studies on occupational sex segregation. Some focus on the trends of occupational sex segregation, some compare the extent of occupational sex segregation across countries, some examine the cause or the consequences of occupational sex segregation. What can be understood from these studies are that, firstly, occupational sex segregation is a universal phenomenon. Secondly, for at least Britain and the US, it has been quite stable throughout this century. Thirdly, it is relevant to gender inequality in the labour market. Finally, from a comparative perspective, its pattern is influenced by social and economic structures which differ across countries.

Different Explanatory approaches to occupational sex segregation

There are various theoretical approaches to explain why occupational sex segregation is constructed and maintained in the labour market. The fundamental debate of occupational sex segregation is divided between those who see it as a result of the choice of women themselves, where supply-side factors are emphasised, and those who see occupational sex segregation as a result of structural constraints on women, where demand-side factors are emphasised. However, recent theoretical development is more likely to see occupational sex segregation as the result of the interaction between the supply-side and the demand-side, or of individual choice under various structural constraints. In this section, we will review the basic theoretical approaches to occupational sex segregation, and their critiques.

Human capital theory

Human capital theory states that people are forward-looking and invest in their human capital, such as skills, qualifications and labour market experiences, to maximise long-term economic benefits. Becker (1981, 1985) argues that women's poorer earning prospects relative to their husbands would lead them to specialise in domestic work while their husbands specialise in market work, and thus maximise economic benefits within the family unit. On the other hand, Polachek (1976,1981) suggests that by choosing female occupations women can gain higher initial starting salaries and less penalties for their intermittent employment, as those occupations are believed to require skills that do not depreciate rapidly and they are believed to require less investment in training. Thus, women choose female occupations which can maximise

their life-time earnings with regard to their present or future domestic responsibilities which may require intermittent careers.

Many of the assumptions and predictions of human capital theories are not supported empirically. Firstly, the starting wage of female occupations is not generally higher than male occupations (England 1982, 1984). Secondly there is no clear evidence that female occupations penalise intermittence less than male occupations (England 1984). Thirdly, sex differences in human capital variables explain only a portion of occupational segregation (England 1982, England and Farkas 1986). And finally, women often change their goals and educational choices and they move between female occupations and male occupations in their occupational careers (1989b).

Gender socialisation theory

While human capital theories emphasise the rationality of women as decision makers, trying to maximise their economic benefits, the theory of gender socialisation emphasises social factors which shape women's preference for particular occupations. There are various ways by which gender socialisation influences women's occupational choices. Firstly, sex-specific socialisation may lead women to prefer occupations that are generally viewed as appropriate for them. Secondly, women's pre-market education and training may restrict the jobs for which they qualify. Third, women's beliefs that certain jobs are unavailable may deter them from trying to pursue them. Fourth, women's choices may reflect their ignorance of available options. And finally, women's anticipated family obligations may affect their choices of occupations (Reskin and Hartmann 1986). Thus, gender socialisation can generate

occupational sex segregation directly by creating sex-typed occupational aspirations, or indirectly by developing tastes and characteristics that are compatible with occupations that have been labelled appropriate for their sex.

The limitation of gender socialisation theory is that it cannot explain why men and women change their careers between female occupations and male occupations, despite evidence which suggests that a considerable number of men and women have sex-mixed careers (Jacobs 1989b, Scott and Burchell 1994). This implies that not only the preferences and opportunities shaped through the socialisation process but also the opportunities which are generated by economic factors or social factors other than sex socialisation are important in explaining gender segregation.

Social control theory

We have seen two theories - human capital theory and gender socialisation theory - which concern the individual worker's choices in explaining gender segregation. Jacobs (1989b), however, challenges these supply-side explanations of occupational sex segregation, by pointing to the volatility of goals and educational choices and the career mobility between female-dominated occupations and male-dominated occupations. Jacobs proposes a "social control" model to explain a high rate of individual mobility between female-dominated and male-dominated occupations despite the stability in the overall structure of occupational sex segregation;

> The social control perspective maintains that the pressure for women to pursue female-dominated positions does not end in early childhood. It is continually reinforced and recreated throughout young adulthood, and continues during the years in the labour market. (Jacobs 1989b, p. 48)

The social control is "an enduring and imperfect set of influences" (Jacobs 1989b, p104), so that women's preferences change throughout their life-courses according to their circumstances. However, the overall stability of occupational sex segregation is maintained, since despite many women moving from female-dominated occupations to male-dominated occupations according to their circumstances, the exit from male-dominated occupations is also high. As Beilby (1992) put it, "the imagery is of a self-regulating system".

Social control theory greatly helps us to understand the individual worker's behaviour under the macro institutional settings. However, Jacobs only focuses on the supply-side of the labour market, and therefore, is not successful in specifying the agents of social control. His findings of the volatility of occupational goals and the frequent movement of men and women between female-dominated and male-dominated occupations nevertheless suggest the importance of the pressures deriving from the process of social control, or the importance of an institutional perspective.

We now turn to theories which focus on macro-level economic and social structures which affect occupational sex segregation; they are labour market segmentation theory, dual systems theory, and queuing theory.

Segmentation theories

Segmentation theories contribute to the understanding of occupational sex segregation from a demand-side perspective. These theories argue that the labour market is mainly divided into two groups; one is the primary sector which has an advantageous position

in the market, involving stable employment with considerable job security, relatively high pay, and career progression, and the other is the secondary sector which has disadvantageous features, such as casual employment with little job security, low pay, and little career progression. They argue that the differentiation between a core workforce in the primary sector and a peripheral workforce in the secondary sector is in employers' interests, since it enables them to retain core workers as well as to gain flexibility with respect to uncertain economic factors by making use of peripheral workers (Berger and Piore 1981), or to achieve greater control over workers by dividing them (Edwards 1979).

Barron and Norris (1976) argue that gender division in the labour market corresponds to the division between the primary and the secondary sectors, suggesting that women have the five main attributes that make a particular social group a likely source of workers in the secondary sector; dispensability, clearly visible social difference, little interest in acquiring training, low economism, and the lack of solidarity. They emphasise that women are likely to possess all of these features, by pointing to the fact that women's voluntary or involuntary turnover rate is higher than men's, their conventional social differences make them believe that they are inferior to men and that training does not accord with their place in the family life after marriage. In turn the fact that many women are secondary earners gives less incentive for them to seek monetary rewards, and makes them less successful in organising themselves industrially.

There are some evident difficulties with these theories of occupational sex segregation. Firstly while women are more likely to be concentrated in the periphery sector, there is nearly as much occupational segregation by sex within each sector

(Jacobs 1989b). Secondly, the gender dichotomy applied by Barron and Norris seems to be too simple; within each sex, there are considerable variations in attitudes to work and employment prospects (Burchell and Rubery 1989, Siltanen 1994). And lastly they only focus on employers' strategies in terms of the organisation of the labour process, but ignore the other factors, such as power relations between men and women, which could impose constraints for employers in pursuing their strategies; evidence suggests that men actively organised against women in the labour market, and this prevented employers from hiring women, and women from entering better rewarding, high-status jobs (Hartmann 1979, Cockburn 1983, Cohn 1985, Walby 1986, Reskin and Padavic 1994).

Dual systems theory

While segmentation theories emphasise power relations between capitalists and workers, dual systems theory also concerns power relations between men and women (Hartmann 1976, 1979, Walby 1986, 1990). Dual systems theory argues that women are suppressed by capitalists and by men for both of them seek control over women. Male workers prevent women from having access to the desirable, higher paying occupations. Thus, they retain a privileged position in the labour market, and this privileged position assures the economic dependence of women, hence women have a greater share of domestic unpaid work (Hartmann 1976, 1979). Capitalists also benefit from occupational sex segregation, as it enables them to pay women low wages since there is an over-supply of women for the remaining occupations (Walby 1986).

The critical issue of dual systems theory is that it cannot separate between capitalism and patriarchy; the motives of men as patriarchs and as capitalists do not

always coincide. However, this theory does not predict which is more fundamental than the other (Walby 1988). It is often suggested that patriarchy is often in contradiction to the needs of both individual and collective capital (Cohn 1985, Siltanen 1994).

Queuing theory

Like segmentation theory and dual systems theory, queuing theory mainly point to the importance of demand-side factors in explaining the patterns of occupational sex segregation. However queuing theory also discusses the preferences and choices of workers. According to Reskin and Roos (1990),

> The queuing perspective views the labour market as comprising labour queues (employers' ranking of possible workers) and job queues (workers' ranking of jobs); it sees occupational composition as the result of a matching process in which the top-ranked workers get the most attractive jobs and so forth, so that the lowest workers end up in jobs that others have rejected.
> (Reskin and Roos, 1990, p. 307)

Reskin and Roos argue that employers often rank men higher than women, because of their emphasis on custom, stereotypes about sex differences in productivity, and anti-female pro-male biases. However, feminisation of occupations occurs, when occupational growth heightens the demand for women, when men revise the ranking of occupations, when employers re-rank the sexes, and when the intensity of employers' preference for men declines. However, queuing theory suggests that even if an occupation is desegregated, "gettoization" occurs as women and men work in different specialities in the occupation.

While queuing theory discusses the preferences and choices of employers, male employees, and female employees, its main concern is the structural properties of the labour market, which are shaped by the preferences of employers and of male workers. Although queuing theory recognises the existence of women's "job queues", it states that women will take virtually any occupation once it becomes available to them. Women's preferences are not fully discussed, and women are rather treated as passive agents. The only explanation provided from women's point of view for women's inroads into male occupations is that these occupations are preferable to or better than most female occupations even though they are rejected by men. However, some researchers suggest that there are women whose preferences about work and commitment to work are different from men, and these women positively choose women's jobs (Hakim 1991 1996, Crompton & Le Feuvre 1996).

We have seen various theories of occupational sex segregation, which differ in terms of the perspective through which they try to capture occupational sex segregation. They vary in terms of the emphasis on the point of view of employers or of workers, and in terms of whether they focus primarily on the labour market or on a wider set of social structures. Although we have seen some critiques for these theories, there is no *a priori* reason to justify one theory at the cost of others. Rather, it is more plausible that the final outcome is the result of more than just one mechanism.

Having said that, however, from a comparative perspective, which we take in this thesis, it is helpful to discuss some limitations in the above theories. Human capital theory and gender socialisation theory assume that individuals make choices, but they do not discuss individual decisions as the reflection of macro-level social and

economic institutions. In this sense, social control theory is more helpful as it recognises the influences of social institutions. However, it does not successfully specify the agents of social control and their intentions.

Segmentation theory and dual systems theory over-emphasise the power and intentions of the agents in the labour market - whether employers or male employees - but neglect the institutional constraints within which these agents exercise their power. Even if we suppose that employers and male employees have universal intentions, their strategies may differ between countries with different institutional settings. For instance, if in one country, equal employment policy is stronger than the other, this may well affect the employers' and male workers' strategies to female workers. Moreover, they pay little attention to female workers, assuming that the demand for female workers, whether in male occupations or in female occupations, will be always followed by the supply of female workers. We, however, still need to understand the mechanism at the level of individuals; why some find their jobs in male occupations, or some in female occupations, or some do not even try to get a job.

On the other hand, queuing perspective greatly contributes to our understanding of the dynamics of occupational sex segregation by capturing it as the result of the interactions of the agents in the labour market. Queuing perspective explains in what way a certain occupation may become more female (or more male), by pointing to the various factors which cause the change in the job queues for male workers and female workers, and in the gender queues for employers, though it places the least emphasis on the job queues for female workers to decide the final outcome. Although Reskin and Roos (1990) propose queuing theory from research based on the US labour market, the approach can be applied to comparative studies (see Rubery

and Fagan 1995). For instance, it could take account of the influences of social institutions which often differ between countries, such as gender ideologies and labour laws, by reflecting them in the job queues for male workers and female workers, and in the gender queues for employers.

Why compare between Britain and Japan?

As mentioned in the first part of this chapter, the purpose of this thesis is to understand the mechanism of occupational sex segregation by focusing on the interaction systems in which occupational sex segregation is constructed and maintained. Although we compare the patterns of occupational sex segregation between Britain and Japan in this thesis, this is by no means our ultimate purpose. Without defining the implication of occupational sex segregation in each society, the comparison itself has little sociological meaning. We, however, compare the patterns of occupational sex segregation between Britain and Japan, because this in itself gives an idea of the implication of occupational sex segregation in the two societies. As Brinton (1988, p302) writes, "a research tradition that concentrates almost exclusively on the explanation of differences in economic outcomes between individual men and women in one culture makes it difficult to develop a theory of gender stratification that confronts issues of micro-level interaction within the macro-level institutional setting".

As we noted before, occupational sex segregation is often regarded as the central component of gender inequality, restricting women's opportunities in the labour market and lowering their status, and rewards (Crompton and Mann 1986, Reskin and Padavic 1994, Jacobs 1995). It is because of this mechanism that the

subject has drawn so much attention from economists, sociologists and policy makers. However, all the comparative studies on occupational sex segregation which include both Britain and Japan show that the extent of occupational sex segregation is substantially higher in Britain than in Japan (Jacobs and Lim 1992, Charles 1992, Shirahase and Ishida 1994, Charles and Grusky 1995). If this is true, then, can we say that there is greater gender inequality in Britain than in Japan? This seems very unlikely given the rich evidence that there exists greater gender inequality in the labour market in Japan than in the Western industrialised nations, including Britain (Saso 1990, Lam 1992, Brinton 1993, Stockmann et al 1995, Wright et al, 1995). This paradox raises a fundamental question for research on occupational sex segregation; "does occupational sex segregation really generate gender inequality?". Further, as we speculate, if occupational sex segregation does not necessarily generate gender inequality, we need to investigate why this is so, and what could be alternative ways in which gender inequality is generated. Thus, by comparing between Britain and Japan, we also examine the mechanism of gender inequality in the labour market.

The contrast between Britain and Japan in the extent of occupational sex segregation provides an ideal basis for examining the mechanism of occupational sex segregation. We need to investigate the factors which differ between Britain and Japan at the national level that could affect the choice of the individual agents in the labour market who are involved in the process of occupational sex segregation. Britain and Japan have rich contrasts in their economic and social conditions, such as employment systems, government policies, and gender norms and attitudes. The most notable is the "Japanese employment system", which involves life-time commitment of workers, seniority rules, intensive firm-specific training, which differentiates greatly between

men's and women's careers (Osawa, Mari 1993, Sugeno 1996). This system differs considerably from the British system (Dore 1973, 1986, Saso 1990). Also the provisions of the equal employment law significantly differ between these two countries. These institutional differences may well generate the different outcomes in the labour market between the two countries by giving different weights to the options of each individual agent who is involved in the construction and maintenance of occupational sex segregation.

As we have seen, there are already some attempts made to explain the different patterns of occupational sex segregation across countries (Charles 1992, Rubery and Fagan 1995). For instances, Charles's study (1992), which uses the log-linear technique, explains how different national institutional settings, such as economic structure, fertility rate and gender ideology, influence the extent of occupational sex segregation. However, she relies entirely on aggregate data and only looks at the relations between macro phenomena (i.e., occupational sex segregation, economic structure, gender ideology, etc.). In her explanation, no active agent who is involved in the process of occupational sex segregation is to be found. Rubery and Fagan (1995), on the other hand, go further into the micro level. Their research not only examines the relations between macro phenomena (e.g. occupational sex segregation and labour market systems), but also takes a qualitative method by focusing on six occupational areas, and tries to link the influences of social/economic institutions with the behaviour of individual agents (i.e., male workers and female workers). However, the institutional explanation they provide in their latter approach is occupation-specific, and it is inadequate to explain the difference in the overall extent of occupational sex segregation between countries.

In this thesis, our focus is not on the relations between macro structures nor on specific occupations, but on individual workers: individual workers who are employed in gendered occupations, whose experiences are influenced by occupational sex segregation, and who are the agents actually constructing and maintaining occupational sex segregation under the constraints imposed by macro institutions. We will examine the mechanism of occupational sex segregation at the level of individuals, by focusing on the implications of occupational sex segregation for individual workers' experiences. Does occupational sex segregation really generate gender inequality in the labour market? What are the implications or the consequences of occupational sex segregation for employers and employees; does it benefit or motivate them to construct and maintain occupational sex segregation? Do the implications of occupational sex segregation differ between Britain and Japan? If so, do the institutional differences between the two countries help to understand the difference? And finally, do the differences in the implications of occupational sex segregation in these countries in turn help to account for the different extent of occupational sex segregation between these countries? These are the questions to be asked in this thesis.

Data Sources

We examine data from a range of sources. There are three principal data requirements. Firstly, we need national representative data which has detailed information of individual workers' occupations and their experiences in the labour market. Secondly, we need data which makes it possible to examine the "net" occupational-sex-segregation effect on workers' experiences. By "net" effect, I mean the effect which

is independent of other relevant factors that influence workers' experiences, such as age, educational qualifications and the length of service, the effects of which are supposed to be culturally specific. Finally, it is necessary to have comparable data and variables for Britain and Japan.

I have re-analysed four different surveys to investigate and compare individual workers' experiences in the labour market - the Employment in Britain Survey, the Occupational Mobility and Career Research Survey in Japan, the International Social Justice Project, and the Comparative Project of Class Consciousness Survey. The description of the four data sets are as follows.

The Employment in Britain Survey

The Employment in Britain Survey (EIB) was carried out between May and September 1992. It is a national representative sample of those currently in work, aged between 20 and 60 in Britain. The achieved sample size is 3855 (2038 men and 1817 women) of whom 3458 (1751 men 1707 women) were employees. The response rate was 72% (see Gallie and White 1993). The EIB has both cross sectional and work history data. The cross sectional data is a rich source of information about individual workers' experiences and their attitudes to work. It also makes it possible to control for relevant factors to workers' experiences in the labour market from personal characteristics to organisational characteristics. It is analysed extensively to investigate the influences of occupational sex segregation on various employment conditions, as well as to examine the association between occupational sex segregation and job preferences and satisfaction for men and women in Britain. The work history data contains job histories which began with the first job after leaving

school, and cover all jobs thereafter to the time of the survey. The work history data is analysed to examine individual workers' job movement across gendered occupations.

The 1983 Occupational Mobility and Career Research Survey (1983 Shokugyo-ido to Keireki Chosa)

The 1983 Occupational Mobility and Career Research Survey (OMC) was conducted in Japan in February 1983. The OMC is one of the series of surveys on occupational mobility and careers by the Japan Institute of Labour.[1] The sample of the OMC is randomly selected women in Japan aged between 25 and 69. The valid sample size is 2490, of whom 1320 were in work and 1170 not. Of those in work, 664 were employees. The response rate was 83%. The OMC has both cross sectional data and work history data. The cross sectional data contains information of women's job preferences and job satisfaction, which can be compared with Britain. It also allows us to take account of the effects of personal characteristics and organisational characteristics. The work history data contains the events which began with the first job after leaving school, and covers all jobs thereafter to the time of the survey. We will use the work history data to analyse individual workers' job movement across gendered occupations and compare it with Britain.

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[1] The first survey was carried out in 1973 on men aged 20-69. Since then, there were four surveys conducted in 1975, 1981, 1983 and 1991. Only the last survey contains both men and women data. The relevant materials can be found in the working paper No. 77 of the *Koyo Shokugyo Kenkyusho* (1988), and the working paper No. 74, of *the Japan Institute of Labour* (1995).

The International Social Justice Project

The International Social Justice Project (ISJP) is a collaborative research project on the perception of justice, conducted in 12 different countries including Britain and Japan. The participant countries used identical questionnaires with questions in identical order, so that we can compare between Britain and Japan directly. The British survey was carried out between May 3 and July 17, 1991. It is a national representative sample of the population in Britain aged 18 years old and over. The sample size is 1319 of whom 577 were men and 742 were women. The response rate was 71.1% (Kluegel et al, 1995). The Japanese survey was conducted between July 17 and September 17, 1991. The Japanese sample size is 777 of whom 362 were men and 415 were women, with a relatively low completion rate of 51.8%.[2] The ISJP is used to analyse income. It provides not only the data for the actual level of individual income, but also the data for people's perception of the determinants of income. Information of relevant factors determining income, such as workers' personal characteristics and job characteristics, are available in the ISJP.

The Comparative Project on Class Consciousness Survey

The Comparative Project on Class Consciousness Survey (CPCC) is an international project of 15 different countries including Britain and Japan. Each country basically followed the core US survey, but may have country-specific questions. Thus, the data consists of common, equivalent, and country-specific parts (see Wright 1990). The British survey was carried out from 1 March 1984 to 3 July 1984. It is a random

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[2] In spite of the low response rate, the distributions of sex and age in the Japanese sample are not substantially different from the sample population, though the data slightly over-represents younger persons.

selection of persons of working age (men aged 16-64, women 16-59), who were not in full-time education and resident in Great Britain. The sample size is 1770 of whom 899 were men and 871 were women. The response rate was 62.5% (see Marshall et al, 1989). The Japanese survey was conducted between 21 February and 4 March 1987. A random sample was selected from men and women aged 20 and over who were living in the Tokyo metropolitan area (within 30km regions from the Tokyo station), excluding students. The achieved sample size is 823 of whom 360 were men and 463 were women. The response rate was 41.1%.[3] The CPCC provides data for various working conditions, such as job autonomy, supervisory responsibilities and promotion chances.

We will also use published data from two different surveys to examine the institutional differences between Britain and Japan - the Public Opinion Survey Regarding Equality of the Sexes (*Joseimondai-ni-kansuru Kokusai-hikaku-chosa,* Tokyo-to seikatu-bunka-kyoku 1993) and the Women's Employment Survey (*Joshi-koyokanri-kihon-chosa,* Ministry of Labour 1990, 1992).

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[3] As the Japanese sample was drawn from the Tokyo metropolitan area, it has the tendency to over-represent persons in the labour force, older persons, and women, compared to the Japanese Labour Force Survey or the Census, but this is mainly because of the exclusion of students from the sample(Harada et al 1988, Ushijima 1995). Also, compared to the census, the men's sample over-represents professional, technical, managerial and clerical workers, and significantly under-represents skilled, semi-skilled and unskilled workers. The women's sample significantly over-represents clerical, sales and service workers, slightly under-represents professional and technical workers, and significantly under-represents skilled, semi-skilled and unskilled workers (Ushijima 1995), and this might well distort the results of our analysis. In analysing the Japanese CPCC data to compare the situation between Britain and Japan, we take this into consideration, applying extra analysis, such as controlling for occupational distribution or enterprise size, to see whether we can confirm the results.

In comparing Britain and Japan using different data sets, it is important to obtain basic comparability for the variables and measurements used in the analysis. Effort is made to obtain as much comparability as possible, but we also use country-specific variables if this is necessary. Given the diversity of the data sources used and the specificity of some of the methodological issues to the particular data sets, detailed methodological discussion is introduced in the relevant chapters rather in an overview chapter on methodology. The description of variables, explanations of measurements and of methods of data analysis are provided the first time they are introduced. For the variables which need special attention for purposes of comparison - occupation, part-time/full-time status, educational qualifications, and work experiences - detailed explanation is given in Appendices A and B.

The plan of this thesis

The plan of this thesis is as follows;

Chapter 2 gives a basic description of the extent and form of women's integration into the labour market in Britain and Japan. We look at basic statistics, such as the labour force participation rates, the life-cycle pattern of the participation, the proportion of part-timers, the employment status, the distribution of workers across industrial sectors, and the distribution of workers across different occupations. We examine whether or not any converging trends can be found in the form of women's labour force participation for Britain and Japan.

Chapter 3 examines the difference in the extent and trends of occupational sex segregation between Britain and Japan. Firstly, various data and measurements are investigated. Secondly, using both the aggregate level and detailed level data, we

measure and compare the extent and trends of occupational sex segregation for Britain and Japan after 1970.

In Chapter 4, we examine what micro movements are producing the aggregate patterns found in Chapter 3, by using the work history data from the Employment in Britain Survey and the Occupational Mobility and Career Research Survey in Japan. The pattern of occupational sex segregation found in Chapter 3 is rather static, showing the structural differences between Britain and Japan. The purpose of Chapter 4 is to capture occupational sex segregation in a dynamic way by focusing on the behaviour of the individual workers who actually construct and maintain the macro patterns. Even if one country has greater occupational sex segregation at the aggregate level than the other, this does not necessarily mean that moving across gendered occupations is more difficult for the former country than the latter. Also, even if the extent of occupational sex segregation declined at the aggregate level, this does not necessarily mean that individual movement across gendered occupations became more fluid.

Examining individual movement across gendered occupations not only helps us to understand the aggregate pattern, but also allows us to understand the implications of occupational sex segregation for individual workers' experiences. If, for example, we found greater inflows into sex-typical occupations as compared to into sex-atypical occupations, this would suggest that workers' experiences in sex-typical occupations and in sex-atypical occupations are different. Or if we found random movements across gendered occupations, this would imply that there is little difference between these occupations from the points of view of workers. Also, in this chapter, we compare job movements between men and women in Britain as well as

between British women and Japanese women. We will try to interpret the patterns of job movements across gendered occupations found in this chapter through evidence examined in the following chapters.

Chapters 5, 6 and 7 examine the influences of occupational sex segregation on workers' experiences. Firstly, in Chapter 5, we investigate the impact of occupational sex segregation on men's and women's employment conditions in the British labour market. Although the negative impact of occupational sex segregation on workers' wage is reported in Britain (Millward and Woodland 1995), there is little research on the impact of occupational sex segregation on other aspects of employment conditions. Sex pay differential is no doubt an essential element of gender inequality, but gender inequality can be formed in other spheres of employment, and occupational sex segregation could well contribute to the inequality in these spheres. The Employment in Britain survey data allows us to examine the impact of occupational sex segregation on various aspects of employment conditions. Also it allows us to take account of various factors which influence employment conditions, such as human capital and organisational characteristics. We analyse hourly pay, fringe benefits, promotion chances, training chances, task influence, and job security. We ask the following questions. How does occupational sex segregation affect employees' working conditions? Does it affect men and women differently? We then consider the possible implications of the patterns that emerge for the nature of emplòyers' strategies and of individual job movements across gendered occupations.

Chapter 6 investigates whether the impact of occupational sex segregation on employees' experiences differs between Britain and Japan, using the International Social Justice Project data and the Comparative Project on Class Consciousness

survey data which have the same or equivalent questions for Britain and Japan. We will adopt a simpler method to analyse the impact of occupational sex segregation than the method of analysis in Chapter 5, due to the small sample sizes of the two data sets and the more limited number of relevant explanatory variables. Little research on occupational sex segregation can be found in Japan, and its impact on Japanese workers' experiences is yet unknown. Is occupational sex segregation a source of gender inequality in Japan as it is reported in the US and Britain? We investigate the factors emphasised in the employment systems in Britain and Japan, and examine the implication of the different employment system for the impact of occupational sex segregation on employment conditions.

Chapter 7 examines the involvement of workers in the construction and maintenance of occupational sex segregation by analysing job preferences and job satisfaction. We firstly examine men's and women's job preferences. Then we investigate the impact of occupational sex segregation on individual workers' job satisfaction. We use the Employment in Britain survey, and the Occupational Mobility and Career Research Survey in Japan.

Chapter 8 examines the social and economic institutions in Britain and Japan. They are gendered attitudes, household responsibilities, social security systems, employment systems, and labour laws. We examine how these institutional differences between Britain and Japan encourage (or discourage) employers and employees to construct and maintain occupational sex segregation, and how this in turn affects the patterns of occupational sex segregation in these countries.

Finally, Chapter 9 brings together the findings, trying to establish the link between individual-level explanation and institutional-level explanation. We discuss

what is the mechanism of occupational sex segregation in Britain and Japan, in what ways the different social and economic institutions in the two countries affect employers' and employees' behaviour, and how the differences in the institutional settings in turn affect the patterns of occupational sex segregation in these countries.

CHAPTER 2

THE EXTENT AND FORM OF WOMEN'S INTEGRATION INTO THE LABOUR MARKET IN BRITAIN AND JAPAN

Before examining occupational sex segregation in Britain and Japan in detail, this chapter overviews the extent and form of women's integration into the labour market in Britain and Japan, by exploring some descriptive data. We study the labour force participation rate, the share of part-time work, employment status, industrial distributions, and occupational distributions. One possibility is that the difference in the extent of occupational sex segregation reflects different stages of economic development in the two societies. Given that Japan is one of the late industrialised countries, one might suppose that the economic structure in Japan has not yet developed fully to absorb the potential female labour and to differentiate between men's work and women's work. Through investigating the change in the pattern of women's labour force participation and the change of the economic structure after the 1970s, we examine whether or not any converging trends can be found for the form of women's integration into the labour market in Britain and Japan.

Women's labour force participation in Britain and Japan

We will firstly look at the change in the labour market participation rates after 1970. Table 2.1 shows the labour force participation rates for men and women in Britain and Japan between 1970 and 1993.

Table 2.1 Labour force participation rates in Britain and Japan, 1970-1993

	British men	British women	*men-women*	Japanese men	Japanese women	*men-women*
1970	94.4	50.7	*+43.7*	89.4	55.4	*+34.0*
1980	90.5	58.3	*+32.2*	89.0	54.9	*+34.1*
1990	86.4	65.5	*+20.9*	87.8	60.4	*+27.4*
1993	84.0	65.3	*+18.7*	90.2	61.8	*+28.4*
70-93	*-10.4*	*+14.6*	*-25.0*	*+0.8*	*+6.4*	*-5.6*

Source: OECD Labour Force Statistics 1992, 1995

From Table 2.1, we can see that British women steadily increased their participation rate after 1970. On the other hand Japanese women showed little change in the 1970s, but after the 1980s, the participation rate started to increase. In 1993, British women were slightly more likely to participate in the labour market than Japanese women.

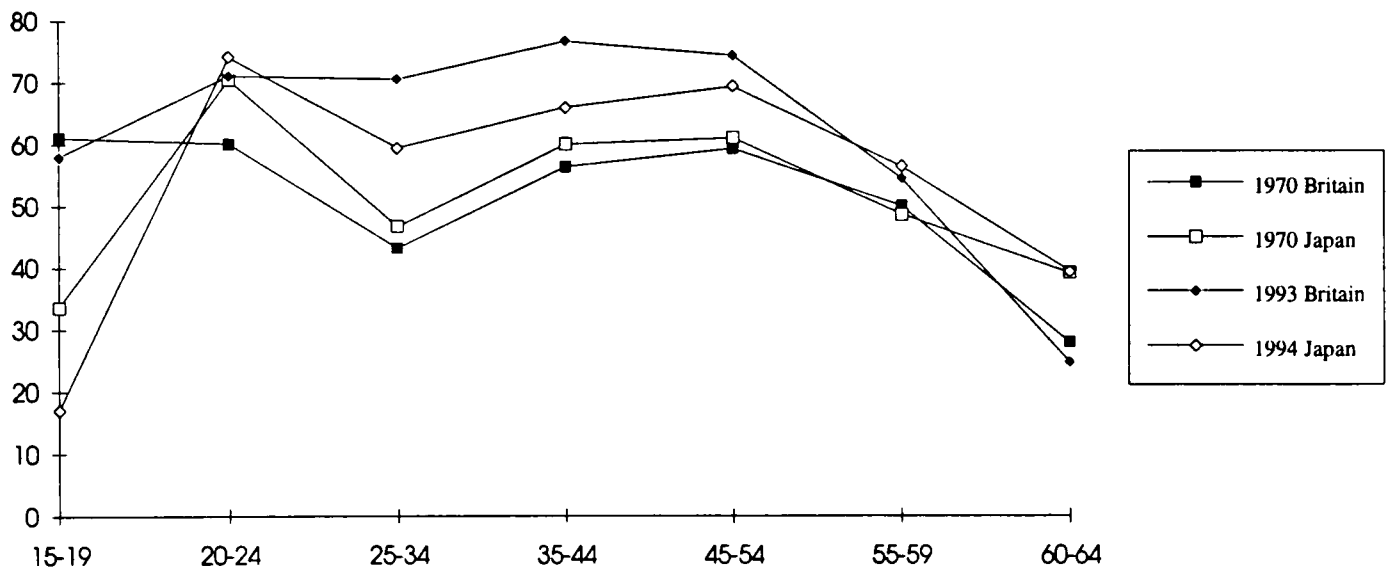
Many studies suggest that the change in the participation rate for Japanese women is distinct as compared to the Western Industrialised nations. Although not shown in Table 2.1, the labour force participation rate of Japanese women reached its peak in the 1960s, but since then it started to decline, mainly because the number of family workers in the agricultural sector decreased rapidly (see Roos 1985, Osawa, Machiko 1993, Takenaka and Kuba 1994). This cancelled out the effect of the trend towards an increase in the number of employees in the 1970s on overall participation.

There is an interesting contrast between these two countries when we look at the sex difference in the participation rates. For Japan, men's participation rate showed little change after 1970, while women's gradually increased after 1980. However for Britain, men's participation rate steadily dropped after 1970, while

women's participation rates substantially increased.[1] As a result, the sex difference in the participation rate decreased more rapidly in Britain than in Japan.

As women advanced into the labour market, their pattern of labour force participation changed. Figure 2.1 shows the age profile of the labour force participation rate for British women and Japanese women (the black lines indicate Britain and the white lines indicate Japan).

Figure 2.1. Female labour force participation rates



Source: OECD Labour Force Statistics 1992, 1995

In terms of Britain, there is a marked difference in the age profile between 1970 and 1993. Compared to the profile in 1970, the 1993 profile shows that substantially larger proportion of women in their 20s, 30s, 40s and early 50s participated in the labour force, and the curve is no longer in the M-shape. In terms of Japan, compared to the profile in 1970, the 1994 profile shows that firstly, the

[1] Hakim (1996) suggests that British men lost jobs mainly because of the structural change in the manufacturing industry, and that British women gained jobs in part-time jobs rather than in full-time jobs.

participation rate of the youngest age group significantly dropped,[2] and secondly, the participation rates for women in their late 20s, 30s, 40s and 50s substantially increased. Nevertheless, the age profile in 1994 still shows the M-shaped curve, which suggests that many Japanese women withdrew from the labour market upon marriage and childbirth.

In comparing between British women and Japanese women, the 1970 profiles for both countries do not show much difference, except for the youngest age group.[3] However, because of the dramatic change for British women after 1970, the 1990 profiles show some significant differences. The contrast can be particularly seen for those in the 25-34 age group. In Britain, in 1970, 43% of those aged between 25-34 were in the labour market, but in 1993, as much as 71% of these women participated in the labour force. While in Japan, the figure for 1970 is 47% and for 1994 is 60%, a significantly smaller change than that in Britain. Also, the 1990 profiles show that women in their late 30s, 40s and early 50s are more likely to participate in the labour market in Britain than in Japan.

Thus, in 1970, marriage and childbirth often led women to withdraw from the labour market for both Britain and Japan. However, since then, there has been a dramatic change for British women, and in the 1990s marriage and childbirth have little effect on British women's labour force participation. Whereas, for Japanese

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[2] This is because of the increase in the enrolment rate for higher education. In 1970, 70% of female junior high school leavers went on to high school (16-18 years old), but the figure in 1993 was 97%.

[3] The difference for Britain and Japan in the participation rate among the youngest age group can be also seen in the 1990s. This seems to be due to the fact that the percentage of the population around this age group who participate full-time education has been considerably higher in Japan than in Britain. (see Department of Education, *Education Statistics for the United Kingdom*, 1993 for Britain, and Ministry of Education, *Gakkon-kihon-chosa*, 1994 for Japan).

women, though a change can be seen after the 1970s, many women still leave the labour market upon marriage or childbirth, and after a break, they gradually return to the labour market.

The proportion of part-timers in Britain and Japan

Although women's labour force participation increased substantially, we cannot take this simply as the sign of increasing equality between men and women in the labour market. In fact, Hakim (1993b) suggests that the growth of female labour force which occurred in Britain in the post war period was brought about by the rise of part-time workers rather than full-time workers. Also in Japan, it is reported that the increase in women's participation rate was mainly brought about by the increase of part-time jobs (Takenaka and Kuba 1994, Tanaka 1996).

Table 2.2 Part-time employment in Britain and Japan, 1973-1994

	Britain			Japan		
	% PT in total employment	% women in total PT	% PT among women	% PT in total employment	% women in total PT	% PT among women
1973	16.0	90.9	39.1	13.9	70.0	25.1
1983	19.4	89.8	42.4	16.2	72.9	29.8
1994	23.8	83.6	44.3	21.4	67.5	35.2
73-94	*+7.8*	*-7.3*	*+5.2*	*+7.5*	*-2.5*	*+10.1*

Source: OECD Employment Outlook 1995
Note: for Britain, the part-time/full-time delineation is based on the respondent's own classification. For Japan, part-timers are defined as those who work less than 35 hours a week.

Table 2.2 shows the size of part-time employment in Britain and Japan and the change over time. In general, we can see that part-time employment has been growing for both Britain and Japan. It has developed particularly as women's work, but this is

more likely so for Britain than for Japan. Part-time employment had been developed among women earlier in Britain than in Japan, but the share of part-timers among Japanese women has been growing rapidly, so that the difference between British women and Japanese women has been decreasing.

The rise of part-time employment seems to contribute to the increase in the female labour force participation after marriage and childbirth which occurred in both countries. However, the fact that British women have developed the form of part-time employment earlier and more intensively than Japanese women seems to be reflected in the dramatic change in British women's labour force participation rates after 1970. Nevertheless, the share of part-time employment among Japanese women is expanding at a rapid rate, so that the M-shaped curve of their participation pattern could be further modified in the future.

Employment Status in Britain and Japan

When we looked at the change in the labour force participation rate for Japanese women, we briefly noted that the change was brought about by the two opposing trends - one is the decline of family workers and the other is the increase of employed workers. In fact, our data shows that in 1970, as many as three out of ten Japanese women worked as family workers. The form of family work which enables women to combine market work and domestic work has been popular among Japanese women. However, the share of family workers decreased rapidly after 1970 and it became 17% in 1990 (see Table 2.3). On the other hand, more than nine out of ten British women were employees in 1970, so that the rise in the participation rate after 1970 for British women was generated by the increase of employees.

Table 2.3 Employment status of workers in Britain and Japan, 1970-1990

		Britain			Japan		
		Employees	Self-employed	not specified*	Employees	Self-employed	Unpaid family workers
1970	total	92.2%	7.8%	..	65.0%	19.2%	15.8%
	men	89.3%	10.7%	..	71.6%	22.4%	6.0%
	women	95.8%	4.2%	..	54.8%	14.3%	30.9%
1980	total	91.9%	8.1%	..	71.9%	17.2%	10.9%
	men	89.1%	10.9%	..	77.3%	19.4%	3.3%
	women	96.1%	3.9%	..	63.3%	13.7%	23.0%
1990	total	86.0%	12.4%	1.6%	77.6%	14.1%	8.3%
	men	81.3%	17.0%	1.7%	81.1%	16.4%	2.5%
	women	92.0%	6.6%	1.4%	72.5%	10.7%	16.8%

Source: Labour Force Statistics, OECD, 1995
Note: * Trainees on work related government programmes are included.

It is notable that in 1990, men's employment status looked quite similar between Britain and Japan. This is because there was a shift from self-employed persons and unpaid family workers to employees among Japanese men. However women's employment status differed significantly. Although the proportion of employees for Japanese women rapidly increased after 1970, compared to British women, a large number of women in Japan still worked as unpaid family workers in 1990. It seems that the integration of women into the formal economy has not yet fully developed in Japan.

Industrial structures of Britain and Japan

As the economy develops, there generally occurs a shift from the primary sector to the secondary sector, and then from the secondary sector to the tertiary sector. While the secondary sector tends to provide job opportunities for men, the tertiary sector tends to

provide job opportunities for women, by incorporating traditional female tasks into the formal economy and enhance women's employment (Charles 1992, Osawa, Machiko 1993).

Table 2.4 Distribution of workers by industrial sectors in Britain and Japan, 1970-1990

		Britain			Japan		
		Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
1970	total	3.2%	44.8%	52.0%	17.4%	35.7%	46.9%
	men	4.1%	52.8%	43.0%	14.1%	40.2%	45.7%
	women	1.7%	30.7%	67.7%	22.5%	28.8%	48.7%
1980	total	2.6%	37.6%	59.7%	10.4%	35.3%	54.2%
	men	3.5%	47.8%	48.7%	8.7%	39.7%	51.5%
	women	1.3%	22.5%	76.2%	13.2%	28.4%	58.4%
1990	total	2.1%	28.6%	69.2%	7.2%	34.1%	58.7%
	men	3.0%	39.3%	57.7%	6.3%	38.6%	55.0%
	women	1.0%	15.3%	83.7%	8.5%	27.4%	64.1%
1970-1990							
	total	-1.1%	-16.2%	+17.2%	-10.2%	-1.6%	+11.8%
	men	-1.1%	-13.5%	+14.7%	-7.8%	-1.6%	+9.3%
	women	-0.7%	-15.4%	+16.0%	-14.0%	-1.4%	+15.4%

Source: Labour Force Statistics, OECD, 1992, 1995

Table 2.3 shows the distribution of workers in Britain and Japan across industrial sectors and its change over time. In general, in 1970, the tertiary sector was already the largest sector for both Britain and Japan, but the shift from the primary sector to the other sectors had not occurred for Japan as much as for Britain; the proportion of the primary sector for Japan was 17%, while it was only 3% in Britain. After 1970, a substantial shift occurred in Britain from the secondary sector to the tertiary sector, and the size of the tertiary sector became 69% in 1990. On the other hand, in Japan during the same period, a shift can be seen from the primary sector to the tertiary

sector, but the size of the secondary sector showed little change (less than 2%). As a result, compared to Britain, the size of the tertiary sector in Japan was relatively small, and that of the secondary sector was relatively large in 1990.

When we compare between Britain and Japan, men's distributions across industrial sectors became quite similar in 1990, though for British men this was the result of a shift from the secondary sector to the tertiary sector, while for Japanese men it was brought about by a shift from the primary sector to the tertiary sector. However, in terms of women, we can see considerable differences. For British women, there was a considerable shift to the tertiary sector from the secondary sector after 1970, and a high level of concentration in the tertiary sector (84%) can be found in 1990. On the other hand, for Japanese women, although a shift occurred to the tertiary sector, it was from the primary sector, but little shift was found from the secondary sector. In 1990, the extent of concentration into the tertiary sector for Japanese women was lower compared to British women (64%), but 9% of Japanese women still worked in the primary sector, and 28% of them worked in the secondary sector.

Summary

British women showed a dramatic change during the last two decades in their pattern of labour force participation, and at present their age-profile is no longer in the M-shape. However, the increase in the participation rate for British women were mainly brought about by the rise in part-time employment. Also, as noted, British women are highly concentrated into the tertiary sector. This suggests that although British women have increasingly participated in the formal economy, their form of integration is

quite segregated from men's. In other words, paid work may be a normal activity for British women, but still many seek their jobs which enable them to combine paid work with domestic work.

In terms of Japanese women, the number of family workers dramatically declined and the number of employees increased after 1970. Although part-time employment among women has been growing, the pattern of labour force participation still shows the M-shape curve, which suggests that after marriage and childbirth, many stop working, and then after a break, return to the labour market.

It is notable that although in 1970, we can see considerable differences between British men and Japanese men in their form of labour force participation (the share of the primary sector was substantially larger and the share of employed persons was considerably smaller for Japanese men than for British men), after then the patterns have converged. Their distributions across the three industrial sectors as well as employment status became quite similar in 1990. However, the real difference can be found for women's form of participation. For Japanese women, the share of the primary sector or family workers are still relatively large, though these are decreasing. Also the size of the secondary sector has remained large. While the proportion of employees and the size of the tertiary sector are very large for British women, these are relatively smaller and still developing for Japanese women.

Occupational Distribution

We have seen in the previous section that both British women and Japanese women have been increasingly integrated into the labour market. How is this reflected in the occupational distributions for men and women in the two countries? In this section,

we examine the change in occupational distributions since 1970. Also, we provide descriptive data to show which occupations are female occupations and male occupations in Britain and Japan. We look at both the horizontal aspect of occupational sex segregation (i.e., sex segregation across occupations) and the vertical aspect of occupational sex segregation (i.e., sex segregation in different grades of occupations) at the descriptive level.

Table 2.5 Male/female share in occupational groups in Britain and Japan, 1970-1993

		Britain				Japan			
		1971	1981	1993	*71-93*	1970	1980	1993	*71-93*
Professional, technical and related	%male	62	60	56		64	56	58	
workers	%female	38	40	44	*+6*	36	44	42	*+6*
Administrative and managerial	%male	92	77	67		95	93	91	
workers	%female	8	23	33	*+25*	5	7	9	*+4*
Clerical and related workers	%male	40	26	24		50	46	39	
	%female	60	74	76	*+16*	50	54	61	*+11*
Sales workers	%male	53	41	36		58	61	61	
	%female	47	59	64	*+17*	42	39	39	*-3*
Service workers	%male	30	33	34		44	45	46	
	%female	70	67	66	*-4*	56	55	54	*-2*
Production and related workers, transport	%male	83	85	85		73	74	71	
equipment, operators and labourers	%female	17	15	15	*-2*	27	26	29	*+2*
Total	%male	64	60	55		61	62	60	
	%female	36	40	45	*+9*	39	38	40	*+1*

Source: ILO Year Book of Labour Statistics, various years

Table 2.5 shows the female/male share in different occupational groups and the change after 1970. From Table 2.5 we can see that in 1970, a few differences can be found between Britain and Japan. Firstly, clerical occupations were more feminised in Britain than in Japan. Secondly, service occupations were also more feminised in Britain than in Japan. And thirdly, production occupations were more masculinised in

Britain than in Japan. However, since the 1970s, the differences between the two countries have become larger rather than smaller. Firstly, women's share in administrative and managerial occupations substantially increased in Britain after 1971, while these remained highly male-dominated in Japan. Secondly, sales occupations changed from male-dominated to female-dominated in the 1970s, and continued to be feminised in Britain thereafter, while they remained male-dominated in Japan. And thirdly, clerical occupations were further feminised in Britain, while the rate of feminisation of clerical occupations was relatively slow in Japan.

Thus, since 1970, British women have advanced into administrative/ managerial occupations, feminised sales occupations, and further feminised clerical occupations. On the other hand, Japanese women have not fully feminised clerical occupations, hardly increased their shares of administrative/managerial occupations and of sales occupations. Also the share of Japanese women in production occupations has remained relatively high.

Men's occupations and women's occupations in Britain and Japan

We have seen the difference in the distribution of men and women in highly aggregated occupational groups. In this section, we will use the detailed occupational classification in each country to see what are men's occupations and women's occupations in Britain and Japan. Firstly, we look at the occupations which are extremely male or extremely female in Britain and Japan. Jacobs (1989b) suggests that the work performed by men and women reflects the cultural definition of sex roles, but does the definition differ between Britain and Japan?

Table 2.6 Extremely male/female occupations in Britain

Extremely Male occupations	% male
Clerks of workers	100.00%
Face trained coal mining workers, shotfirers and deputies	99.81%
Slingers	99.72%
Paviors, kerb layers	99.64%
Vehicle body repairers, panel beaters	99.60%
Washers, screeners and crushers in mines and quarries	99.59%
Plasterers	99.56%
Scaffolders, stagers, steeplejacks, riggers	99.46%
Auto electricians	99.46%
Centre, capstan, turret and other lathe setters and setter-operators	99.44%

Extremely female occupations	% female
Midwives	99.52%
Medical secretaries	98.98%
Legal secretaries	98.90%
Other childcare and related occupations, nec.	98.83%
Typists and word processor operators	98.78%
Receptionist/telephonists	98.69%
Nursery nurses	98.53%
Beauticians and related occupations	97.38%
Other secretaries, personal assistance, typists, word processor operators, nec.	97.18%
Receptionists	97.00%

Source: British Census 1991, Economic Activity, Table 4
Note: The classification is based on the 371 unit groups.

We can see from Table 2.6 that basically, the distinction between extremely male occupations and extremely female occupations is based on "male tasks" and "female tasks". Typical "male tasks" in Britain mean those that require the knowledge of machine mechanics, physical strength, or tasks which involve some danger. On the other hand, typical "female tasks" mean those that involve caring for people, communicating with people, or manual dexterity. This is basically the same for Japan

as shown in Table 2.7. However, we can see that "male tasks" in Japan are particularly relevant to transport operations.

Table 2.7 Extremely male/female occupations in Japan

Extremely Male occupations	% male
Skippers, chief engineers and engineers of fishing boat	100.00%
Electric, diesel and steam locomotive engineers	100.00%
Train drivers	100.00%
Ship captains and navigators (except fishing boats) and pilots	100.00%
Pilots, aircraft navigators and engineers	100.00%
Marshallers, signallers, shunters and couplers	100.00%
Coal diggers	100.00%
Prop setters	100.00%
Mining underground carriers	100.00%
Ship carpenters	100.00%
Boiler engineers	100.00%
Electric power station and substation operators	100.00%
Line workers	100.00%
Track workers	100.00%

Extremely female occupations	% female
Public health nurses	100.00%
Midwives	100.00%
Clinical and sanitary experts	100.00%
Domestic maids	100.00%
Housekeepers	100.00%
Geisha and dancing partners	100.00%
Kindergarteners	99.21%
Telephone operators	97.11%
Nurses	96.74%
Dental technicians	94.79%

Source: Japanese Census 1990
Note: The occupational classification is based on the 293 unit groups.

We now turn to the occupations in which a large number of men and women are employed in Britain and Japan.

Table 2.8 10 most populous occupations for men and women in Britain

Men		
Total labour force	14,824,290	100%
Drivers of road goods vehicles	488,060	3.3%
Managers and proprietors in service industries nec.	481,470	3.2%
Metal working production and maintenance fitters	416,050	2.8%
Production, works and maintenance managers	408,420	2.8%
Carpenters and joiners	306,880	2.1%
Storekeepers and warehousemen	269,520	1.8%
Marketing and sales managers	245,250	1.7%
Electricians, electrical maintenance fitters	244,900	1.7%
Technical and wholesale sales representatives	210,460	1.4%
Other building and civil engineering labourers nec	206,460	1.4%
Women		
Total labour force	11,090,680	100%
Sales assistants	830,770	7.5%
Cleaners, domestics	660,760	6.0%
Other secretaries, personal assistants, typists, word processor operators etc.	619,400	5.6%
Clerks (not elsewhere specified)	523,220	4.7%
Accounts and wage clerks, book-keepers, other financial clerks	444,480	4.0%
Nurses	435,580	3.9%
Counter clerks and cashiers	297,460	2.7%
Managers and proprietors in service industries nec.	270,140	2.4%
Care assistants and attendants	265,710	2.4%
Primary (and middle school deemed primary) and nursery education teaching professionals	224,090	2.0%

Source: British Census 1991, Economic Activity Table 4
Note: The classification is based on the 371 unit groups.

Of the men in the 1991 British Census, more than one-fifth worked in the 10 most populous occupations classified by the 371 unit groups (see Table 2.8). The largest

occupation for British men is drivers of road goods vehicles. The 10 most populous occupations include managerial occupations, skilled and unskilled occupations.

As much as two-fifths of the British women in the 1991 census worked in the 10 most populous occupations. The largest occupation is sales assistants. Women are likely to be concentrated into clerical occupations, lower professional occupations, and unskilled occupations.

Table 2.9 10 most populous occupations for men and women in Japan

Men		
Total labour force	37,332,100	100%
General clerical workers	3,755,400	10.1%
Travelling commodity sale persons	1,973,000	5.3%
Automobile drivers	1,886,100	5.1%
Farmers and sericulturists	1,771,500	4.7%
Directors of companies	1,395,500	3.7%
Shop sales persons and sales clerks	1,065,600	2.9%
Cooks	783,400	2.1%
Retail dealers	777,200	2.1%
Construction labourers	760,900	2.0%
Travelling sales persons (except commodity, insurance and real estate)	747,000	2.0%

Women		
Total labour force	24,401,700	100%
General clerical workers	4,771,800	19.6%
Accounting clerks	2,090,000	8.6%
Shop salespersons and sales clerks	1,951,200	8.0%
Farmers and sericulturists	1,700,200	7.0%
Cooks	861,000	3.5%
Nurses	745,100	3.1%
Servants, waiters and waitresses	722,300	3.0%
Sewing machinists	593,900	2.4%
Electric machine assemblers	500,300	2.1%
Labourers not elsewhere classified	479,900	2.0%

Source: Japanese census 1990
Note: The occupational classification is based on the 293 unit groups

In terms of Japan, about two fifths of the men in the 1990 Japanese census worked in the 10 most populous occupations classified by the 293 unit groups (see Table 2.9). The occupation which employed the largest number of men is general clerical workers. The other occupations include sales occupations, managerial occupations, skilled and unskilled occupations, and service occupations.

As much as three-fifths of the Japanese women in the 1990 census worked in the 10 most populous occupations (Table 2.9). The largest occupation for Japanese women is general clerical workers. The other occupations include sales occupations, service occupations, lower professional occupations, and semi/unskilled occupations. It is notable that the 10 most populous occupations for Japanese women include manual occupations, though this is not the case for British women. This seems to reflect the economic structure in Japan that many women still work in the secondary sector.

Japanese women are more likely than British women to share the same occupations with men in the 10 most populous occupations. General clerical workers occupy the top position for both men and women in Japan. Also, within the 10 occupations, women and men in Japan share shop sales persons and sales clerks, cooks, and farmers and sericulturists. While in Britain, they share only one out of the 10 occupations; managers and proprietors in service industries not elsewhere classified.

However, this does not necessarily mean women's equal position to men's in these occupations in Japan, as it seems to be partly due to the difference in the occupational classification schemes between these countries. As we will see in the

next chapter (see Chapter 3, p61), the British occupational classification is based on the hierarchical features in work, while the Japanese occupational classification lacks this feature, but occupations are grouped according to the kind of work an employed person does. Also, it seems that the meaning of "manager" differs between these two countries; it takes much longer experience to reach managerial positions in Japan than in Britain. As can be seen from Table 2.10 which shows the median age for workers in different occupational groups, administrative/managerial workers in Japan are considerably older than the other workers, as compared to Britain. Even if men and women work in the same occupations in Japan, it is possible that their hierarchical positions within these occupations differ. For instance, in Japan, male clerical workers are in general those of potential candidates for administrative/managerial occupations, but among female clerical workers, it is more common to stop working upon marriage or childbirth. This is reflected in the fact that female clerical workers are substantially younger than male clerical workers in Japan as can be seen in Table 2.10.

Table 2.10 Median age for workers in different occupational groups in Britain and Japan

	Britain				Japan			
	Total	Men	Women	*men-women*	Total	Men	Women	*men-women*
Professional/ technical	38.6	39.3	37.8	*+1.5*	39.5	38.4	33.7	*+4.7*
Administrative/managerial	41.0	42.1	38.4	*+3.7*	52.3	52.1	53.9	*-1.8*
Clerical	35.2	33.3	35.8	*-2.5*	37.9	40.8	35.4	*+5.4*
Sales	35.7	34.4	36.4	*-2.0*	41.6	40.4	43.4	*-3.0*
Service	36.6	34.4	38.0	*-3.6*	41.9	38.9	44.1	*-5.2*
Production/transport	38.1	38.4	38.0	*+0.4*	43.1	42.0	45.4	*-3.4*
Total	38.4	38.8	38.0	*+0.8*	42.3	42.5	42.0	*+0.5*

Sources: British Census 1991, Japanese Census 1990
Note: Agricultural/forestry/fisheries workers are excluded, though in Britain, these workers in managerial occupations are included.

Table 2.10 also shows that median age varies by occupations more in Japan than in Britain. This is particularly so for Japanese women. For British women, the difference in the median age between the youngest occupations and oldest occupations is just 2.6 years, but for Japanese women it is as many as 20.2 years. Also, the age differences by sex in different occupations are larger for Japan than for Britain. This seems to indicate that recruitment and promotion systems in Japan are considerably biased by sex. For Japanese women, the average workers in professional/technical occupations and that in clerical occupations are substantially younger than their male counterparts, which may suggest that for these occupations, women occupy lower grade jobs, compared to men.

Vertical aspects of occupational sex segregation

We have discussed in the previous section that although men and women in Japan are likely to work in the same occupations, they might be hierarchically segregated within these occupations. In this section, we examine selected specified professional and executive occupations to examine the segregation pattern which differs in grades of occupations. Though we cannot obtain exactly the same title of occupational groups, we can find some correspondence between Britain and Japan.

Table 2.11 shows percent female in these occupations. We can see that in the 1970s, vertical sex segregation was considerably high for both Britain and Japan, but this is particularly so for Japan. Only 4% of judges, barristers, advocates and solicitors and just 1% of engineers in Britain were women in 1971, while at the same time 20% of local government officers, 21% of managers in large and small establishments were women. In Japan, only 2% of judges, prosecutors and lawyers, 1% of government

officials, less than 1% of engineers, and 2% of the managers of companies and corporations were women in 1970.

Table 2.11 Female share in top-ranked occupations in Britain and Japan, 1970-1990

Britain	1971	1981 a	1981 b	1991	Japan	1970	1980	1990
Judges, barristers, advocates, solicitors	4%	14%	15%	28%	Judges, prosecutors and lawyers	2%	3%	3%
					Other judicial workers	7%	10%	12%
General administrators: national government	12%	19%	19%	28%	Government officials	1%	1%	2%
Local government officers: administrative and executive functions	20%	31%	32%	52%				
Accountant, valuers, finance specialists, underwriters, brokers	4%	10%	10%	22%	Registered accountants and licensed tax accountants	3%	3%	7%
Personnel and industrial relations managers, O&M, work study officers	12%	29%	29%	55%	Directors of companies	8%	12%	13%
Managers; marketing, sales, advertising, public relations, purchasing	11%	16%	16%	31%	Directors of other corporations	3%	5%	5%
Other professional and supporting management	34%	43%	43%	53%				
Teachers in higher education: university, further, and higher education	25%	27%	26%	44%	Professors; college and university	15%	16%	19%
Medical and dental practitioners	18%	23%	23%	30%	Physicians	9%	11%	11%
					Dentists	11%	13%	13%
Biologist, chemist, physicist, mathematicians, other scientists	7%	20%	20%	29%	Natural science researchers	5%	6%	11%
Engineers; civil municipal, structural, mining, quarrying	*	*	1%	2%	Civil and surveying engineers	*	*	1%
Engineers; mechanical, aeronautical	1%	1%	1%	2%	Mechanical, aircraft and shipbuilding engineers	*	*	2%
Engineers; electrical, electronic	1%	2%	2%	8%	Electrical and electronic engineers	1%	2%	3%
Architects, town planners, quantity, building, and land surveyors	1%	4%	4%	7%	Architects	1%	2%	3%
Managers; large and small establishment	21%	23%	23%	31%	Managers of companies and corporations	2%	2%	4%
Average whole work-force	36%	39%	40%	44%	Average whole work-force	39%	38%	40%

Sources: British Census for 1971 1% sample England & Wales, for 1981a 10% sample England & Wales, for 1981b, 1991, 10% sample Great Britain. Japanese Census 20% sample for 1970 and 1980, 1% sample for 1990

However, for Britain, we can see a substantial increase in the share of women in the top ranked occupations after 1970, except for engineering occupations. For example, in 1991, 28% of judges, barristers, advocates and solicitors, more than half of local government officers and of personal and industrial relations managers, and nearly half of teachers in higher education were women in Britain. However, in Japan women's

shares of the top ranked occupations hardly increased. In 1991, only 3% of judges, prosecutors and lawyers, 2% of government officials, 4% of managers of companies and corporations, and 19% of professors in college and university were women in Japan. Thus, if we examine occupations at the top level, we can see greater segregation in Japan than in Britain, and the change for Japan is much slower than Britain.

Summary and Conclusion

During these two decades, British women have increasingly integrated into the labour market, particularly as part-time workers. At present the age-profile of the labour force participation is no longer in the M-shape, and many women continue working after marriage and childbirth. Their advancement into the economy, however, took a different form from men's. Nearly half of them work as part-timers, and they are concentrated into the tertiary sector. The feminisation of clerical occupations has further developed, sales occupations have been feminised, while production occupations have remained highly male-dominated. However, at the same time, as they have more advanced into the economy, women's shares of higher-grade occupations, such as professional occupations and administrative/managerial occupations have increased, and thus de-segregation has been occurring in terms of vertical occupational segregation.

On the other hand, the form of the labour market participation for Japanese women has shifted from unpaid family workers to employed workers during the last two decades. Like British women, as they have been more integrated into the formal economy, the share of part-time workers has increased. However, many Japanese

women at present still leave the labour market upon marriage or childbirth. During these two decades, little change has occurred in their occupational distributions, except that they have increased their share of clerical occupations. Women and men in Japan are likely to share the same occupations, but it seems that within these occupations, they are hierarchically segregated. The differences of median age for different occupational groups seem to suggest that women are concentrated into lower grade jobs. Top ranked occupations, such as administrative/managerial occupations and professional occupations are still highly male-dominated in Japan.

Thus, we can hardly say that the forms of the labour force participation for Japanese women and British women are converging. Rather, in terms of occupational distributions, the differences between them have been expanding with the former developing their share in clerical, sales, administrative/managerial occupations, while the latter showing much slower change.

Then, can we say that Japanese economy has not yet developed fully to absorb potential female labour to differentiate men's work and women's work? It is the case that the number of employed women in the tertiary sector in the economy, of which increase seems to have contributed to the feminisation of clerical occupations and sales occupations, and to the increasing share of women in administrative/managerial occupations in Britain, is still expanding in Japan. However, although Japanese women have actually expanded the number of employees and the size of the tertiary sector during these two decades, the responding change has only occurred in clerical occupations, but for other occupations, little change has appeared. Our results rather suggest that sex segregation within occupations might be the form which has absorbed

the increasing number of female workers in the Japanese labour market. Above all, vertical occupational sex segregation has remained very high in Japan.

We will investigate the extent of occupational sex segregation and the change over time in Britain and Japan in a more systematic way in the next chapter.

CHAPTER 3

THE EXTENT AND TRENDS OF OCCUPATIONAL SEX SEGREGATION IN BRITAIN AND JAPAN

Introduction

In the previous chapter, we briefly examined what are female occupations and what are male occupations in Britain and Japan by looking at descriptive data. In this chapter, we will provide more systematic analyses of the extent of occupational sex segregation and its change after the 1970s in Britain and Japan. From this chapter, occupations are not defined by their title, but they are distinguished by the extent of concentration of women (or men) within them.

In the previous chapter, we hypothesised that the extent of women's integration into the labour market would affect the pattern of occupational sex segregation. We actually found that the rapid increase of employed women in the service sector and in part-time work in Britain was associated with the feminisation of clerical and sales occupations, as well as the de-segregation of administrative/ managerial occupations. Also in Japan, women's advancement into the economy was related to the feminisation of clerical occupations, though the change was not so dramatic as for British women. Then, what change has occurred to the extent of occupational sex segregation at the level of entire population, as women increasingly integrated into the labour market?

In this chapter, we will firstly examine the measurements of occupational sex segregation. Secondly, using these measurements, we will systematically investigate

the extent and trends of occupational sex segregation in Britain and Japan after the 1970s.

Measuring the Extent and Trends of Occupational Sex Segregation

There are various studies that examine the extent and trends of occupational sex segregation. Some examine the trends in a single country (Jacobs 1989a, Hakim 1981), some compare the extent between countries (OECD 1980, 1985, Charles 1992, Shirahase & Ishida 1994, Rubery and Fagan 1995), or compare the trends between countries (Jacobs and Lim 1992). According to their research purposes, these studies use different methods to measure the extent and trends of occupational sex segregation. However, no clear consensus has been achieved among researchers on the methods to examine and compare the extent of occupational sex segregation (Blackburn et al 1993, Watt 1994, Charles and Grusky 1995, Siltanen et al 1995). This is because there are various methodological problems in measuring occupational sex segregation.

The fundamental problem is inconsistency in occupational data. It is reported that the more detailed the occupational classification is, the clearer, and therefore, the greater the extent of occupational sex segregation that can be found (Siltanen et al, 1995). However, the occupational classification scheme differs over time; some occupations disappear or emerge, some converge into broader categories, and some diverge to more detailed categories. This prevents us from seeing the pattern of occupational sex segregation systematically. Also, even if the same classification scheme is used, there is a possibility that the world described by the classification itself has changed (OPCS 1990b).

In comparing the pattern of occupational sex segregation between countries, the lack of consistency in the occupational classifications between countries prevents us from seeing the differences clearly. The International Standard of Classification of Occupations (ISCO) provided by the ILO is supposed to solve this problem by providing international consensus in the classification schemes. However the correspondence can only be found at the highly aggregate level rather than the detailed level, since some countries, including Britain, retain their own classification schemes, which have been developed with their particular national need in mind (OPCS 1990b). This is the reason why most of the comparative studies of occupational sex segregation use highly aggregate data (see for example, Jacobs and Lim 1992, Charles 1992).

Thus, it is preferable to use a common and detailed occupational classification to examine the trends of occupational sex segregation in a single country or to compare the extent between countries. However, because of the inconsistency of classification schemes in time and space, we often need to aggregate the original data, which may well result in losing substantial information.

Apart from the problem of occupational classification, there are problems of choosing between types of measurement. There are basically three methods to measure the extent of occupational segregation. The simplest method is to see the representation of one sex within occupations.[1] For instance, if 70 men and 30 women are employed in an occupation, this occupation is 70% male (or 30% female). We actually used this

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[1] Siltanen (1995) calls this as *concentration*, and conceptually separates it from *segregation*, arguing that segregation should refer to the separation of the two sexes across occupations.

method in the previous chapter, where we examined the shares of men and women in the ISCO broad occupational groups, or the shares of men and women in the occupations that are disproportionately represented by men and women. However, this method is inconvenient to obtain a summary picture of occupational sex segregation. This is particularly so, if there are many categories of occupations.

The best method to see the overall pattern of occupational sex segregation is to use a segregation index. A segregation index represents the overall degree of occupational sex segregation. By comparing the values indicated by the index, we can analyse the overall trends of occupational sex segregation and the differences in the extent of occupational sex segregation between countries. For example, we can examine whether the occupational structure of the British labour market has become more sex segregated or less sex segregated over time, or we can compare whether the British labour market is more sex segregated than the Japanese labour market.

There are various segregation indices. The most widely used is the Index of Dissimilarity (= ID, see for example, England 1981, OECD 1985 1988, Reskin and Hartmann 1986, Jacobs 1989a, Rubery and Fagan 1995). ID measures the degree to which two groups are unevenly distributed over a set of categories. The value of ID is easy to interpret; it indicates the proportion of women (or men) who would have to change occupations in order to be distributed in the same manner as men (see for example Jacobs 1989a, Charles and Grusky 1995). The formula of ID is;

$$ID = 1/2\sum_{i}^{I} |(F_i/F)-(M_i/M)|*100$$

where

I : total number of occupations

F_i : number of women in the ith occupation

M_i : number of men in the ith occupation

F : number of women in the total labour force

M : number of men in the total labour force

When trends are examined or the extent is compared across countries, the index of dissimilarity is often supplemented with a size standardised index of dissimilarity (= ID_S), because the index of dissimilarity is sensitive to the relative size of occupational groups. In comparing between Britain and Japan, this property of ID would be a problem. For instance, the relative size of production related occupations is considerably larger in Japan than in Britain, while the relative sizes of professional occupations, administrative/managerial occupations are larger in Britain and Japan.[2] The standardised index of dissimilarity indicates what the degree of segregation would be if all occupations were of equal size. In other words, in examining trends over time, ID_S indicates what changes over time would have occurred if there had been no change in the relative sizes of the occupations. In comparing between countries, it indicates what differences in the extent of occupational sex segregation would have been if there had been no difference in the sizes of occupations across countries. The formula for ID_S can be written as,

$$ID_S = 1/2\sum| ((F_i/T_i)/ \sum(F_i/T_i)-(M_i/T_i)/ \sum(M_i/T_i))|*100$$

where T_i : total number of men and women in the ith occupation, and other terms are defined as in ID.

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[2] In 1993, the size of production related occupations in Japan was 35%, while it was 23% in Britain. On the other hand, the size of professional/technical related occupations, and of administrative/managerial occupations for Britain were 19% and 16% respectively, but the corresponding figures for Japan were 12% and 4% respectively (ILO Year book of labour statistics 1995).

The standardised index of dissimilarity, however, has the property that it depends on the rate of female labour force participation (Charles and Grusky 1995). Charles and Grusky suggest that if the number of females in each occupation is multiplied by an arbitrary constant, the value of ID_S will typically change.

As an alternative measurement, which is not influenced by the differences in the occupational structure and female labour force participation, Charles and Grusky (1992, 1995) propose the Ratio Index (IR). The value of IR gives the sum of occupation-specific deviation from proportional representation of the sexes. The factor by which women in a given country are disproportionately represented in the average occupation is given by exp(IR). In a perfectly integrated market, IR=0 and exp(IR)=1. The formula of IR is;

$$IR = 1/I\sum|\ln(F_i/M_i)-(1/I\sum\ln(F_i/M_i))|$$

where

Fi : number of women in the ith occupation

Mi : number of men in the ith occupations

The Ratio Index is not, however, cost free; the value is undefined in a perfectly segregated labour market, or when F_i and/or M_i=0, because of the property of the formula (i.e., $\ln(F_i/M_i)$ is undefined if F_i and/or M_i=0). This is not a serious problem if we use aggregated data where this situation seldom happens. However when we use detailed data, it happens that some occupations are 100% female and some are 100% male. This is what we actually found in the previous chapter; some of the occupations in Japan are 100% male or 100% female. The inability to define the value seems to be problematic as these occupations, in particular, should be reflected in a segregation index.

The Marginal Matching Method (= MM), which is proposed by Siltanen et al (1995) is also neither affected by female labour force participation nor occupational structure. However, the occupational structure in this method refers to a "gender-grouped" occupational structure, rather than the occupational structure in a conventional sense. In MM, the occupations are grouped into either "male" or "female". The division between male and female occupations is chosen so that the marginal totals for gendered occupations are identical to marginal totals for the sex of workers (i.e., male occupations matched with men and female occupations matched with women). The relationship of segregation is the association between the two variables of the matched marginals table. This association is the relationship between the sex of workers and the gender of occupations. The formula for MM is;

$$MM = (F_f M_m - F_m M_f)/FM$$

where,

F_f : number of women in female occupations

M_m : number of men in male occupations

F_m : number of women in male occupations

M_f : number of men in female occupations

F : number of workers in female occupations = number of female workers

M: number of workers in male occupations = number of male workers

There are controversies on MM (Lampard 1994, Watt 1994). For instance, in MM, all "male" and "female" occupations are assumed to have the same sex composition, and therefore, it does not take account of different degree of "male" occupations and "female" occupations (Lampard 1994).

There are various other measures used by segregation research, such as the index of the probability of intergroup contact (see Jacobs 1989a, Jacobs and Lim 1992), the Gini-coefficient (see Siltanen et al. 1995), and Karmel and Mclachlan's index (see Watts 1993). Choosing one appropriate measure thus seems to be difficult. The best way is to choose between them according to the research purpose, and if necessary supplement one measure with another. Many researchers on the comparative study of occupational sex segregation, for example, use ID (Roos 1985, Jacobs 1989a, Jacobs and Lim 1992, Shirahase and Ishida 1994, Rubery and Fagan 1995), and supplement it with ID_S or other indices (Jacobs and Lim 1992, Rubery and Fagan 1995).

There is another method to measure the occupational sex segregation which focuses on the distribution of men and women across occupations classified by the degree of concentration (Hakim 1993a, 1996, Siltanen et al 1995). This measurement uses the same technique as the first method, e.g., calculating the sex composition within occupations. However, it groups occupations by the degree of concentration, so that we can obtain the information about large numbers of occupations in a more concise manner. For example, the measurement is used by Hakim's study (1993a), where she aggregated occupations and classified them into three groups, "female", "male" and "integrated". Hakim argues that the classification should be theoretically guided or policy oriented. She, for example, used 40%, which was the female share in the labour force as the mid-point and place "integrated" occupations within 15% width from the point. Therefore, female occupations are defined as those with more than 55% female workers and male occupations are defined as those with less than 25% female workers. Then, Hakim investigated the distribution of men, women, and

total workers across these three sex-typed occupations. However, Hakim's method may lead to different classifications of occupations, as it depends on the female share in the labour force, which differs over time and across countries.

We need to use the measurements which fit our purpose, i.e., examining the extent and trends of occupational sex segregation and compare them between Britain and Japan, as well as between men and women in each country.

The first measurement, i.e., the representation of one sex within occupations, seems not to be useful, as it is only helpful if we are interested in particular occupations, or occupational groups, as we saw in the previous chapter.

The second measurement, the segregation index, is the best to see the overall extent and trends of occupational sex segregation. However, it is only effective when we can obtain consistency in the occupational classification. For instance, in order to compare between Britain and Japan precisely, we need the same occupational classification between these two countries. Also, when we examine the trends of segregation accurately, it is necessary to have a consistent occupational classification over time. This is because the index value based on the aggregated data tends to provide a lower estimate of the extent of segregation than that based on the detailed data, as was mentioned earlier. Although the segregation index is able to capture the overall extent and trends of occupational sex segregation, it is not helpful for examining the difference between men and women, or at least, we need to decompose the index, in order to see the sex difference.

The third method, i.e., to examine the distributions of men and women across sex-typed occupations, is the most effective method to investigate men and women

separately, though in investigating overall trends, it is not as effective as the segregation index, since the interpretation of the results is not as simple as for the segregation index. Another advantage of this method is that we can obtain consistency in the occupational classification without losing information from the detailed data. Many studies on cross-country comparison of occupational sex segregation use highly aggregated data, such as the ISCO broad occupational groups. The basis of this aggregation is the detailed occupational data of each country, but the occupations in the original data are simply grouped to the broad occupational groups to which they belong to, so that the sex segregated nature of the original data might be lost. On the other hand, although the occupational classification in our third method takes the same basis, i.e., the individual country's detailed occupational data, the occupations are classified into broader groups according to percent female within them. Therefore, compared to the method which simply groups occupations to broad occupational groups, this method is more likely to reflect the segregated nature of original (detailed) data. Thus, without losing the original information, this method enables us to compare the situation between Britain and Japan.

In this thesis, we will use two kind of measurements, i.e., a segregation index and the distribution of men and women across occupations classified by percent female in them, to see the extent and trends of occupational sex segregation and compare them between Britain and Japan, as well as between men and women in each country.

Comparison between Britain and Japan

It is reported that the occupational classification scheme used in Britain has been based on the distinctions in the hierarchical features in work, and has been changing in order to retain its validity in this respect (OPCS 1990a). In the current British census, there are three levels of aggregation of occupations; 9 major groups, 77 minor groups, and 371 unit groups (see Appendix A, Table A.1). At the major group level, the most relevant criteria of the classification are "type of skill" and "level of skill", and at the minor group level, the criterion is "type of skill" rather than "level of skill" (OPCS 1990b). On the other hand, the current Japanese occupational classification used by the Japanese census does not have such a hierarchical feature. It consists of 10 major groups, 61 medium groups, and 293 minor groups (see Appendix A, Table A.2). These are grouped according to "the kind of work" an employed person does, which is rather a vague criterion, compared to Britain.[3]

It is difficult to find correspondence between the two countries at the major group level. For instance, in Japan, all the agricultural workers belong to a major group "agricultural, forestry and fisheries workers", while in Britain, they are hierarchically divided into two major groups, "managers and administrators" and "other occupations". Also, in Japan, physicians and nurses are in the same major group, "professional and technical workers", while in Britain, medical practitioners belong to "professional occupations" and nurses belong to "associate professions and technical occupations". Having seen these examples, it seems that "the kind of work" criterion for the Japanese classification is more similar to the "type of skill" criterion

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[3] This, however, seems to reflect the different notions of occupation and skill for Britain and Japan . We will discuss this issue in Chapter 8.

rather than "level of skill" criterion. Therefore, it is better to look at occupations at the minor group level.

There are two methods to find occupational correspondence between these countries. One is to match each country's occupations to the ISCO classification, and the other is to match each country's occupations directly. The former method is difficult at a detailed level, as international consensus is made at the highly aggregated level, rather than at the detailed level. For instance, we can find correspondence between the ISCO68 classification and the Japanese census classification after 1970 at the most aggregated level.

Matching each country's occupations directly is also difficult because different occupations are found between the two countries. The classification of occupations depends on the economic or cultural structure of each country. For instance, this might be a very particular case, but in Japan, we can find "*Tatami* (Japanese mat) installers", but cannot find any equivalence in Britain. Even if we can obtain some correspondence, we lose substantial information as far as matching occupations between countries requires aggregation of occupations. Moreover, even if the same occupational title can be found, the world described by the title might differ between Britain and Japan.

In considering the choices of the agents involved in the construction and maintenance of occupational sex segregation that will be discussed later in our analytical chapters, the occupations classified by each country's own scheme seem to be the most basic representative units. However, using different occupational classifications between Britain and Japan might well distort our results. How shall we cope with this dilemma?

We need to compare the extent and trends of occupational sex segregation between Britain and Japan, as well as between men and women. In order to compare the extent of occupational sex segregation between Britain and Japan, it is necessary to aggregate occupations even if this means that we lose information. We use two kinds of aggregated data. One is by the ISCO68 Major groups. They are,

0/1. Professional, technical and related workers
2. Administrative and managerial workers
3. Clerical and related workers
4. Sales workers
5. Service workers
6. Agriculture, animal husbandry and forestry workers, fishermen and hunters
7/8/9. Production and related workers, transport equipment operators and labourers
x Workers not classified by occupation

This data comes from the ILO Labour Force Statistics Table 2B, which is based on the census or the labour force survey of the two countries. We will exclude category "x" (workers not classified by occupations) to avoid the potential differences in the definition between Britain and Japan.[4] Although we might lose information by aggregating original data classified by each national scheme into these broad categories, using the ISCO68 major groups allows us to exclude the bias caused by the different occupational classification schemes between Britain and Japan.

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[4] For instance, a greater proportion of workers in Britain belong to the category "x" compared to Japan.

The second aggregation is made by percent female (or percent male) in occupations classified by each national census scheme. We will classify occupations into three groups "female", "male" and "mixed". Female occupations are defined as those where more than 70% of the workers are female, male occupations are defined as those where more than 70% of the workers are male, and mixed occupations are those in the middle. We could have used different groupings, but this classification is easy to understand as it has only three categories, it is not country-specific, and it is gender symmetrical. The same classification is used to analyse occupational sex segregation by American studies (Jacobs 1989b, Hakim 1993a, Rosenfeld and Spenner 1995). As have discussed, this aggregation does not lose the information from the original data, as it takes account of the sex composition in the detailed occupational data. However, it is not entirely free from the different classification schemes of Britain and Japan, as the information of sex segregation comes from the original data.

Our detailed-level data came from the census in each country. This gives further information of the extent and the trends of occupational sex segregation. However, it is not recommended to use this data to compare between Britain and Japan directly, since the classification differs between Britain and Japan. Therefore, the detailed data is only directly used to examine the trends of segregation within countries.

For the British census, the number of the minor occupational units changed considerably between 1971 and 1991 from 223 to 371. In examining the trends within Britain, this might well distort our results. As mentioned, it is preferable to use a common classification scheme to obtain reliable results. Though basically, in each

British census, occupations were classified by its own classification, the 1981 census has a table which re-classifies 1971 occupational data by the 161 unit groups of the OPCS 1980 classification. The OPCS 1980 classification is the one used in the 1981 census. Also, the 1991 census has a table which re-classifies the 1991 occupational data by the same 161 unit groups. Therefore, we will use the 161 unit groups of the OPCS 1980 classification as the detailed data to investigate the trends of segregation in Britain. In terms of Japan, the occupational classification between 1970 and 1990 has showed little change, and the numbers of the minor units show little variation.[5] Therefore, we will use each census's classification.

Then, how should we measure the extent and trends of occupational sex segregation? For the comparison of the extent of occupational sex segregation between Britain and Japan, we firstly use a segregation index. As mentioned, there are various segregation indices. They all indicate the degree of segregation but in different manners. For comparing the extent of occupational sex segregation between Britain and Japan and their trends over time, we use the ISCO68 major groups, and examine the values of the index of dissimilarity, the standardised index of dissimilarity, the ratio index, and the marginal matching method.

Also in investigating trends within the two countries, we use more detailed data classified by each national scheme. For Britain, we use the 1980 OPCS 161 unit occupational groups, and for Japan, each census occupational classifications. We apply the index of dissimilarity, the standard index of dissimilarity, and the marginal matching method to the detailed data. We avoid using the ratio index, as some

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[5] The number of occupational group was 284 in the 1970 census, and 296 in the 1990 census.

occupations are 100% female or 100% male in the Japanese data, so that the value of the ratio index is undefined.

Secondly, we will examine the distribution of men and women across "male", "mixed" and "female" occupations, using the aggregated data by percent female in occupations. This method supplements the segregation indices, as it is suitable to examine to what extent men and women are concentrated into these three types of occupations, and how it changed over time. Also, as mentioned, though we aggregate data, it has not lost the information of sex segregated nature of occupations from the original data, so that we can compare the situation between Britain and Japan in more detail than using the ISCO broad occupational groups.

For both aggregated and detailed data, we examine the data which include agricultural workers as well as the data which exclude them. As have seen in the previous chapter, the size of the agricultural sector considerably differs between Britain and Japan, although it has shown substantial change in Japan since 1970. Given the size and sex-neutral nature of this sector in Japan that was found in the previous chapter, the extent and trends of occupational sex segregation based on these two kinds of data might well differ.

Extent and trends of occupational sex segregation since 1970

Occupational sex segregation measured by the summary index

In this section, firstly, we will use the occupational data classified by the ISCO68 major groups to see the extent and trends of occupational sex segregation. Table 3.1 summarises the results. The results based on non-agricultural workers are shown in parentheses. From Table 3.1, we can firstly see that all the segregation indices show

greater values for Britain than for Japan, which means that the extent of occupational sex segregation is significantly higher in Britain than in Japan. This is true if we take account of the difference in the sizes of the occupational groups between Britain and Japan (see ID_S). The non-agricultural data shows the same result, so that the lower extent of occupational sex segregation in Japan is not simply due to its large agricultural sector.

Table 3.1 Indices of segregation in Britain and Japan using ISCO68 major occupational groups, 1970-1993 (non-agricultural data in parentheses)

	Britain					Japan			
	ID	IDS	Exp(IR)	MM		ID	IDS	Exp(IR)	MM
1971	0.42	0.43	2.80	0.40	1970	0.25	0.29	2.17	0.22
	(0.42)	(0.40)	(2.60)	(0.39)		(0.24)	(0.29)	(2.26)	(0.21)
1981	0.44	0.44	2.66	0.44	1980	0.25	0.27	2.04	0.23
	(0.44)	(0.41)	(2.51)	(0.44)		(0.26)	(0.30)	(2.18)	(0.24)
1993 *	0.37	0.33	2.11	0.35	1990	0.23	0.25	1.85	0.23
	(0.38)	(0.38)	(2.34)	(0.38)		(0.24)	(0.27)	(1.97)	(0.24)
71-93	*-0.05*	*-0.10*	*-0.69*	*-0.05*	*70-90*	*-0.02*	*-0.04*	*-0.32*	*+0.01*
	(-0.04)	*(-0.02)*	*(-0.26)*	*(-0.01)*		*(0.00)*	*(-0.02)*	*(-0.29)*	*(+0.03)*

Source: ILO Yearbook of Labour Statistics, various years.
Note: Data comes from the population census, except for 1993 Britain which is from the labour force survey.

Secondly, when we see the trends in Britain, every index shows declining trends. In particular a substantial decline can be found between 1981 and 1993. Again the same trends can be seen for non-agricultural data.

On the other hand, for Japan, the picture is not so consistent. The values of the index of dissimilarity, the standardised index of dissimilarity and the ratio index show

decreasing trends, while the marginal matching method shows increasing trends between 1970 and 1990. This is also the case for non-agricultural data.

We now turn to the detailed data (see Table 3.2). The detailed data for Britain and Japan came from census of population. For British data, we use the OPCS 1980 161 unit-group classification, and for Japanese data we use the 3-digit occupational classification of each census. First of all, it is noticeable that the values of all the indices are much higher than the values based on the ISCO68 broad categories. As we mentioned, this reflects the tendency that the more detailed data is used, the greater the extent of occupational sex segregation is to be found. As have discussed, we cannot compare the extent of occupational sex segregation between Britain and Japan using the detailed data, as we use different occupational classifications between the two countries. However, we can examine the trends within countries as the classification is consistent within countries.

Table 3.2 Indices of segregation in Britain and Japan using census occupational classification, 1970-1991 (non-agricultural data in parentheses)

	Britain				Japan		
	ID	IDS	MM		ID	IDS	MM
1971	0.66	0.64	0.62	1970	0.48	0.59	0.42
	(0.66)	(0.64)	(0.62)		(0.53)	(0.59)	(0.48)
1981a	0.65	0.60	0.63	1980	0.50	0.56	0.43
	(0.65)	(0.60)	(0.63)		(0.54)	(0.57)	(0.46)
1981b	0.65	0.60	0.64	1990	0.52	0.55	0.46
	(0.65)	(0.60)	(0.63)		(0.55)	(0.56)	(0.48)
1991	0.60	0.58	0.59				
	(0.60)	(0.57)	(0.59)				
71-91	*-0.06*	*-0.06*	*-0.03*	*70-90*	*+0.04*	*-0.04*	*+0.04*
	(-0.06)	*(-0.07)*	*(-0.03)*		*(+0.02)*	*(-0.03)*	*(0.00)*

Source: British census, England and Wales for 1971 and 1981a, Great Britain for 1981b and 1991. Japanese census 1970, 1980, and 1990.

In terms of Britain, again, we can see consistent trends from the three indices that the extent of occupational sex segregation decreased between 1971 and 1991.[6] In particular, the change can be found between 1981 and 1991. This is the same for non-agricultural data. In terms of Japan, again we cannot see any consistent trends between the segregation indices. The index of dissimilarity and the marginal matching method show increasing trends between 1970 and 1990, but the standardised index of dissimilarity show decreasing trends. This is basically the same for non-agricultural data.

Also for Japan, the trends indicated by the index of dissimilarity and the marginal matching method using the data based on the ISCO68 major groups and those using the 3-digit census occupational data sometimes show different directions. For instance, the value of the index of dissimilarity based on the 3-digit census data steadily increased, but that based on the ISCO68 data declined after 1980. This also happens for non-agricultural data. This result challenges Jacobs and Lim's "parallel lines" argument, where they suggest that the trends obtained from aggregate data correspond to the trends obtained from detailed data (Jacobs and Lim 1992).

In summary, the examination of the segregation indices showed that firstly the extent of occupational sex segregation is greater in Britain than in Japan. This result was supported by various segregation indices. Secondly, in Britain between 1971 and 1993, there had been decreasing trends of occupational sex segregation. In particular,

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[6] For Britain, we need to compare between 1971 and 1981a, and between 1981b and 1991, as the former data based on England and Wales, and the latter data based on Great Britain.

the change can be found after the 1980s. These trends can be seen for both the aggregated data and the detailed data. However, in Japan, no consensus can be found for the trends of occupational sex segregation among various indices as well as between the data based on the ISCO68 major groups and that on the 3-digit census classification.

Distribution of men and women across sex-typed occupations

We will now examine to what extent men and women are employed in occupations predominantly done by their own sex, how the extent has changed over time, and how much the extent differs between Britain and Japan. In so doing, we will look at the distribution of men and women across three sex-typed occupations, which are classified according to percent female (or percent male) in the original occupations in each national census (see Table 3.3).

Firstly, we will look at the British data which includes agricultural workers. We need some caution in examining the results for Britain, since for the 1971 census, the OPCS80 classification is only available for England & Wales[7], and for the 1991 census it is only available for Great Britain. However, the 1980 census has the data based on both England & Wales(1980a) and Great Britain(1980b), so that we can examine the trends by comparing between 1970 and 1980a, and between 1980b and 1990. In terms of the distribution of workers, we can see that there was a gradual shift from male occupations to mixed occupations and to female occupations after 1971.[8] For British men, between 1970 and 1980a, the proportion of workers in male

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[7] This information is available in the 1981 British Census, Table A.

[8] In the British labour market after the 1970s, the sizes of the service sector and of part-time employment expanded, and this seems to have contributed to the feminisation of occupations.

occupations slightly decreased, but that of mixed occupations slightly increased. Between 1980a and 1990, there was a further shift from male occupations to mixed occupations for British men. For British women, little change can be found in the 1970s, but in the 1980s, there was a slight shift from female occupations to mixed occupations. In comparing men and women in Britain, in 1971, men were much more segregated than women. However, the difference had become smaller over time, as men shifted from male occupations to mixed occupations. Basically, the same result can be found for non-agricultural data in Britain.

Table 3.3 Distribution of men and women across sex-typed occupations in Britain and Japan, 1970-1991 (non-agricultural data in parentheses)

	Britain	male occupation	mixed occupation	female occupation		**Japan**	male occupation	mixed occupation	female occupation
1971	workers	54% (52%)	26% (27%)	20% (21%)	1970	workers	39% (47%)	53% (43%)	8% (10%)
	male	77% (77%)	19% (19%)	4% (4%)		male	57% (65%)	41% (33%)	2% (2%)
	female	12% (11%)	40% (40%)	48% (49%)		female	9% (12%)	72% (62%)	19% (26%)
1981a	workers	49% (47%)	30% (31%)	21% (22%)	1980	workers	41% (45%)	51% (46%)	8% (9%)
	male	74% (73%)	22% (23%)	4% (4%)		male	60% (65%)	39% (34%)	1% (1%)
	female	11% (10%)	42% (43%)	47% (47%)		female	10% (11%)	72% (68%)	18% (21%)
1981b	workers	49% (48%)	20% (20%)	31% (32%)	1990	workers	42% (45%)	45% (41%)	13% (14%)
	male	74% (73%)	17% (17%)	9% (10%)		male	62% (66%)	34% (30%)	4% (4%)
	female	11% (10%)	24% (25%)	65% (65%)		female	11% (12%)	61% (57%)	.28% (31%)
1991	workers	42% (41%)	25% (25%)	33% (34%)					
	male	67% (65%)	23% (24%)	10% (11%)					
	female	10% (10%)	27% (27%)	63% (63%)					

Sources: British Census for 1971 1% sample England & Wales, for 1981a 10% sample England & Wales, for 1981b, 1991, 10% sample Great Britain. Japanese Census 20% sample for 1970 and 1980, 1% sample for 1990

We now turn to the Japanese data including agriculture. It is notable that the proportion of workers in mixed occupations is substantially larger in Japan. Over half of the workers in 1970 were in mixed occupations. Although the proportion gradually declined, 45% of the workers in 1990 still worked in mixed occupations in Japan. After the 1980s, the proportion of workers in female occupations slightly increased.[9] In comparing between 1970 and 1980, for Japanese men, we can see a slight increase in the proportion of workers in male occupations. After the 1980s, for Japanese men, we can again see a small increase in the proportion of workers in male occupations, and a slight decline in the proportion of workers in mixed occupations. Also, the proportion of workers in female occupations for Japanese men slightly increased in the 1980s. For Japanese women, between 1970 and 1980, little change can be found. However, in the 1980s, a substantial shift occurred from mixed occupations to female occupations. In comparing men and women, Japanese men are much more concentrated into male occupations than Japanese women are into female occupations; in 1990, 63% of men were in male occupations, but only 28% of women were in female occupations.

Unlike Britain, the Japanese non-agricultural data shows different patterns from the data including agriculture. This difference seems to reflect the sex-neutral nature of agricultural work. Firstly, the data shows that the proportion of workers in mixed occupations is substantially smaller, but the proportion of workers in male occupations is larger than when agricultural workers were included. Secondly, the extent of segregation for both men and women is greater for non-agricultural data; men are more likely to be found in male occupations, so are women in female

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[9] This seems to be relevant to the fact that the sizes of employees and of service sector for Japanese women expanded, during the period.

occupations. Third, for men, little change can be found in their proportion in male occupations between 1970 and 1990, but in the 1980s, their proportion in female occupations slightly increased. For women, between 1970 and 1980, there was a shift from female occupations to mixed occupations, but after 1980, the reverse shift occurred.

Finally, we will compare Britain and Japan. Firstly, we can see that in Britain, both men and women are concentrated into sex-typical occupations, but in Japan, this can only be seen for men but not for women. Women in Japan are likely to be found in mixed occupations rather than in female occupations. Secondly, when we compare between British men and Japanese men, the difference in their distributions across sex-typed occupations have become similar over time with the former shifting to mixed occupations. However, this is not the case for women; British women have kept highly concentrated into female occupations, but the size of female occupations for Japanese women has remained small. It seems that Japanese women are concentrated into mixed occupations, but given the range of mixed occupations (31-69%) which is wider than female occupations (70-100%), the proportion of Japanese women in mixed occupations is not particularly large. We can at least say that Japanese women are not concentrated into female occupations. Thirdly, Britain has decreased the extent of occupational segregation since 1971, and this has been generated mainly by men shifting from male occupations to mixed occupations. On the other hand, it seems that Japan has started to increase the extent of occupational segregation after the 1980s, with a considerable proportion of Japanese women shifting from mixed occupations to female occupations, although there has been a slight shift from mixed occupations to female occupations for Japanese men.

Summary

We have examined various data and measurements to obtain the picture of the extent and trends of occupational sex segregation in Britain and Japan. We used two levels of data - one based on the ISCO68 major groups, and the other on each census 3-digit classifications - and examined various summary indices, as well as examining the distribution of men and women across sex-typed occupations. As a result, we found that the extent of occupational sex segregation is lower in Japan than in Britain. We further investigated why it is lower in Japan than in Britain, and found that this is because of the difference in the distributions of women across sex-typed occupations. British women are concentrated into female occupations, while this is not the case for Japanese women. In Britain, 63% of women were employed in female occupations in 1991, but in Japan, the corresponding figure is 28% in 1990. However, men's distribution across sex-typed occupations has become similar over time between Britain and Japan, though British men are slightly more likely to work in female occupations than Japanese men.

In terms of the trends of occupational sex segregation, the segregation indices showed decreasing trends for Britain after the 1970s. The examination of the distributions of workers across sex-typed occupations showed that this was mainly generated by British men shifting from male occupations to mixed occupations. British women also slightly shifted from female occupations to mixed occupations in the 1980s. Thus, for both men and women, neutralising trends can be found for Britain. On the other hand, for Japan, the segregation indices did not show any consistent trends. However, the distribution across sex-typed occupations showed that

after 1980, for Japanese women, a considerable shift from mixed occupations to female occupations can be found. While for Japanese men, there occurred a slight shift to female occupations in the 1980s.

As we found in the previous chapter which examined the pattern of women's integration into the labour market, women, but not men, again showed different patterns of labour market participation. Men's distributions across sex-typed occupations were different in the 1970s, but the patterns for British men and for Japanese men started to converge after then and became quite similar in 1990. Although British women gradually increased the share of mixed occupations after the 1970s, and Japanese women increased the share of female occupations after the 1980s, their distributions across sex-typed occupations differ substantially. As we noted in the previous chapter, it might be argued that Japanese women will further increase the share of female occupations, as there is more room for employees to increase relative to other types of workers and for the service sector to develop. However, the large size of mixed occupations for Japanese women seem to imply that they have been integrated into the labour market through occupying the lower grades of the same occupations as men, rather than through occupying different occupations from men. We will further investigate this issue in Chapter 6 and Chapter 8.

CHAPTER 4

OCCUPATIONAL SEX SEGREGATION AT THE LEVEL OF INDIVIDUALS

Introduction

In the previous chapter, we examined the difference in the extent and trends of occupational sex segregation between Britain and Japan, as well as between men and women in each country at the *aggregate* level. The findings are, firstly, that the extent of occupational sex segregation is substantially greater in Britain than in Japan. Secondly, both British men and British women are concentrated into sex-typical occupations, although in Japan, it is only the case for men but not for women. Thirdly, since the 1970s, Britain has been decreasing its extent of occupational sex segregation, while no consistent change in the extent of occupational sex segregation can be found for Japan.

In this chapter, we will examine occupational sex segregation at the *individual* level. Does the greater extent of occupational sex segregation in Britain than in Japan at the aggregate level mean that it is more difficult for British workers than for Japanese workers to enter and stay in sex-atypical occupations? Do the decreasing trends of occupational sex segregation in Britain at the aggregate level mean that it has become easier for individual workers in Britain to enter and remain in sex-atypical occupations? The results found in the previous chapter do not tell the micro or individual actions that underlie the macro stability or change. The picture at the aggregate level might be static, but it may be more dynamic at the individual level. Jacobs (1989b), for instance, suggests that in the US, though occupational sex segregation is stable at the aggregate level, it is much more fluid at the micro or individual level. Also, even if there is a decline in the extent of occupational sex segregation at the aggregate level, this does not

necessarily mean that entering sex-atypical occupations has become easier for individual workers. For instance, the decline might be simply generated by the structural influence which changed the distribution of sex-typed occupations, or by cohort-replacement that younger workers enter less segregated occupations than older workers, but within cohorts there may be no change in their tendency to work in sex-typical occupations or in sex-atypical occupations.

As far as social change occurs as the aggregate of individual actions, it is necessary to see individual movements across gendered occupations. This is particularly so with regard to the implication of occupational segregation for the experiences of men and women in the labour market. For instance, if individual men and women randomly change jobs between sex-typical occupations and sex-atypical occupations, we cannot apply supply-side explanations successfully, since these assume systematic patterns of movements. We would rather need to focus on demand-side or structural explanations, given the stability of occupational sex segregation at the aggregate level. However, if there are any systematic movements for individual workers between sex-typical and sex-atypical occupations, this would imply that the experience in sex-typical occupations and in sex-atypical occupations differs. The difference would induce individual workers to enter, stay or leave these occupations.

Since we try to explain the mechanism of occupational sex segregation in the following chapters at the individual level by focusing on the implication of occupational sex segregation for individual workers' experiences, we need to find out whether men and women randomly change their jobs between sex-typical occupations and sex-atypical occupations, or systematically move between them. If the movements are not random, we will investigate further whether the patterns of movements between sex-

typical occupations and sex-atypical occupations differ between Britain and Japan, as well as between men and women.

Approaches to individual job mobility

In order to see the individual movements across gendered occupations, longitudinal data analysis is necessary. Jacobs (1989b), for instance, found in the US labour market that though occupational sex segregation is very stable at the aggregate level, it is much more fluid at the micro or individual level. In Britain, Scott and Burchell (1994) also found that there is less occupational sex segregation at the individual level than the aggregate level. According to their study, a considerable proportion of women spent their career life in both sex-typical and sex-atypical occupations.

Individual mobility (or immobility) across sex-typed occupations is often captured by comparing two time points or two career stages of individual workers (Jacobs 1989b). However, by doing this, the movements that have taken place between the two points of time are ignored; there is a possibility that even if an individual worker shows immobility at time B compared to at time A, he/she might have moved across sex-typed occupations between A and B. This might be a problem, if our interests lie in examining the systematic nature of the movements between sex-typical occupations and sex-atypical occupations. Also, taking two points of time might cause a sampling error, since those who do not have jobs at both A and B are excluded from the analysis.

Another approach to individual mobility is to examine the types of careers of individual workers. For instance, Scott and Burchell (1994) distinguished several career types, such as "only male", "male and mixed", or "male and female" etc. This method has an advantage over the previous one in that every individual worker can be taken into

consideration. However, in Scott and Burchell's study, a person who had a short experience in the labour market can be categorised in the same way as a person who had a longer or continuous employment. Moreover, even if having the same length of employment, a person who worked in both sex-typical and sex-atypical occupations, but only a small part of whose career was spent in sex-atypical occupations, is categorised as the same as a person who worked half of his/her career in the former and half in the latter. In order to understand occupational sex segregation at the individual level, this is problematic. For instance, for the latter case, the career of the former person should be regarded as more segregated than the career of the latter. At the least, we need a more detailed classification of gendered careers to distinguish between them.

An alternative approach to individual mobility is to examine the patterns of job movements across sex-typed occupations, using job shift data (Rosenfeld & Spenner, 1995). Rosenfeld and Spenner (1995) restructured work history data into records based on jobs, so that the pattern of job shifts across sex-typed occupations could be examined. This method does not require that women be employed on two specific time points or have continuous employment. However, as it is based on a job rather than an individual worker, it reflects all job shift patterns across individual career trajectories.

It depends on the purpose of research which method should be taken. In this chapter, we are interested in examining whether individual workers show systematic movements between sex-typical occupations and sex-atypical occupations, and whether the patterns of the movements between sex-typical occupations and sex-atypical occupations are different between Britain and Japan, as well as between men and women. In so doing, the best way is to take account of every job movement in the individual job histories. We count the occurrence of every job shift, and look at the

patterns of the movements. Therefore, a job is the unit of analysis, rather than an individual worker or an individual career pattern. However, we will also consider the impact of the patterns of job movement on individual workers' careers in the last part of this chapter, by looking at job duration in sex-typed occupations and the frequency of job shifts.

Comparison between Britain and Japan

Individual job mobility can be influenced by both structural factors and individual factors. For instance, if male occupations are more available, there might be more movements into male occupations. In comparing between men and women, and Britain and Japan, excluding structural factors is necessary, since the distributions of male/mixed/female occupations differ between men and women as well as between Britain and Japan, as we have seen in the previous chapter. We have to distinguish between "gross" movements and "net" movements. "Gross" movements are the movements which include the influence of both structural factors and individual factors. On the other hand "net" movements are those where structural factors are controlled. Distinguishing between "gross" movements and "net" movements is important when we compare two countries where different labour market structures exist. Also, if we find no systematic movement across sex-typed occupations (or find random movements across them) after controlling for the structural factors, this would imply the ineffectiveness of the supply-side explanation, since the individual workers here are just responding to their circumstances. In this case, the aggregate change would be simply generated by structural factors, or demand-side factors, or the factors external

to individual workers. Thus, distinguishing between "gross" movements and "net" movements are particularly important for our following analytical chapters.

We have some limitations in comparing between Britain and Japan. The first limitation comes from data. The data used for Britain comes from the Employment in Britain Survey (EIB) which was conducted in 1992, and for Japan, it is drawn from the Women's Occupational Mobility and Career Survey (OMC), carried out in 1983, both of which have retrospective work history data. For both data sets, the coding scheme is basically the same; job histories begin with the first job after leaving school, and cover all jobs thereafter to the time of the survey. Even if the respondent did not change their organisations or establishments, if the job title or job content was changed, this was counted as one event. However, the British data and Japanese data have different samples. Though the Japanese data includes both economically active and non-active samples, the British data lacks a sample of economically non-active. Excluding the non-active sample might cause an estimation error about the job movements between sex-typical and sex-atypical occupations. However, given the absence of a non-active sample in the British data, the only way to make the two data sets comparable is to exclude non-actives from the Japanese data. Therefore, we need some caution in interpreting the results.

Secondly, the British data permits a comparison between men and women. On the other hand, the Japanese data only includes women, and therefore, it is only women that can be compared between Britain and Japan. However, Chapter 2 and Chapter 3 have shown that it is between British women and Japanese women that we found the substantial difference in labour market behaviour, not between British men and Japanese men. In this sense, it is not so crucial that we lack the data for Japanese men.

The third limitation is that the Japanese survey was conducted nine years before the British survey, and these nine years seem to be crucial with regard to women's employment, so that direct comparison seems to be difficult. Nevertheless, unlike cross-sectional data, work history data provides information from the beginning of the first job. Therefore, it is possible to compare the two countries, if we focus on a particular time period.

The fourth limitation comes from sample representation of our job shift data. Since we take a job as the unit of analysis rather than an individual worker, those who experienced more job shifts are counted more than those with less movements. However, as our interests lie in examining the patterns of job movements across sex-typed occupations in the actual labour market, there is no reason that a person who experienced more movements should be given equal weight to a person who experienced less movements. If the original sample is the representative sample, the patterns found in the job shifts are also supposed to represent the patterns of job shifts in the labour market.

The last limitation concerns data reliability, as the work history data is retrospective. It is not certain that people remember the past event as well as the present event. Also, people tend to remember the longer events rather than the shorter events. However, as the coding scheme for the British data and Japanese data is the same for the work history data, we cannot find any plausible reasons for the differences in these tendencies between British men and British women, as well as between British women and Japanese women.

Apart from problems about data, we have a measurement problem. How shall we classify each job event in the job histories into sex-typed occupations? As in the

previous chapter, we will take the measure of occupational segregation which is based on the percentage female or male in an occupation. According to the percentage, occupations are classified into three groups; "female", "male" or "mixed". Female occupations are defined as those where more than 70% of the workers are female, male occupations are those where more than 70% of the workers are male, and mixed occupations are those in the middle. This classification is rather arbitrary, as this is not derived from the empirical investigation. In other words, the classification itself can be of research interest.[1] However, we use this classification for the following reasons; firstly, we compare two countries, Britain and Japan, so it is helpful to have the same classification. Secondly, we also compare between men and women in Britain, so it is preferable to have a gender-symmetric classification. Thirdly, we apply the classification to events that have occurred at different times, so that it is better to have classification which is independent of time. And finally this classification is often used by American researchers of occupational sex segregation (Jacobs 1989b, Rosenfeld & Spenner 1995).

For Britain, Census data for 1971, 1981, and 1991 are used to calculate the percentage, all of which have the occupational data coded by the 161 unit groups of the OPCS 1980 occupational classification. Each job in each respondent's job history in the British data is coded by this classification, so that the percentage from each census can be attached to each job. For the job histories from 1965 to 1974, we attach the percentage based on the 1971 Census, for the job histories from 1975 to 1984, the percentage based on the 1981 Census was attached, and for the job histories after 1985, the percentage based on the 1991 Census was attached. For Japan, we use the same method to measure occupational segregation. Since each job in the job histories of the

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[1] See for example, Jacobs (1989b) and Chan (1997).

Japanese data is coded by the 1980 Census occupational classification which has 285 categories, we reclassified the 1970 Census occupations according to the 1980 Census classification, and then calculated the percentage female or male from each census. For the job histories from 1965 to 1974, we attached the percentage from the 1970 Census, and for the job histories after 1975, the percentage from the 1980 Census was attached.

In this chapter, we will firstly examine whether there are any systematic movements between sex-typical occupations and sex-atypical occupations. As mentioned, if we find systematic movements, this would imply that the experience in sex-typical occupations and that in sex-atypical occupations for individual workers are different. Then, the movements will be compared between British men and British women, as well as between British women and Japanese women. Secondly, we will examine the change in the patterns of the job movements after 1965. Are there any parallel changes between the aggregate-level occupational sex segregation and the individual-level occupational sex segregation? For instance, in the 1980s, a substantial decline in the extent of occupational sex segregation occurred in Britain, but did a decline occur at the individual level as well? Thirdly, we will investigate the relation between occupational sex segregation and out-of-employment activities. This is to further explore the possible differences in the experiences of workers in sex-typical occupations and in sex-atypical occupations. Finally, we will investigate the influence of the patterns of job movements on individual workers' careers. In so doing, we will examine job duration in sex-typed occupations as well as the frequencies of job changes.

Job mobility across sex-typed occupations

Job mobility in Britain: 1965-1992

We firstly examine the British case. Our interest here is in investigating whether there are any systematic movements across sex-typed occupations for British men and British women. Also, we will examine whether there are any differences in the patterns of job movements between British men and British women. We firstly look at the pattern for British men.

Table 4.1 Job shifts across sex-typed occupations for British men, 1965-1992

Reference jobs	Next jobs			
	Male occupations	Mixed occupations	Female occupations	No. of job shifts
Male occupations	86.4%	10.3%	3.3%	7036
Mixed occupations	34.9%	60.1%	5.0%	1996
Female occupations	32.7%	16.5%	50.8%	953
Total				9985
N=2713				

Source: The Employment in Britain survey

Table 4.1 shows men's gross movements across sex-typed occupations which occurred between 1965 and 1992. In this table, the row categories show the sex-type of the reference job and the column categories show the sex-type of the next job. From the table, firstly, we can see a tendency to change jobs within the same sex-typed occupations, but the tendency depends on whether the jobs are in sex-typical occupations or in sex-atypical occupations; as much as 86% of the changes from male occupations were to male occupations, but the figure for the changes from female occupations to female occupations is 51%. Thus, there is greater attrition of female occupations than of male occupations. Related to this point, secondly, when we see the movements between sex-typical and sex-atypical occupations, we can see that the

movements from female occupations to male occupations are much more frequent than the opposite movements; as much as one-third of the movements from female occupations were to male occupations, but only 3% of the movements from male occupations went to female occupations. Thus, although we can find a considerable number of job movements to and from female occupations for men, the attrition of female occupations is considerably higher, and this fact seems to be reflected in the aggregate pattern that a large proportion of men are employed in male occupations.

Table 4.2 Job shifts across sex-typed occupations for British women, 1965-1992

Reference jobs	Next jobs			
	Male occupations	Mixed occupations	Female occupations	No. of job shifts
Male occupations	57.5%	22.6%	19.9%	629
Mixed occupations	9.0%	67.4%	23.6%	2182
Female occupations	5.6%	19.2%	75.2%	3591
Total				6402
N=2142				

Source: The Employment in Britain survey

Table 4.2 shows women's job movement from 1965 to 1992. Like men's data, we can see a tendency to change jobs within the same sex-typed occupations, though women's tendency to move within sex-typed occupations is somewhat lower than men's, while their tendency to move within sex-atypical occupations is somewhat higher. Also, though the movements from sex-typical occupations to sex-atypical occupations for women are less frequent than the movements from sex-atypical occupations to sex-typical occupations, the difference is relatively small, compared to men. Thus, compared to men, the attrition of sex-atypical occupations for British women is relatively low and the attrition of sex-typical occupations is relatively high,

and this fact seems to be reflected in the aggregate difference between men and women in Britain that men are more concentrated into sex-typical occupations than women are.

In summary, individual job movements are often found within the same sex-typed occupations. However, this tendency differs by the sex-type of occupations and by sex. In general, we have found that movements within sex-typical occupations are more frequent than those within sex-atypical occupations, but this tendency is greater for men than for women. In terms of the movements between sex-typical occupations and sex-atypical occupations, it is found that movements out of sex-typical occupations to sex-atypical occupations are less frequent than the opposite movements. This tendency again differs by sex; the movements out of sex-typical occupations to sex-atypical occupations are more frequent for women than for men. Thus, compared to men, the movements across sex-typed occupations are relatively fluid for women.

These results, however, might be influenced by the structural factors that for men, male occupations are more available and for women female occupations are more available. For instance, we have found stronger inflows into sex-typical occupations rather than into sex-atypical occupations, but this might be simply because sex-typical occupations are more available for men and women. In other words, after controlling for the structural differences, the movements across sex-typed occupations might be random after all. Therefore, we will examine the movements after controlling for the structural influence.

In order to test whether the movements across sex-typed occupations are random or not after allowing for the structural influences, we will use log-linear models. Log-linear models allow us to see whether or not the cell values in our 3 by 3 table are

determined solely by the marginal distributions of the reference job and the next job. In other words, by using log-linear models, we can test whether there are any associations between the reference job and the next job independently of the marginal effects. The data on our 2-way table can be expressed as;

f_{ij} $i = 1, ..., I$ 3 sex-typed occupations for Reference jobs(R)

$j = 1, ..., J$ 3 sex-typed occupations for Next jobs(N)

where f_{ij} is observed frequencies.

Firstly, we will make the model which hypothesises that there is no association between the reference job and the next job after controlling for the marginal distributions of sex-typed occupations (Independence model).

Independence Model

$$F_{ij}=\tau\tau_i^R\tau_j^N$$

where, F_{ij} is fitted frequencies, τ is a constant, τ_i^R, τ_j^N are terms which represent, respectively, the one-way effects of reference jobs, and next jobs.

Model formula: *Reference + Next*

If this model does not show a good fit, this suggests that there are associations between the reference job and the next job. We would expect, then, from the results of the gross mobility table that greater movements can be found within the same sex-typed occupations, but the other movements might be simply due to the different distributions of sex-typical occupations and sex-atypical occupations. To test this, we will construct the quasi-independence model. The quasi-independence model assumes that there are associations between the reference job and the next job, but conditional on changing jobs across different sex-typed occupations, the sex-type of the reference job is

independent of the sex-type of the next job. Model formula for the quasi-independence model is;

Quasi-independence model

Ref + *Next* + *Diag*

where, *Diag* is the diagonal effects to allow for the perfect fit for the cells on the diagonal on our 3 by 3 table.

Table 4.3 shows the results of the log-linear models for British men and women. For men, the independence model does not fit the data very well, which means that there are associations between the reference job and the next job. The quasi-independence model significantly improves the fit from the independence model, and under this model, we can obtain a good fit with the p-value .48, and only 0.1% of the cases misclassified. Therefore, men's data shows that men tend to change jobs within the same sex-typed occupations, but when they change jobs across different sex-typed occupations, the sex-type of the reference job and that of the next job are independent. Therefore, there is no greater job movements into male occupations from other sex-typed occupations or no greater job movements out of female occupations to other occupations once marginal effects are taken into account.

Table 4.3 Log-linear models for net job movement, British men and women

	L^2	df	p	%misclassified
Men				N=2713
Independence Model	3608	4	0.	22.77
Quasi-independence model	0.49	1	0.48	0.13
Women				N=2142
Independence model	2501	4	0.	28.13
Quasi-independence model	0.73	1	0.39	0.24

Source: The Employment in Britain survey

From the results of the log-linear models for women in Table 4.3, we can see the same result as that for men, i.e., the independence model does not show a good fit, but the quasi-independence model does. The quasi-independence model for women shows a good fit with the p-value of .39, which means that women tend to change jobs within the same sex-typed occupations, but when they change jobs across different sex-typed occupations, their destination is independent of their origin. Thus, we cannot find any greater job movements into female occupations nor greater job movements out of male occupations to other occupations once marginal effects are taken into account.

Then, how about the difference between men and women? We have found from our "gross" tables that compared to women, men are more likely to change jobs within sex-typical occupations rather than within sex-atypical occupations, and they are less likely to change jobs from sex-typical occupations to sex-atypical occupations. Can these differences hold after the different distributions of sex-typical/sex-neutral/sex-atypical occupations between men and women are taken into account?

To test this, we will make a three-way table of observed counts for the reference job by the next job by sex. The observed frequencies are expressed as,

	$i = 1, ..., I$	3 sex-typed occupations for Reference jobs(R)
f_{ijk}	$j = 1, ..., J$	3 sex-typed occupations for Next jobs(N)
	$k = 1, ..., K$	2 sexes for Sex(S)

Firstly we will construct a basic reference model where we allow for the different distribution of sex-typical/sex-neutral/sex-atypical occupations between men and

women, but this model assumes that there is no association between the reference job and the next job for both men and women.

Basic reference model

$$F_{ijk}=\tau\tau_i^R\tau_j^N\tau_k^S\tau_{ik}^{RS}\tau_{jk}^{NS}$$

where, F_{ijk} is fitted frequencies.

Model formula: *Reference + Next + Sex + Reference.Sex + Next. Sex*

Where τ is a constant, τ_i^R, τ_j^N, τ_k^S are terms which represent, respectively, the one-way effects of reference jobs, next jobs, and sex; τ_{ik}^{RS}, τ_{jk}^{NS} represent the two-way effects between sex and reference jobs and between sex and next jobs. As would be expected, it fits badly with L^2= 6109 on 8 df, 24.9 % of the cases misclassified.

Table 4.4 Log-linear models for sex difference of job movement, British men and women

Model	L^2	df	p	%misclassified
Reference model	6109	8	0.	24.86
No sex difference model	20.39	5	0.001	1.156
Sex difference model	1.223	2	0.543	0.171

Source: The Employment in Britain survey

Then, we would expect that the quasi-independence model would fit our three-way table. Firstly, we will assume that there is no difference between men and women in the density level of the cells on the diagonal, or on the cells which represent the job changes between the same sex-typed occupations. In other words, under this model, we assume that greater movements within sex-typical occupations for men than for women which are found in the gross mobility tables are the results of the different distribution of sex-typical/sex-neutral/sex-atypical occupations between men and women. We will call

this model no sex difference model. The model formula for this model can be expressed as;

No sex difference model

Reference + Next + Sex + Reference.Sex + Next. Sex + Diag,

where, *Diag* is the diagonal effects.

This model significantly improved the fit from our basic reference model with L^2=20.39 on 5 df, 1.2% the cases misclassified, but the assumption of the same density for the cells on the diagonal between men and women is not supported by its poor fit (p=.001).

Therefore, we would assume that the density for the cells on the diagonal varies by sex. So we will add a *diag.sex* term to the model formula. This model fits very well (p=.54) with L^2=1.22 on 2df, with 0.17% misclassified. The fitted odds ratio under this model (Table 4.5) shows that the chances for men in sex-typical occupations to find the next job in sex-typical occupations rather than sex-atypical occupations are 41 times higher, compared to the chance for men in sex-atypical occupations to find the next job in sex-typical occupations rather than sex-atypical occupations, but the corresponding figure for women is 40. Therefore, little difference can be found between men and women about the job movements between sex-typical occupations and sex-atypical occupations; for both men and women, job changes between sex-typical occupations and sex-atypical occupations are very unlikely. For the other types of job movement, the model shows that the chances for men in sex-typical occupations to find next jobs in sex-typical occupations rather than sex-neutral occupations, compared to the same chances for men in sex-neutral occupations, are 14 times higher, but for women the corresponding figure is 11. Also, the chances for men in sex-neutral occupations to find

next jobs in sex-neutral occupations rather than sex-atypical occupations, compared to the same chances for men in sex-atypical occupations are as much as 36 times higher, but for women the figure is 19. Therefore, according to this model, it is less likely for men than for women to change jobs between sex-typical occupations and sex-neutral occupations, and it is much less likely for men than for women to change jobs between sex-neutral occupations and sex-atypical occupations.

Table 4.5 Fitted odds ratios under the sex difference model in Britain

	Men	Women
Ref: sex-typical vs. sex-neutral	14.41	11.15
Next: sex-typical vs. sex-neutral		
Ref: sex-typical vs. sex-atypical	40.84	39.76
Next: sex-typical vs. sex-neutral		
Ref: sex-neutral vs. sex-atypical	36.44	18.99
Next: sex-neutral vs. sex-atypical		

Source: The Employment in Britain survey

In summary, though we have found in the analysis of "gross" movements that the inflows into sex-typical occupations are greater than those into sex-atypical occupations, this is no longer supported after allowing for the structural influences. Also we found that it is equally unlikely for both men and women to move between sex-typical occupations and sex-atypical occupations, but it is more unlikely for men than for women to move between sex-typical occupations and sex-neutral occupations, as well as between sex-atypical occupations and sex-neutral occupations. Thus, the results based on both “gross” and “net” movements show more segregated nature of job mobility for men than for women.

Job Mobility for Japanese women: 1965-1983

We will now examine job mobility for Japanese women and compare the patterns between British women and Japanese women. Firstly, we will look at the "gross" job movements for Japanese women which occurred between 1965 and 1983. From Table 4.6, we can see that the tendency for Japanese women to change jobs within the same sex-typed occupations is relatively low; only 35% of the changes from male occupations were to male occupations, and 45% of the changes from female occupations were to female occupations. Rather we find considerable movements into mixed occupations; as much as 44% of the changes from male occupations went to mixed occupations, and as much as 47% of changes from female occupations were to mixed occupations.

Table 4.6 Job shifts across sex-typed occupations for Japanese women, 1965-1983

Reference jobs	Next jobs			
	Male occupations	Mixed occupations	Female occupations	No. of job shifts
Male occupations	35.2%	44.4%	20.4%	54
Mixed occupations	9.1%	76.5%	14.4%	485
Female occupations	8.4%	46.9%	44.7%	179
Total				718
N=1393				

Source: The Occupational Mobility and Career survey

This might be because of the structural factor that mixed occupations are widely available for Japanese women, as we saw in the previous chapter. To test this, we will again use log-linear models.

Table 4.7 Log-linear models for net job movement, Japanese women

	L^2	df	p	%misclassified
Independence Model	90.5	4	0.	13.99
Quasi-independence model	0.9133	1	0.34	0.79

Source: The Occupational Mobility and Career survey

Table 4.7 summarises the results for two different models - the independence model and the quasi-independence model - for Japanese women. The independence model does not show a good fit with $L^2 = 90.5$ on 4 df, 14% of the cases misclassified. Therefore, there are some associations between the reference job and the next job for Japanese women. The quasi-independence model does show a good fit with $L^2 = 0.91$ on 1 df with 0.8% of the cases misclassified. Therefore, conditional on changing jobs to different sex-typed occupations, the sex-type of the reference job and that of the next job are independent. In other words, after the marginal distribution across sex-typed occupations for the reference job and the next job is taken into account, no greater inflow into mixed occupations from the other occupations is found.

Then, what kind of differences can be found between British women and Japanese women? The "gross" mobility tables show different patterns of job movements between British women and Japanese women; job movements across sex-typed occupations are more fluid for Japanese women than for British women. However, comparing British women and Japanese women requires us to control for the structural differences, or in other words, we have to see "net" movements rather than "gross" movements, since the distributions of male/mixed/female occupations differ between the two groups. In doing so, we will again use log-linear models. Firstly, we construct a basic reference model, where different distributions of male/mixed/female occupations between British women and Japanese women are taken into account, but we assume no association between the reference job and the next job for both British women and Japanese women.

Basic reference model

$F_{ijk}=\tau\tau_i^R\tau_j^N\tau_k^C\tau_{ik}^{RC}\tau_{jk}^{NC}$

where F_{ijk} is fitted frequencies.

Model formula: *Reference + Next + Country + Reference.Country + Next. Country*

Where τ is a constant, τ_i^R, τ_j^N, τ_k^C are terms which represent, respectively, the one-way effects of reference jobs, next jobs, and country; τ_{ik}^{RC}, τ_{jk}^{NC} represent the two-way effects between country and reference jobs and between country and next jobs. As would be expected, this model does not fit the data very well with $L^2 = 2591$ on 8 df, 26.7% of the cases misclassified.

Table 4.8 Log-linear models for country differences of job movement, British women and Japanese women

	L^2	df	p	%misclassified
Reference model	2591	8	0.	26.70
no country-difference model	25.97	5	0.0001	1.46
country-difference model	1.65	2	0.44	0.29

Source: The Employment in Britain survey for Britain, and the Occupational Mobility and Career survey for Japan

Then, we expect that the quasi-independence model would fit the data. In other words, we will assume that conditional on changing jobs to different sex-typed occupations, the reference job and the next job are independent for British women as well as for Japanese women. As we did before, we will firstly assume that the density level of the cells representing the movements within the same sex-typed occupations does not differ between British women and Japanese women (no country-difference model). This model substantially improves the fit from the independence model, but because of the poor fit (p=.0001), we cannot reject the hypothesis that the association

between the reference job and the next job does not differ between British women and Japanese women.

The model which adds a *country.diag* term, or which allows for the different diagonal effects, or different density of the cells representing the movements within the same sex-typed occupations, between British women and Japanese women, shows the best fit with $L^2 = 1.65$ on 2 df, only 0.3% of the cases misclassified. Thus, the results show that the patterns of the movements differ between British women and Japanese women. Table 4.9 shows the fitted odds ratio under this model.

Table 4.9 Fitted odds ratios under the country difference model, British women and Japanese women

	British women	Japanese women
Ref: male occ vs. mixed occ	19.0	6.5
Next: male occ vs. mixed occ		
Ref: male occ vs. female occ	39.8	9.9
Next: male occ vs. female occ		
Ref: mixed occ vs. female occ	11.2	5.0
Next: mixed occ vs. female occ		

Source: The Employment in Britain survey for Britain, and the Occupational Mobility and Career survey for Japan

We can see from Table 4.9 that it is much less likely for British women than for Japanese women to change jobs between male occupations and female occupations; the chances for British women in male occupations to find next jobs in male occupations rather than in female occupations are 40 times higher, compared to the same chances for those in female occupations, but the corresponding figure for the Japanese women is only 10. Also, it is less likely for British women than for Japanese women to change jobs between male occupations and mixed occupations, and between mixed occupations

and female occupations. The chances for British women in male occupations to find next jobs in male occupations rather than in mixed occupations are 19 times higher, compared to the same chance for those in mixed occupations, and the chances for those in mixed occupations to find jobs in mixed occupations rather than in female occupations are 11 times higher, compared to the same chances for those in female occupations. Whereas, corresponding figures for Japanese women are 6 times and 5 times respectively. Therefore, though we can find for Japanese women the tendency to change jobs within the same sex-typed occupations, given the much smaller values of the odd ratios of Japanese women, they are more likely than British women to change jobs across sex-typed occupations. Thus, the results based on both "gross" and "net" movements show a more segregated nature of job mobility for British women than for Japanese women.

In summary, we have found that the movements across sex-typed occupations are not random for British men, British women, and Japanese women. They all show the tendency to change jobs within the same sex-typed occupations, though when they do change their jobs across sex-typed occupations, their destinations are rather random. When men and women are compared in Britain, we have found that it is more likely for women than for men to move between sex-typical and sex-neutral occupations as well as between sex-neutral occupations and sex-atypical occupations. When women are compared between Britain and Japan, we have found that it is more likely for Japanese women than for British women to change jobs across sex-typed occupations.

Trends in job mobility

Trends in job mobility in Britain: 1965-1992

In the previous chapter, we found declining trends in the extent of occupational segregation for Britain after the 1970s. We saw that this is mainly generated by men and women shifting to mixed occupations. But, did this imply changes in the pattern of job mobility of British men and women at the level of individuals? In order to examine the trend of individual movements, we will now divide the period 1965-1992 into three sub periods: a. 1965-1974, b. 1975-1984, and c. 1985-1992, and examine the movements in each of three sub periods.[2]

Table 4.10 Job shifts across sex-typed occupations by periods, British men

Reference Job	Next Job								
	male occ			mixed occ			female occ		
	65-74	*75-84*	*85-92*	*65-74*	*75-84*	*85-92*	*65-74*	*75-84*	*85-92*
male occ	88.8%	87.1%	83.8%	8.7%	10.5%	11.4%	2.5%	2.4%	4.8%
mixed occ	43.1%	38.1%	27.8%	53.7%	57.4%	65.8%	3.2%	4.5%	6.4%
female occ	47.8%	40.1%	27.1%	15.4%	18.8%	16.0%	36.8%	41.1%	56.9%
N=2713									

Source: The Employment in Britain survey

[2] Dividing 1965-1992 into three time periods might cause a sample bias in examining the trends of individual movements. This is because the sample included for the job movements in the last period 1985-1992 is larger than that in the first/second period. Only relatively older workers have information for the first/second periods, and the job movements in the first/second periods include those taken place when they were relatively young but lack the information of older workers at that time (who would have left the workforce before the time of the survey), and therefore, over-represent relatively young workers. This causes problems if the tendency of job mobility differs by age. One of the ways to avoid this problem is to select young workers at each time period and examine the trend. By doing this analysis (not shown here), it is found that the results discussed below are basically supported.

Table 4.10 shows men's gross movements across sex-typed occupations by the three time periods. From this table we can see that the proportion of the job changes from male occupations to male occupations slightly declined from 89% for 1965-1974 to 84% for 1985-1992. While the proportion of the job changes from mixed occupations to mixed occupations increased from 54% for 1965-1974 to 66% for 1985-1992. And the proportion of the job changes from female occupations to female occupations considerably increased from 37% for 1965-1974 to 57% for 1985-1992. When we see the movements between sex-typical and sex-atypical occupations, we can see that the proportion of the movements out of female occupations to male occupations decreased considerably from 48% for 1965-1974 to 27% for 1985-1992, while the proportion of the movements out of male occupations to female occupations slightly increased from 3% for 1965-1974 to 5% for 1985-1992. Thus, the attrition of female occupations, as well as of mixed occupations, have decreased over time for British men, while the attrition of male occupations slightly increased. This seems to contribute to the aggregate decline in occupational sex segregation after the 1970.

Table 4.11 shows the gross job movements for women's data. We can see that the proportion of the movements from female occupations to female occupations increased from 66% for 1965-1974 to 80% for 1985-1992. Also, the proportion of the movements from mixed occupations to mixed occupations increased from 54% for 1965-1974 to 69% for 1985-1992. However, we cannot see any clear trends in terms of the movements between male occupations and male occupations. With regard to the movements between sex-typical occupations and sex-atypical occupations, we can see that the proportion of the movements from male occupations to female occupations increased from 14% for 1965-1974 to 23% for 1985-1992. While the proportion of the

movements from female occupations to male occupations slightly declined from 7% for 1965-1974 to 5% for 1985 - 1992. Thus, we can see a decline in the attrition of female occupations as well as of mixed occupations over time for British women. The results, however, show the opposite trends to the aggregate-level trends that the extent of occupational sex segregation declined during the period.

Table 4.11 Job shifts across sex-typed occupations by periods, British women

Reference Job	Next Job								
	male occ			mixed occ			female occ		
	65-74	*75-84*	*85-92*	*65-74*	*75-84*	*85-92*	*65-74*	*75-84*	*85-92*
male occ	58.3%	56.3%	58.3%	27.3%	24.2%	18.5%	14.4%	19.5%	23.2%
mixed occ	9.9%	9.5%	7.4%	53.7%	67.7%	69.3%	24.9%	22.8%	23.3%
female occ	7.0%	5.7%	5.0%	27.2%	22.9%	14.6%	65.8%	71.4%	80.4%
N=2713									

Source: The Employment in Britain survey

These trends include the structural influences, or in other words, they include the influences of the marginal distributions of the reference job and the next job across sex-typed occupations which differ by periods. For example, the increasing inflows into female occupations among women might be simply due to the structural change that had occurred during the period. Therefore, in order to see "net" movements, or the movements after allowing for the structural influences, we will again use log-linear models.

Firstly, we will make a basic reference model in which the different distributions of male/mixed/female occupations by periods are taken into account, but we assume no association between the reference job and the next job for all the three periods. The model formula can be expressed as;

Basic reference model

Reference + Next + Period + Reference.Period + Next.Period

As would be expected, this model does not show a good fit for both men and women. L^2 for men's data is 3432 on 12 df, with 22.2% of the cases misclassified. For women, L^2 = 2370 on 12 df with 26.4% of the cases misclassified.

Table 4.12 Log-linear models for period differences of job movement, British men and women

	L^2	df	p	%misclassified
Men				
Reference model	3432	12	0.	22.19
no period-difference model	9.27	9	0.41	1.02
period-difference model	0.51	3	0.92	0.11
Women				
Reference model	2370	12	0.	26.40
no period-difference model	37.70	9	0.	2.83
period-difference model	1.77	3	0.62	0.35

Source: The Employment in Britain survey

Then, we would expect that the quasi-independence model would fit the data. As mentioned before, this model assumes that there are associations between the reference job and the next job, but conditional on changing jobs between different sex-typed occupations, the sex-type of the reference job and that of the next job are independent. We will firstly assume that the level of density on the cells on the diagonal, which represent the job changes within the same sex-typed occupations, does not differ by period. The model formula can be expressed as:

No period-difference model

Reference + Next + Period + Reference.Period + Next. Period + Diag

where *Diag* is the diagonal effects.

This model significantly improved the fit from the basic reference model for both men and women (see Table 4.12). Men's model shows $L^2 = 9.27$ on 9 df, with 1.0% of the cases misclassified, and for women's model, $L^2 = 37.7$ on 9 df with 2.8% of the cases misclassified.

From these results, for men, we cannot reject the hypothesis that the level of association between the reference job and the next job does not differ by periods. Actually, the model which allows for different association by period does not improve this model significantly. But for women, we reject the same hypothesis as a result of the poor fit.

Therefore we add a *diag.period* term to the model for women (period-difference model). This model in fact shows the best fit with $L^2 = 1.77$ on 3 df with 0.35% of the cases misclassified. According to this final model, it had become more unlikely for British women to change jobs between male occupations and female occupations, between male occupations and mixed occupations, and between mixed occupations and female occupations over time (see Table 4.13). For instance, the chances for women in male occupations to find next jobs in male occupations rather than in mixed occupations, compared to the same chances for those in mixed occupations were 14 times higher for 1965-1974, but for 1985-1992, the chance doubled to 29 times. The chances for women in male occupations to find next jobs in male occupations rather than female occupations compared to those in female occupations were 36 times higher for 1965-1974, but the corresponding figure for 1985-1992 was 41. Also, the chances for women in mixed occupations to find next jobs in mixed occupations rather than female occupations compared to those in female occupations were 6 times higher for

1965-1974, but the figure for 1985-1992 was 16. Therefore, at the level of individuals, women's mobility patterns have become more segregated over time.

Table 4.13 Fitted odds ratios under the period difference model, British women

	1965-1974	1975-1984	1985-1992
Ref: male occ vs. mixed occ	14.4	16.2	29.3
Next: male occ vs. mixed occ			
Ref: male occ vs. female occ	36.1	36.7	41.3
Next: male occ vs. female occ			
Ref: mixed occ vs. female occ	6.4	9.2	16.2
Next: mixed occ vs. female occ			

Source: The Employment in Britain survey

In summary, we found a trend towards de-segregation for British men in their gross job movements, but after controlling for the structural change, no significant trend can be found. However, for British women, the trend is toward greater segregation both before and after controlling for structural change. Given the finding in the previous chapter that at the aggregate level, both men and women in Britain showed de-segregation, our results suggest that there is no parallel trend in occupational sex segregation at the aggregate level and at the level of the career trajectories of individuals.

Trends in job mobility for Japanese women: 1965-1983

We will now turn to the trends of the job mobility for Japanese women. In order to examine the trends, we will divide 1965-1983 into two sub periods: a. 1965-1974, and b. 1974-1983. In the previous chapter, we could not find any systematic trend of occupational sex segregation for Japanese women at the aggregate level, but can we find any trends at the individual level?

We will firstly see "gross" movements (Table 4.14). In terms of the movements within the same sex-typed occupations, the proportion of the movements between male occupations and male occupations decreased from 42% for 1965-1974 to 30% for 1975-1983, and that between female occupations and female occupations slightly decreased from 46% for 1965-1974 to 44% for 1975-1983. While the proportion of the movements between mixed occupations and mixed occupations slightly increased from 75% for 1965-1974 to 78% for 1975-1983. In terms of the movements between sex-typical occupations and sex-atypical occupations, the proportion of the movements from male occupations to female occupations increased from 13% for 1965-1974 to 27% for 1975-1983. The proportion of the movements from female occupations to male occupations also show a slight increase from 7% for 1965-1974 to 10% for 1974-1983. Therefore, it seems that the movements across sex-typed occupations became more fluid for Japanese women over time.

Table 4.14 Job shifts across sex-typed occupations by periods, Japanese women

Reference Job	Next Job					
	male occ		mixed occ		female occ	
	65-74	*75-83*	*65-74*	*75-83*	*65-74*	*75-83*
male occ	41.7%	30.0%	45.8%	43.3%	12.5%	26.7%
mixed occ	8.4%	9.9%	75.2%	78.0%	16.4%	12.1%
female occ	7.0%	10.0%	47.5%	46.3%	45.5%	43.7%
N=1393						

Source: The Occupational Mobility and Career survey

However, this result is not independent of the change in the distributions of sex-typed occupations over time. Therefore, we will again examine "net" movements using log-linear models. Firstly, we will construct a model which allows for different distributions of male/mixed/female occupations by period, but the model assumes no

association between the reference job and the next job (basic reference model). As would be expected, this model shows a poor fit with $L^2 = 93.9$ on 8 df, 14.2% of the cases misclassified.

Then, we make a model, which assumes that there are associations between the reference job and the next job only when they change jobs within the same sex-typed occupations, but the level of association does not differ by period (no period-difference model). This model fits the data very well with $L^2 = 4.7$ on 5 df, 2.0% of the cases misclassified. In fact, the model which allows for the different level of association by period (period-difference model) does not show any significant improvement from the no period difference model.

Table 4.15 Log-linear models for period differences of job movement, Japanese women

	L^2	df	p	%misclassified
Reference model	93.89	8	0.	14.21
no period-difference model	4.70	5	0.45	2.05
period-difference model	1.63	2	0.44	0.84

Source: The Occupational Mobility and Career survey

Thus, the data shows that there is no trend for the movements across sex-typed occupations for Japanese women after controlling for structural change. The differences between British women and Japanese women with respect to their job movements across sex-typed occupations at the individual level seem to be widening as the trend towards segregation increases for British women both before and after controlling for structural change, while Japanese women show a trend towards de-segregation before controlling for structural change, and no trend after controlling for structural change. However, to confirm this, we need job history data for Japanese women after the 1980s (which was not available for this study).

Sex-typed occupations and out-of-employment activities

Our mobility analysis so far focuses on job movements, therefore, ignores experiences out of employment. However, in this section, we develop our analysis to include these experiences. "Out of employment" activities mean unemployed, retired, in full-time education, housekeeping and on maternity leave. The purpose of this is to examine the possible differences in the experiences of men and women in female occupations as compared with male occupations.

We examine both movement into sex-typed occupations from out-of-employment activities, and movement from sex-typed occupations to out-of-employment activities. If we follow human capital theory or socialisation theory, it is expected that women's domestic leave is associated with female occupations, so that female occupations tend to accept women from domestic leave, as well as women tend to move to domestic leave from female occupations.

Movements between employment and out-of-employment for British men and women

We will firstly examine movements into sex-typed occupations from out-of-employment activities. Table 4.16 presents an "inflow" job mobility matrix for men. From this table we can see that female occupations are more likely to accept those re-entering the labour market than male occupations; 26% of the inflows into female occupations were from out-of-employment activities, but the corresponding figure for male occupations is 17%.

This is the same for women. From Table 4.17, we can see that 25% of the inflows into male occupations were from out-of-employment activities, whereas as

much as 35% of the inflows into female occupations were from out-of-employment activities.

Table 4.16 Movement between sex-typed occupations and out-of-employment activities: "inflow" matrix, British men 1965-1992

Reference Jobs	Next Jobs		
	Male occupations	Mixed occupations	Female occupations
Male occupations	71.4%	28.8%	21.0%
Mixed occupations	8.2%	47.5%	9.0%
Female occupations	3.6%	6.2%	43.8%
Out-of-employment activities	16.8%	17.5%	26.2%
n	8517	2525	1105
N	2713		

Source: The Employment in Britain survey

Table 4.17 Movement between sex-typed occupations and out-of-employment activities: "inflow" matrix, British women 1965-1992

Reference Jobs	Next Jobs		
	Male occupations	Mixed occupations	Female occupations
Male occupations	35.8%	4.4%	2.4%
Mixed occupations	19.4%	45.6%	10.0%
Female occupations	19.8%	21.4%	52.3%
Out-of-employment activities	25.0%	28.5%	35.3%
(Domestic leave)	(15.5%)	(16.8%)	(23.2%)
n	1011	3223	5165
N	2142		

Source: The Employment in Britain survey

As we expected, women's out-of-employment experiences were often related to domestic reasons, and this seems to be reflected in the relatively large percentages of out-of-employment activities in the table for women, compared to men. The percentages in parenthesis in Table 4.17 show the percentage of the inflows into each sex-typed occupations from out-of-employment activities due to domestic reasons. We can see

from the table that 16% of the inflows into male occupations were from domestic leave, but the figure for female occupations is 23%. Thus, both men and women are more likely to re-enter the labour market through female occupations than other occupations. Women are also more likely to re-enter the labour market from domestic-leave through female occupations than other occupations.

The results from "gross" movements might again reflect structural factors. The best method to see the relations between each sex-typed occupations and out-of-employment activities that are independent of the structural influences is to see the disparity ratios. In a 2 by 2 mobility table, the disparity ratios are calculated as,

$(f_{11}/f_{.1})/(f_{12}/f_{.2})$ and $(f_{22}/f_{.2})/(f_{21}/f_{.1})$ for the inflow matrix

$(f_{11}/f_{1.})/(f_{21}/f_{2.})$ and $(f_{22}/f_{2.})/(f_{12}/f_{1.})$ for the outflow matrix

where f_{11} is the frequency in the 1-1 cell, $f_{.1}$ the corresponding row marginal, $f_{1.}$ the corresponding column marginal, etc.(see Goldthorpe 1987:75). Using disparity ratios, we can examine relative chances for different sex-typed occupations to accept people from out-of-employment activities, or the relative chances for people in different sex-typed occupations to move to out-of-employment activities. Table 4.18 shows the disparity ratios for men and women, derived from the inflow matrix for men and women.

From Table 4.18 we can see that for men, the chances for female occupations to accept those from out-of-employment activities are 1.6 times as high as the chances for male occupations. For women, the corresponding figure is 1.4 times. Also for women, the chances for female occupations to accept those from domestic leave are 1.5 times as

high as the chances for male occupations. Therefore, for both men and women, even after allowing for the structural influences, female occupations are more likely to accept those from out-of-employment activities than male occupations. This might suggest that female occupations are utilised to meet labour market fluctuation.

Table 4.18 Relative chances to enter sex-typed occupations from out-of-employment activities, British men and women

Reference Jobs	Next Jobs		
Men	Male occupations	Mixed occupations	Female occupations
Out-of-employment activities	set at 1	1.04	1.56
Women			
Out-of-employment activities	set at 1	1.14	1.41
Domestic leave	set at 1	1.08	1.50

Source: The Employment in Britain survey

If we follow the explanations of human capital theory or socialisation theory, women in female occupations should be also likely to leave the labour market more frequently, because they have more traditional values and they are more family oriented. Or if female occupations are utilised to meet labour market fluctuation, they are also likely to be followed by out-of-employment activities. Table 4.19 presents men's outflow matrix. From this table, we find that there are slightly greater outflows from female occupations to out-of-employment activities than in the case for other occupations. However, for women, the opposite is the case; the outflows from male occupations to out-of-employment activities are greater than from other occupations (Table 4.20). This is also true for domestic leave; the outflows from male occupations to domestic leave are greater than those from female occupations. These results from "gross" movements, however, might reflect structural factors.

Table 4.19 Movement between sex-typed occupations and out-of-employment activities: "outflow" matrix, British men 1965-1992

Reference Jobs	Next Jobs				
	Male occ.	Mixed occ.	Female occ.	Out-of-employment	n
Male occ.	72.0%	8.6%	2.8%	16.6%	8440
Mixed occ.	29.2%	50.2%	4.2%	16.4%	2387
Female occ.	26.7%	13.5%	41.5%	18.3%	1167
N	2713				

Source: The Employment in Britain survey

Table 4.20 Movement between sex-typed occupations and out-of-employment activities: "outflow" matrix, British women 1965-1992

Reference Jobs	Next Jobs					
	Male occ.	Mixed occ.	Female occ.	Out-of-employment	(Dom)	n
Male occ.	39.3%	15.4%	13.6%	31.7%	(20.9%)	921
Mixed occ.	6.2%	46.6%	16.3%	30.9%	(19.9%)	3159
Female occ.	4.1%	13.9%	54.5%	27.5%	(18.3%)	4954
N	2142					

Source: The Employment in Britain survey

Table 4.21 shows the disparity ratios for men and women based on the "outflow" matrix. In terms of men, the disparity ratios show that those in female occupations are slightly more likely to move to out-of-employment activities. However for women, we can see the opposite tendency; those in male occupations are slightly more likely to move to out-of-employment activities. This is the same for domestic leave; those in male occupations are more likely to move to domestic leave. Thus, the results for women do not support our hypotheses. However, the result might suggest that women's experiences in male occupations are less favourable than other occupations.[3]

[3] We will examine workers' experiences in gendered occupations in Chapters 5, 6 and 7.

Table 4.21 Relative chances to move to out-of-employment activities from sex-typed occupations, British men and women

Reference Jobs	Next Jobs		
	Men	Women	
	Out-of-employment activities	Out-of-employment activities	Domestic leave
Male occupations	set at 1	set at 1	set at 1
Mixed occupations	0.98	0.98	0.95
Female occupations	1.10	0.87	0.87

Source: The Employment in Britain survey

In summary, we have found that female occupations provide more opportunities for those who re-enter the labour market than the other occupations. This is not only the case for women but also for men. However, we cannot find that women in female occupations are likely to leave the labour market. Rather, we have found for both men and women that those in sex-atypical occupations are more likely to leave the labour market.

Movements between employment and out-of-employment activities for Japanese women

We have seen for British women that female occupations are more likely than the other occupations to accept those from out-of-employment activities, particularly from domestic leave, while male occupations are more likely to be followed by out-of-employment activities. Is this also the case for Japanese women?

Table 4.22 presents the "inflow" job mobility matrix for Japanese women. From this table, we can see that each of these sex-typed occupations accepts relatively large number of women re-entering the labour market, but the differences between sex-typed occupations are not large; 49% of the inflows to male occupations were from out-of-

employment activities but the corresponding figures for mixed occupations and female occupations were 46% and 47% respectively. However, if we see the proportion of those re-entering the labour market after domestic leave, we can see that male occupations provide more opportunities than the other occupations; 42% of the inflows into male occupations were from domestic leave, but 36% of the inflows into mixed or female occupations were from domestic leave.

Table 4.22 Movement between sex-typed occupations and out-of-employment activities: "inflow" matrix, Japanese women, 1965-1983

Reference Jobs	Next Jobs		
	Male occupations	Mixed occupations	Female occupations
Male occupations	12.5%	2.7%	3.6%
Mixed occupations	28.9%	41.4%	22.9%
Female occupations	9.9%	9.4%	26.1%
Out-of-employment activities (Domestic leave)	48.7% (41.5%)	46.5% (36.3%)	47.4% (36.3%)
n	152	895	306
N	1393		

Source: The Occupational Mobility and Career survey

Table 4.23 Relative chances to enter sex-typed occupations from out-of-employment activities, Japanese women

Reference Jobs	Next Jobs		
	Male occupations	Mixed occupations	Female occupations
Out-of-employment activities	set at 1	0.95	0.97
Domestic leave	set at 1	0.88	0.88

Source: The Occupational Mobility and Career survey

These results might be again influenced by structural factors which reflect different distribution of male/mixed/female occupations. Therefore, we will look at the disparity ratios again. Table 4.23 shows the disparity ratios based on the inflow matrix. We cannot see much differences between sex-typed occupations in accepting women

from out-of-employment activities. However, male occupations provide slightly more opportunities for women to re-enter the labour market after domestic leave; the chances for female occupations and for mixed occupations to accept those from domestic leave are .88 times as high as the chances for male occupations. Thus, the result for Japanese women is different from that for British women which showed that female occupations accept more women from domestic leave (see Table 4.18).[4]

Table 4.24 Movement between sex-typed occupations and out-of-employment activities: "outflow" matrix, Japanese women, 1965-1983

Reference Jobs	Next Jobs					
	Male occ.	Mixed occ.	Female occ.	Out-of-employment	(Dom)	n
Male occ.	21.6%	27.3%	12.5%	38.6%	(28.4%)	88
Mixed occ.	5.2%	43.7%	8.2%	42.9%	(32.2%)	850
Female occ.	5.1%	28.9%	27.5%	38.5%	(29.2%)	291
N	1393					

Source: The Occupational Mobility and Career survey

We will now look at the "outflow" matrix. From Table 4.24 we can again see that the proportion of outflows from each sex-typed occupations to out-of-employment activities is relatively large. The proportion is slightly higher for mixed occupations than the other occupations; 43% of the outflows from mixed occupations were to out-of-employment activities, but the corresponding figures for male occupations is 39% and for female occupations is 39%. Also the outflows from mixed occupations to domestic

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[4] This may reflect the fact that part-time workers are likely to be found in female occupations in Britain, while this is not the case for Japan. In the EIB, the proportion of women in female occupations who are part-timers is 48%, but the corresponding figures for mixed and male occupations are 30% and 17% respectively. In the OMC, on the other hand, the proportions of women in female occupations, mixed occupations, and male occupations who are part-timers are 40%, 43% and 46% respectively; male occupations have slightly higher proportion of part-time workers than other occupations. The OMC has higher proportion of part-timers than the EIB in general, because the sample for the former included those aged between 25 and 69, while for the latter aged between 20 and 60.

leave are slightly greater than those from other occupations; 32% of the outflows from mixed occupations were to domestic leave, but the corresponding figures for male occupations and female occupations were 28% and 29% respectively.

Table 4.25 Relative chances to move to out-of-employment activities from sex-typed occupations, Japanese women

Reference Jobs	Next Jobs	
Reference Jobs	Out-of-employment activities	Domestic leave
Male occupations	set at 1	set at 1
Mixed occupations	1.11	1.13
Female occupations	1.00	1.03

Source: The Occupational Mobility and Career survey

The disparity ratios based on the outflow matrix confirm this result. Little difference can be found between male occupations and female occupations, but mixed occupations are slightly more likely to be followed by out-of-employment activities as well as by domestic leave (Table 4.25). Again, we cannot see any similarities between British women and Japanese women in the relations between sex-typed occupations and out-of-employment activities (see Table 4.21).

In summary, these results suggest that the market position of "female" occupations differ between Britain and Japan with regard to the relation with out-of-employment activities; in Japan, female occupations do not provide greater opportunities for those re-entering the labour market, nor are male occupations likely to be followed by out-of-employment activities. What is striking about our Japanese data is the much closer relation between employment and out-of-employment activities regardless of the sex-type of occupations. Compared to the British counterparts, both the "inflow" and "outflow" matrices for the

Japanese women show that a much higher proportion of them had intermitted careers, and this is more relevant to domestic reasons in Japan than in Britain. This seems to be reflected in the pattern of women's labour force participation which we saw in Chapter 2.

The influence of the patterns of job mobility on individual workers' careers

We have so far focused on job movements rather than individual workers' careers. By examining individual job movements, we have found that British men, British women, and Japanese women are unlikely to change jobs across sex-typed occupations. However, in Britain, compared to men, women are more likely to change jobs between sex-typical occupations and sex-neutral occupations, as well as between sex-neutral occupations and sex-atypical occupations. Also in comparing British women and Japanese women, it is more likely for Japanese women to change jobs across sex-typed occupations. But what do these results imply for individual workers' careers? In this section, in order to reflect the patterns of job movements on individual workers' careers, we will examine the job duration in sex-typed occupations as well as the frequencies of job shift.

Duration in sex-typed occupations for British men and British women

Individual workers' careers could be sex-segregated if they spend most of their careers in sex-typical occupations, even if they change jobs between sex-typical and sex-atypical occupations frequently. In this section, we will look at the average duration of a job in

each sex-typed occupations. In so doing, we will focus on the jobs which started after 1965 and were completed before the time of the survey.[5]

Table 4.26 Average job duration in month by sex-typed occupations, British men and women

	Men	Women
Male occupations	32.2	28.8
Mixed occupations	30.4	30.4
Female occupations	21.6	25.1
N	2686	2121

Source: The Employment in Britain survey

Table 4.26 shows the average duration of the jobs taken after 1965 and completed before 1992 for both men and women. We can see that for men, the average duration of the jobs in male occupations is 32 months, and in female occupations is 22 months, and therefore, men on average spent a longer time in sex-typical occupations than in sex-atypical occupations. For women, however, this is not the case. The average duration of the jobs in female occupations is 25 months, and that in male occupations is 29 months, but women on average spent the longest time in mixed occupations.

This seems to imply that the experience in sex-typical occupations and sex-atypical occupations differ between men and women. For example, some studies suggest that female occupations provide unfavourable employment conditions, such as a lower salary than male occupations (Reskin and Roos 1990, Tomaskovic-Devey 1995, Sloane

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[5] This may cause an estimation bias, since we exclude the jobs which were still undertaken at the time of the survey. The duration of these jobs might be longer than the jobs already completed, so that the estimated average duration of a job in each sex-typed occupation might be under-estimated. There is a method to take account of the uncompleted job events, by calculating job retention rates and predict the likely additional time a worker spend in his/her current job (Hall 1982). But in this section, we are interested in *actual* job duration which constitutes the past occupational sex segregation at the aggregate level, rather than *predicted* job duration, which are more relevant to the future occupational sex segregation.

1994). If so, shorter duration in female occupations as compared with male occupations for both men and women is understandable. However other research suggest that there exists a pressure for men and women to leave sex-atypical occupation (Jacobs 1989b, 1993, Williams 1993). This might also explain why women's average duration of male occupations is shorter than that of mixed occupations, as in the former, women may have more pressure to leave than the latter. Since for men, female occupations are their sex-atypical occupations, the substantially shorter job duration in these occupations for them is understandable.

In sum, our findings suggest that for British men, in general, female occupations seem to occupy a minor part of their careers. This is because men's attrition from female occupations is relatively high and they on average spend substantially shorter time in these occupations than other occupations. However, it seems that British women in general have less segregated careers than British men, as their attrition from male occupations is lower than men's attrition from female occupations, and they on average spend a relatively long time in sex-atypical occupations compared to men.

Duration in sex-typical/sex-atypical occupations for Japanese women

Table 4.27 shows the average duration for Japanese women in the jobs taken after 1965 and completed before 1983 in male, mixed, and female occupations in years (and in months). First of all, we can see that the average job duration for Japanese women is considerably longer as compared to British women. Secondly, the job duration for Japanese women in male occupations is slightly longer than the other occupations.

Table 4.27 Average job duration in years (in months) by sex-typed occupations, Japanese women

	years	(months)
Male occupations	3.8	45.7
Mixed occupations	3.5	41.7
Female occupations	3.5	42.1
N	1391	

Source: The Occupational Mobility and Career survey

Table 4.28 Relative job duration by sex-typed occupations, British women and Japanese women (female occupations = 1)

	British Women	Japanese Women
Male occupations	1.1	1.1
Mixed occupations	1.2	1.0
Female occupations	1	1

Source: The Employment in Britain survey for Britain, and the Occupational Mobility and Career survey for Japan.

Table 4.28 shows the relative job duration of each sex-typed occupations for British women and Japanese women (the job duration of female occupations is set as 1). As can be seen, there is not much difference found between British women and Japanese women. Thus, the absolute job duration of sex-typed occupations is longer for Japanese women than for British women, but the relative job duration of sex-typed occupations does not differ so much between them.

The longer job duration in every sex-typed occupation for Japanese women than for British women would help to confine them into the same sex-typed occupations. However, given that Japanese women are likely to be found in mixed occupations rather than female occupations, this seem to contribute to the sex-neutral careers of Japanese women, rather than sex-segregated careers.

Frequencies of job changes

In comparing the average duration in a job between women in Britain and in Japan, we have found that Japanese women in general spent much longer time in every sex-typed occupation than the British women. Also, what we have found from the analysis of the movements between employment and out-of-employment activities is that relatively large number of Japanese women have intermitted careers. These findings suggest that throughout their careers, Japanese women experience less job shifts compared to British women.

Table 4.29 Frequencies of job shifts, British men and women

No. of Job Shifts	Men	Women
0	9.3%	13.3%
1	14.6%	18.0%
2	17.0%	17.8%
3+	59.1%	50.9%
N	2713	2142

Source: The Employment in Britain survey

Table 4.30 Frequencies of job shifts, Japanese women

No. of Job Shifts	
0	65.8%
1	22.5%
2	7.9%
3+	3.8%
N	1393

Source: The Occupational Mobility and Career survey

Table 4.29 shows the distribution of British men and British women by the number of job shifts which occurred between 1965 and 1992.[6] From this table, we can

[6] Job movements which include no employment sphere in between are excluded, as we are interested in how the boundaries between sex-typed occupations affect individual workers' careers.

see that only 9.3% of men and 13.3% of women had no job shift between 1965 and 1992, or remained in the same job or leave the labour market after taking a job, but as much as 59.1% of men and 50.9% of women had more than three job shifts. British men are slightly more likely to change their jobs than British women. On the other hand, between 1965 and 1983, as much as 65.8% of Japanese women had no job shift, and only 3.8% of them had more than three job shifts (Table 4.30). Since the distributions of the number of job shifts in the Japanese data and in the British data are based on different time periods - for Britain it is for 27 years and for Japan for 18 years, individual workers in Britain might have more job shifts than those in Japan. However, if we see the last 17 years in the British data, as much as 44.8% of men and 37.6% of women still had more than three job shifts.

Therefore, even though we found that it is unlikely for them to move between sex-typical occupations and sex-atypical occupations, Japanese women are less likely to confront the situation where they actually change jobs between sex-typed occupations. Even if they change their jobs, they move across sex-typed occupations relatively easily, compared to British women. On the other hand, in Britain, people change their jobs more frequently, so there are greater chances for them to confront the situation of moving between sex-typed occupations. Moreover, when they change their jobs, it is more difficult for them to move across sex-typed occupations. Thus, Japanese women's careers seem to be much less sex-segregated than British men's and women's careers.

Summary and Conclusion

We have found that individual job movements are not random across sex-typed occupations. What we have found instead is that for men and women in Britain, there are relatively strong inflows into sex-typical occupations. On the other hand, for Japanese women, we have found strong inflows into mixed occupations. However, these results are very much influenced by the structural factors that male occupations are more available for British men, female occupations are more available for British women, and mixed occupations are more available for Japanese women. After controlling for the structural differences, the only systematic movements that are found for British men and British women, as well as for Japanese women, are to change jobs within the same sex-typed occupations. Both the British data and Japanese data show that people are unlikely to change jobs between sex-typical occupations and sex-atypical occupations. This is particularly so for British men and women, but not so much for Japanese women.

In examining the job movements over time, we found a trend towards de-segregation before controlling for structural change, and no trends after controlling for structural change for British men. However, for British women, the trend is towards greater segregation both before and after controlling for structural change. This might imply that British women's experiences in sex-typed occupations have been more differentiated over time, and this would prevent them from moving across the boundaries between sex-typed occupations. The job movements for British women both before and after controlling for structural change did not show any parallel trends to the aggregate change that are found in the previous chapter. Therefore, the aggregate change seems to be generated by cohort replacement, that is to say, younger workers enter less segregated occupations than older workers. With respect to Japanese women's job

movement, the trend is towards de-segregation before controlling for structural change, but no trend can be found after controlling for structural change.

The examination of the relations between sex-typed occupations and out-of-employment activities suggests that the implications of female occupations and of male occupations differ between British men and British women, as well as between British women and Japanese women. In Britain, both men and women are likely to re-enter the labour market through female occupations, but this is not the case for Japanese women. Also, both British men and British women are likely to exit the labour market through sex-atypical occupations, but Japanese women are likely to exit the labour market through mixed occupations.

About the implications of the patterns of job movements on individual workers' careers, firstly, we found that for British men, the average job duration in sex-atypical occupations is considerably shorter than that in sex-typical occupations, while British women spent a relatively long time in sex-atypical occupations, compared to men. This, together with the job mobility pattern for men that compared to women, the attrition of sex-typical occupations is lower but that of sex-atypical occupations is higher, implies that British men in general have more sex-segregated careers than British women. Secondly, we discussed that the boundary between sex-typed occupations would affect the individual workers' careers more in Britain than in Japan. This is not only because it is less likely for British women than for Japanese women to change jobs between sex-typical occupations and sex-atypical occupations, but also because people in Britain on average have shorter job duration, and are more likely to experience job shifts in their work life, and therefore, they have more chances to confront the situation of moving between sex-typed occupations. In contrast, Japanese women's job duration is relatively

long and they seldom change their jobs, so that they have less chance to confront the situation of changing jobs between sex-typed occupations. This, together with the fact that Japanese women are likely to be found in mixed occupations rather than in female occupations, suggests that women's careers are less sex segregated in Japan than in Britain.

CHAPTER 5

OCCUPATIONAL SEX SEGREGATION AND EMPLOYMENT CONDITIONS 1: ANALYSIS OF BRITAIN

Introduction

In the previous chapter, we found that there are systematic job movements across sex-typed occupations in Britain. For both men and women, the attrition of sex-typical occupations is relatively low, but the attrition of sex-atypical occupations is relatively high. This would imply that individual workers' experiences differ by whether they work in sex-typical occupations or in sex-atypical occupations. However, the analysis of job duration in sex-typed occupations showed that for both men and women, the average duration in female occupations is the shortest among the three sex-typed occupations. In addition, the analysis of the relation between sex-typed occupations and out-of-employment activities revealed that for both men and women, female occupations are more likely to accept those re-entering the labour market. These results seem to suggest that the differences are found between female occupations and male occupations rather than between sex-typical occupations and sex-atypical occupations. Thus, it seems that there are two dimensions of differentiation of individual workers' experiences in Britain; one is between sex-typical occupations and sex-atypical occupations, and the other is between female occupations and male occupations.

In this chapter, together with Chapters 6 and 7, we will investigate why men and women show the above systematic movements across sex-typed occupations. This

chapter and Chapter 6 will focus on employment conditions to examine the implications of occupational sex segregation on individual workers' experiences in the labour market. This chapter will firstly focus on the British labour market, and then Chapter 6 will make a comparison of Britain and Japan.

The nature of employment conditions is one of the factors (but not the sole factor) which influence individual workers' behaviour in the labour market; whether to enter, stay or leave a job. The main characteristics of employment conditions on which we focus in this chapter are pay, fringe benefits, task influence, promotion chances, training chances, and job tenure. By examining these, we will investigate the implications of occupational sex segregation for experiences of men and women in Britain.

Occupational sex segregation and employment conditions

The impact of occupational sex segregation on employment conditions is well documented in the US. The most notable finding is the impact of occupational sex segregation on the level of pay. It is reported that the more female-dominated an occupation is, the lower the level of pay that is provided in the occupation, after controlling for other relevant factors (Hadson and England 1986, Tomaskovic-Devey 1995, England and Werbert 1995). Also, other studies suggest the negative impacts of occupational sex segregation on supervisory responsibilities, promotion chances, task complexity, occupational prestige, and job security (Jacobs and Prowell 1985, Reskin and Roos 1990, Tomaskovic-Devey 1993b, 1995). Basically, female occupations provide disadvantageous conditions to workers as compared to male occupations.

Research on the impact of occupational sex segregation on the experiences of

workers is less extensive in Britain. There are some studies of the effect of sex segregation on pay (Sloane 1994, Millward and Woodland 1995), but research on employment conditions other than pay is scarce.

There are basically two approaches to explain the different employment conditions between female occupations and male occupations. One emphasises the demand-side factors that attract different groups of workers (e.g., men and women, whites and blacks, etc.). Based on the case studies in the US market, Reskin and Roos (1990) argue that most of the occupations they studied were feminised because their earnings, benefits, prestige, job security, autonomy, or chances for advancement failed to keep pace with those in other occupations, and therefore men became less interested in them. This made it necessary for employers to hire women in these occupations. Here, the argument is that the deterioration of employment conditions led employers to hire women. Women entered these occupations as they were better than other occupations available to them. Cohn (1985), in his case study on the Great Western Railway and the General Post Office in Britain, also suggests that it was the need for inexpensive labour which increased the use of female clerks in them. The recruitment of women fitted into employers' strategies to reduce labour costs. They represented one of the few sources of highly educated skilled labour, but their relatively high turnover rate made them inexpensive under the tenure-based salary system.

The other approach focuses on the incumbents of the occupations to explain different employment conditions. Tomaskovic-Devey (1993b), for instance, suggests two explanations - status closure and status composition processes - to explain the different employment conditions between female occupations and male occupations.

> *Status closure* refers to the social processes by which status characteristics, such as sex and race, determine who has access to valuable employment positions. ... social pressures for race- and sex-based status-exclusion rise as the quality of the job increases. *Status composition* refers to the process by which the typical sex or race of a class of jobs in concrete workplaces becomes a fundamental aspect of that job, influencing the work done as well as the organisational evaluation of the worth of the work. ... the better the job, the more black men, white women, and black women are excluded, and the more a job is filled by black women, white women, or black men, the more it is devalued and deskilled by employers.
> (Tomaskovic-Devey 1993b pp218-219)

Another example, which emphasises the sex of incumbents, can be seen in Siltanen's study on the postal workers in Britain (Siltanen 1994). Siltanen shows that men tried to prevent women from entering their jobs, being afraid of the deterioration of work conditions. The idea behind this is that women do not need "full-wage" jobs which enable workers to fully support their household, but they only need "component-wage" jobs which bring supplemental income to their household.

Although these two approaches differ in emphasising the factors that generate the differences in employment conditions between female occupations and male occupations, they both agree that male occupations provide better employment conditions than female occupations.

In the following section, we will examine whether or not occupational sex segregation differentiates various aspects of employment conditions in Britain, and in what way it affects men and women.

Analysing the effects of occupational sex segregation on employment conditions

In analysing the impact of occupational sex segregation on employment conditions, we use the data of the Employment in Britain survey (EIB) which was conducted in summer 1992. The EIB is a national representative sample of men and women in work aged between 20 and 60. Although the survey includes self-employed workers and employees, we selected employees, since our principal interests are in examining the possible differences in employment conditions which are imposed by employers. The EIB contains rich information on employment conditions. We select pay, fringe benefits, task influence, promotion chances, training chances, and job tenure as the main characteristics of employment conditions.

Pay is one of the most fundamental aspects of work. In the EIB, the respondents were asked, "what was your gross wage or salary the last time you were paid, that is before deduction for tax, national insurance or superannuation?", "what period did this cover?", and "how many hours a week did you work in that job during this period, excluding meal intervals and unpaid overtime, but including paid overtime?" From the responses to these questions, the variable of gross hourly pay was constructed. In order to compensate for the skewness of the distribution, we take the natural logarithm to analyse gross hourly pay.

Fringe benefits are selected as they, together with pay, represent economic rewards. The EIB asked the respondents, "which, if any, of these benefits, or any others like them, does your employer provide to people like you even if you yourself have not taken up the benefits?" The list of fringe benefits includes, occupational pension scheme beyond the basic state scheme, sick pay beyond the basic government scheme, time off work for domestic problems on part or full pay etc., time off work

for domestic problems unpaid, use of a company car or van, free transport or other help with travel costs, good or services at a discount or a preferential rate, subsidised or free meals, finance or loans such as for house purchase, accommodation or housing, life assurance cover, private health scheme, recreation or sports facilities, maternity pay beyond the basic government scheme, child care assistance, career break schemes, and any other benefits. We constructed a summary score for access to fringe benefits, by assigning one point for each item that the employer provided across the range of these.

Task influence is also an important aspect of work, as it indicates people's capacity to exercise control over their jobs in the organisation, which in turn generates job satisfaction (Reskin and Padavic 1994). The EIB has two relevant questions with respect to task influence. Firstly, the respondents were asked, "how true would you say each of the following statements is about your job? (Q25)" Among the four statements, we selected the following two; "I have a lot of say over what happens in my job (Q25b)", and "my job allows me to take part in making decisions that affect my work (Q25c)". The answers were coded into very true, true, somewhat true and not at all true. The second question is, "how much influence do you personally have on each of the following? (Q49)" The list includes "deciding what tasks you are to do (Q49b)" and "deciding how you are to do the task (Q49c)". The answers were coded into a great deal, a fair amount, not much, and none at all. The four items scaled well, with a Cronbach's Alpha of .78. Using the responses to the above four questions, a variable of task influence was constructed by a principal components factor analysis. Principal components analysis is a statistical technique to construct a single representative variable from a set of variables (Kim and Mueller 1978). As can be

seen from Table 5.1, the factor extracted has a variance of 2.4, which is 61.2 % of the total variance of the four variables. Thus, the factor is adequate to represent the data.

Table 5.1 Principal components analysis of task influence

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
Q25b	.65475	*	1	2.44723	61.2	61.2
Q25c	.65545	*				
Q49b	.58713	*				
Q49c	.54990	*				

Source: The Employment in Britain survey
Note: Cronbach's alpha for the factor is .78.

Promotion chances and training chances are selected as they indicate the chances of economic advancement. The more promotion and training chances people have, the more likely it is that they reach higher positions in the organisation which will provide greater economic rewards as well as greater power to exercise authority and autonomy, which in turn will generate greater job satisfaction. In terms of promotion chances, the EIB asked the respondents, "how high do you think your chances are of being given a significant promotion with your present organisation?". The answer was coded into five categories; 100%/definite, 75%/high chance, 50%/fifty/fifty, 25%/low chance, and 0%/no chance at all. The answer was recoded into a binary variable of promotion chances; 50% or more chances of promotion, and less than 50% chances of promotion.

In terms of training chances, the EIB asked the respondents, "how likely are you to get training in the future with your present employer?" The answers were coded into four categories; very likely, fairly likely, fairly unlikely and not at all likely. We

recoded this variable into two categories; likely or unlikely.

Finally, job tenure indicates job security. The EIB asked the respondents, "do you think your job is considered by your employer to be (a) a temporary job lasting less than 12 months, (b) a fixed term job lasting between 1 and 3 years, or (c) a permanent job with no fixed time of ending?". We recoded this variable into two categories; permanent job(=(c)) or non-permanent job(=(a) or (b)).

As the measurement of occupational sex segregation, we use percent female in an occupation. We calculate percent female by using the 3-digit occupational classification of the Labour Force Survey 1992 Summer, and attach it to the EIB survey data. Both data sets are national random samples, and were conducted approximately at the same time, so that the method of creating a variable from the LFS and attaching it to the EIB is not statistically problematic. We are interested in the effect of this variable on various employment conditions described above. We will examine the linear effect of occupational sex segregation, that is, the possible change in the response variables by an increase in percent female in an occupation.

In order to see whether there is a significant impact of an increase in female percent in an occupation on employment conditions for both men and women in Britain, and whether the impact differs between men and women, we will firstly construct a model, which includes sex, percent female in an occupation, and the interaction term between sex and percent female as the predictor variables. The model formula for the ith person can be written as,

$$ECi = a + a1Si + a2Fi + a3Si.Fi + ui$$

where,

EC: employment conditions (e.g., hourly pay, benefits, etc.)

S: sex dummy. 1 if the ith person is female

F: percent female in the occupation of ith person

S.F : interaction between sex dummy and percent female

u: random error

What we are interested to see in this model is the coefficients of percent female in an occupation, and of the interaction term with sex. As we include the interaction term between sex and percent female in an occupation, the coefficient for percent female (=a2) is interpreted as the effect of an increase in percent female in an occupation for men, and the coefficient for the interaction term (=a3) estimates the difference in the effect of an increase in percent female in an occupation for men and women.[1] In other words, if the effect of the interaction term is significant, this indicates that an increase in percent female in an occupation generates different effects on the particular employment condition for men and women.

By examining the value of a2, which is the effect of percent female in an occupation for men, and the value of a2+a3, which is the effect of percent female in an occupation for women, we can see in which direction, negative or positive, an increase in percent female in an occupation affects men and women, as well as examine which sexes, men or women, are affected more by an increase in percent female in an occupation.

The results obtained from this model, however, simply represent the uneven distribution of men and women across the variables which influence employment conditions. Therefore, we need to add the variables which could possibly affect

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[1] For regression with dummy variables, see Hardy (1993).

employment conditions as control variables in our models to see the net effect of occupational sex segregation. As these variables, we include human capital variables, variables of organisational characteristics, variables of job characteristics, and a dummy variable for part-time work (see Table 5.2).

Table 5.2 Control variables used in analysis of employment conditions in Britain

Control variables	Definitions
Human capital variables	4 educational dummies; (1) a low level dummy, (2)an ordinary level dummy, (3)an advanced level dummy, and (4)a degree level dummy.[2]
	Years in the labour market
	Years out of the labour market
Organisational variables	5 dummies for the size of the organisation; (1)less than 10 workers, (2)10 to 24, (3)25 to 99, (4)100 to 499, and (5)500 or more workers
	Public sector dummy
	Union presence dummy
	18 dummies for industry; (1)agriculture, forestry and fishing, (2)energy and water supply, (3) extraction of minerals and ores other than fuels, (4) mechanical engineering and manufacture of vehicles, (5)electrical and electronic engineering, (6)other manufacturing, (7)construction, (8)retail, (9)hotels and catering, (10)transport and communication, (11)postal services and telecommunications, (12)banking, finance and insurance, (13)national and local government services, (14)education, research and development, (15)medical and other health services, (16)welfare, (17)leisure services, and (18) personal services
Job characteristics variables	6 job qualification dummies; (1)no qualification, (2)CSE equivalent, (3)O-level equivalent, (4)A-level equivalent, (5)post A-level, and (6)degree level
	6 former training dummies; (1)none, (2)less than 1 month, (3)1-3 months, (4)4-6 months, (5)7-12 months, and (6)over one year
Part-time dummy	=1 if working up to 30 hours a week

Source: The Employment in Britain Survey
Note: Unless otherwise stated, the first category of each variable is set as the reference category.

Economists suppose that those with greater human capital are more productive than those with lesser human capital. The more productive a worker is, the better bargaining position the worker is in, and therefore, the better employment conditions the worker should have. As the variables of human capital, we include educational

[2] For details of the variable of educational qualifications, see Appendix B.

qualifications, years in the labour market, and years out of the labour market. It is reported that women on average acquire less human capital than men; their educational attainment is relatively low, and they have shorter experience in the labour market, but longer experience out of the labour market. The supply-side explanation for occupational sex segregation suggests that because of this, women are concentrated into female occupations where their lesser human capital is least likely to be penalised. Thus, the results found in the previous model may be influenced by the effects of human capital.

Organisational characteristics also affect employment conditions, as they represent the capacity to provide different rewards to workers. As the variables of organisational characteristics, we include 4 dummies for the size of the organisation, a union presence dummy, a public sector dummy, and 17 industry dummies. For instance, large organisations may provide more favourable employment conditions, such as higher pay, higher chances of promotion and training, than smaller ones. Union presence may help to enhance better employment conditions. Also employment conditions might differ between public and private sectors, as well as by industry. Again, men and women are unevenly distributed across these variables. Women are more likely than men to be concentrated into small organisations, they are less likely to work in organisations without unions, they are more likely to work in the public sector, and they are more likely to be concentrated into the service industries. Thus, the results in the previous model might well reflect these uneven distributions between the sexes.[3]

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[3] We also report the results based on the models that exclude industry. Controlling for industry is based on the assumption that industries with unfavourable conditions do not have these conditions because of the sex composition of occupations in the industry. However, it seems more plausible that industry's overall employment conditions are affected by the concentration of female-dominated occupations or male-dominated occupations within the industry.

We also control for job characteristic variables. They are qualifications required for the job and former training periods for the job. These variables are supposed to influence employment conditions, as they indicate skill requirements for the job. The more skilled the job, the better the employment conditions the worker should have. These variables are different from human capital variables, as it does not necessarily happen that worker's human capital matches with their job requirements. It is reported that men occupy more skilled jobs than women (Horrell et al, 1990, Reskin and Roos 1990), so that this might well be reflected in the results of the previous model.

Finally, we add a part-time work dummy, as the division of part-time work and full-time work is reported to be relevant to the differentiation of employment conditions (Rubery et al, 1994, Tam 1995). Part-time jobs are predominantly done by women, and again the result in the previous model may reflect this.

The model formula which includes these controls variables can be written as,

$$ECi = a + a1Si + a2Fi + a3Si.Fi + a4HCi + a5ORi + a6JCi + a7PTi + ui$$

where,

HC: human capital variables

OR: organisational variables

JC: job characteristics variable

PT: part-time work dummy

other terms are the same as the previous model.

The interpretations of the coefficients of percent female in an occupation, and of the interaction term between sex and percent female in an occupation are the same as the previous model, but they represent the effects net of the other predictor variables in

the equation.

This model assumes that the effects of control variables on the response variable are the same for men and women. However, these control variables might have sex-specific effects. If women had less training in their jobs than men, this would generate different effect of years in the labour market for men and women. Also, it is reported that women are lower-paid than men after adjusting for job skills (Horrell et. al., 1994). In order to control for the potential sex difference in the effect of our control variables, we need to add the interaction terms between sex and each of the control variables in the above equation, as the following formula shows.

$$EC_i = a + a1Si + a2Fi + a3Si.Fi + a4HCi + a5Si.HCi + a6ORi + a7Si.ORi + a8JCi + a9Si.JCi + a10PTi + a11Si.PTi + ui$$

where,

S.HC: interaction term between sex and human capital variables

S.OR: interaction term between sex and organisational variables

S.JC: interaction term between sex and job characteristics variable

S.PT: interaction term between sex and part-time work dummy

Alternatively, we can make sex-specific functions. Constructing sex-specific functions makes it easier to interpret the results. By examining the coefficient of percent female in men's model (or women' model), we can see whether an increase in percent female in an occupation has a significant impact for men (or for women) after controlling for the effects of human capital variables, organisational characteristic variables, job characteristics variables, and a dummy variable for part-time work. Also, it enables us to avoid the potential problem of multicollinearity between sex and the other predictor

variables.[4] Thus, in order to control for the sex-specific effects of our control variables, we will construct separate models for men and women. The model formula for the ith male (or ith female) can be written as,

$$ECi = a + a1Fi + a2HCi + a3ORi + a4JCi + a5PTi + ui$$

Our response variables, log gross hourly pay, fringe benefits and task influence are or approximate to continuous variables, so that we use the OLS regression for modelling these variables. Promotion chances, training chances, and job security are binary variables, so that we use logistic regression for the modelling.

As can be seen in Table 5.3, there are significant sex differences for hourly pay, fringe benefits, task influence, promotion chances, and training chances, but not for job tenure.

Table 5.3 Average scores (and standard deviations) for variables of employment conditions

Dependent variables	All N=3469	Men N=1803	Women N=1667	Significance of Sex Gap
Ln Hourly Pay	1.74 (0.45)	1.87 (0.42)	1.60 (0.44)	***
Fringe Benefits	4.33 (3.11)	4.82 (3.15)	3.81 (2.97)	***
Task Influence	0.0001 (1.0001)	0.0517 (0.9988)	-0.0558(0.9988)	**
Promotion Chances	0.40 (0.49)	0.44 (0.50)	0.35 (0.48)	***
Training Chances	0.54 (0.50)	0.57 (0.50)	0.52 (0.50)	**
Job tenure	0.88 (0.33)	0.88 (0.32)	0.88 (0.32)	n.s.

Source: The Employment in Britain survey
Note: *** p<.001, ** p<.01

[4] For instance, the correlation between sex and percent female in an occupation is quite high (r=.68).

Modelling the impact of occupational sex segregation

Log Hourly Pay

We firstly examine log gross hourly pay. We can see from Table 5.4a that the model which includes both men and women without control variables, but just sex, percent female in an occupation, and the interaction term between them, shows that an increase in percent female in an occupation for men is significant and negative, which means that moving to more female occupations decreases men's hourly wage. This negative effect is significantly larger for women (-0.0011-0.0023 = -0.0034), so that women's hourly pay would decrease more than men's by an increase in percent female in an occupation (we tested separately for the significance of the female percent coefficient by running a model in which men were coded "1" so that coefficient of the non-interactive independent term reveals the effect for women). However, once we include our control variables (= human capital, organisational characteristics, job requirements, and a dummy for part-time work) in our model, the difference of the effect of occupational sex segregation for men and women is no longer significant. The results of the model with control variables, however, still show that both men and women lose their hourly pay by an increase in percent female in an occupation.

Table 5.4a Coefficients of percent female in an occupation in OLS regression on log hourly pay, Britain (N=2305)

	Without Controls		With controls	
	Coefficients	Standard errors	Coefficients	Standard errors
Fempct for men	-0.0011*	(0.0004)	-0.0013***/***	(0.0004)
Sex.Fempct	-0.0023***	(0.0007)	0.0004	(0.0006)
Fempct for women	-0.0034***	(0.0005)	-0.0009*/**	(0.0005)
Adj R^2	0.1018		0.4719	

Source: The Employment in Britain survey

Note: *** p<.001, ** p<.01, * p<.05. Asterisk after slash denotes significance if industry is excluded from the model.

Table 5.4b shows the coefficients of percent female in an occupation for separate models for men and women. The results show that even after controlling for the sex-specific effects of control variables, occupational sex segregation negatively affects both men's and women's pay in Britain.

Table 5.4b Coefficients of percent female in an occupation in OLS regression on log hourly pay with controls, British men and women

	Men	Women
Fempct	-0.0011**/**	-0.0009*/*
s.e.	(0.0004)	(0.0005)
Adj R^2	0.4236	0.4385
N	1176	1129

Source: The Employment in Britain survey
Note: *** p<.001, ** p<.01, * p<.05 Asterisk after slash denotes significance if industry is excluded from the model.

Fringe Benefits

We now turn to fringe benefits. Firstly the model including both men and women without control variables shows that an increase in percent female in an occupation increases, rather than decreases, men's fringe benefits (Table 5.5a). The effect of percent female in an occupation is significantly lower for women than for men, and it negatively affects women's fringe benefits, thus women's access to fringe benefits decreases as percent female in an occupation increases. The effect of percent female in an occupation net of human capital, organisational characteristics, job requirement, and full-time/part-time work, is still significant and positive for men, indicating that they gain more access to fringe benefits as they move to more female occupations. The coefficient for the interaction term shows that the effect is significantly lower for women than for men. However, for women, the effect is no longer significant after

controlling for other variables. Nevertheless, if we exclude industry dummies from the model, the effect of percent female is significant and negative for women. This seems to suggest that the effect of occupational sex segregation is cancelled out by including the industry dummies because of the concentration of female occupations into particular industries, such as education, research and development, medical and other health services, welfare, and personal services, which provide lesser access to fringe benefits.

Table 5.5a Coefficients of percent female in an occupation in OLS regression on fringe benefits, Britain (N=2825)

	Without Controls		With controls	
	Coefficients	Standard errors	Coefficients	Standard errors
Fempct for men	0.0077**	(0.0030)	0.0069**/**	(0.0027)
Sex.Fempct	-0.0325***	(0.0046)	-0.0119**/***	(0.0040)
Fempct for women	-0.0247***	(0.0035)	-0.0049$^{n.s.}$/***	(0.0032)
Adj R^2	0.0465		0.3563	

Source: The Employment in Britain survey p<.001, ** p<.01, * p<.05
Note: *** p<.001, ** p<.01, * p<.05. n.s = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

Table 5.5b Coefficients of percent female in an occupation in OLS regression on fringe benefits with controls, British men and women

	Men	Women
Fempct	0.0070*/**	-0.0088***/***
s.e.	(0.0031)	(0.0031)
Adj R^2	0.3172	0.3778
N	1454	1371

Source: The Employment in Britain survey
Note: *** p<.001, ** p<.01, * p<.05. Asterisk after slash denotes significance if industry is excluded from the model.

Separate models for men and women show that after controlling for the other variables, an increase of percent female in an occupation significantly decreases women's access to fringe benefits (see Table 5.5b). For men, as in the previous

model, an increase in percent female in an occupation significantly increases their access to fringe benefits.

Task Influence

Table 5.6a shows the result for the models for task influence for men and women. The model without controls shows that the effect of percent female in an occupation is not significant for men. However, it is significantly lower for women, indicating that women lose task influence as they work in more female occupations. Nevertheless, after controlling for other variables relevant to employment conditions, occupational sex segregation no longer has a significant effect on either men or women.

Table 5.6a Coefficients of percent female in an occupation in OLS regression on task influence, Britain (N=2768)

	Without Controls		With controls	
	Coefficients	Standard errors	Coefficients	Standard errors
Fempct for men	0.0012 n.s./ n.s.	(0.0009)	0.0005 n.s./ n.s.	(0.0010)
Sex.Fempct	-0.0036**	(0.0015)	-0.0023 n.s./ n.s.	(0.0015)
Fempct for women	-0.0024*	(0.0012)	-0.0019 n.s./ n.s.	(0.0012)
Adj R^2	0.0053		0.1431	

Source: The Employment in Britain survey.
Note: *** p<.001, ** p<.01, * p<.05. n.s.= not significant. Asterisk after slash denotes significance if industry is excluded from the model.

Table 5.6b Coefficients of percent female in an occupation in OLS regression on task influence with controls, British men and women

	Men	Women
Fempct	-0.0003 n.s./ n.s.	-0.0017 n.s./ n.s.
s.e.	(0.0010)	(0.0012)
Adj R^2	0.1685	0.1223
N	1428	1340

Source: The Employment in Britain survey.
Note: *** p<.001, ** p<.01, * p<.05. n.s. = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

This result is supported even after controlling for sex-specific effects of control variables (see Table 5.6b). Therefore, the level of task influence seems to be relevant to other factors, such as human capital, organisational characteristics, job requirements, and part-time/full-time status, rather than occupational sex segregation *per se*.

Promotion Chance

We now turn to promotion chances. The model without control variables shows that the effect of percent female in an occupation for men is significant and positive; men increase their chances of promotion as they work in more female occupations. The effect is significantly lower for women, and it is significant and negative for women; women lower their chances of promotion as they work in more female occupations.

Table 5.7a Coefficients of percent female in an occupation in logistic regression on promotion chances, Britain (N=2753)

	Without Controls		With controls	
	Coefficients	Standard errors	Coefficients	Standard errors
Fempct for men	0.0048**	(0.0019)	0.0031 n.s./*	(0.0023)
Sex.Fempct	-0.0130***	(0.0031)	-0.0055 n.s./ n.s.	(0.0036)
Fempct for women	-0.0082***	(0.0024)	-0.0024 n.s./ n.s.	(0.0029)
Chi sqr	52.155***	df = 3	471.578***	df = 42

Source: The Employment in Britain survey.
Note: *** p<.001, ** p<.01, * p<.05 n.s. = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

However, the model with control variables shows that the effect of an increase of percent female in an occupation net of human capital, organisational characteristics, job requirements, and full-time/part-time status, is not significant for either men or women. If we exclude industry from the model, however, the effect for men appears

significant and positive. This seems to be because men particularly have advantages in their promotion chances in industries which have a large share of female-dominated occupations, such as retail, welfare, and personal services.

Table 5.7b Coefficients of percent female in an occupation in logistic regression on promotion chances with controls, British men and women

	Men	Women
Fempct	0.0027 n.s. / n.s.	-0.0036 n.s./*
s.e.	(0.0026)	(0.0030)
Chi sqr	288.133	200.877
df	40	40
N	1429	1324

Source: The Employment in Britain survey.
Note: *** p<.001, ** p<.01, * p<.05. Asterisk after slash denotes significance if industry is excluded from the model.

After controlling for sex-specific effects of control variables, the result for men shows that occupational sex segregation does not significantly affect men's promotion chances. Neither does it affect women (see Table 5.7b). However, if we exclude industry from the model, the effect of percent female in an occupation is significant for women, and the coefficient is negative. Again, this seems to suggest that in industries which have large share of female-dominated occupations, such as education, research and development, medical and other health services, and personal services, women have less chances of promotion.

Training Chances

Table 5.8a shows the coefficients for percent female in an occupation for the models of training chances. The result for the model without control variables shows that the effect of percent female in an occupation is significant and positive for men; men's training chances increase as they work in more female occupations. The effect is

significantly lower for women, and women are negatively affected by an increase in percent female in an occupation; women's training chances decrease as they work in more female occupations. After controlling for human capital, organisational characteristics, job requirements, and part-time/full-time status, the effect for men is still significant and positive. The effect is significantly lower for women, but it is no longer significant.

Table 5.8a Coefficients of percent female in an occupation in logistic regression on training chances, Britain (N=2762)

	Without Controls		With controls	
	Coefficients	Standard errors	Coefficients	Standard errors
Fempct for men	0.0095**	(0.0021)	0.0066*/***	(0.0025)
Sex.Fempct	-0.0175***	(0.0031)	-0.0119**/***	(0.0038)
Fempct for women	-0.0080***	(0.0024)	-0.0052 n.s. / n..s.	(0.0030)
Chi sqr	41.134***	df = 3	744.310***	df = 42

Source: The Employment in Britain survey
Note: *** p<.001, ** p<.01, * p<.05. n.s. = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

Table 5.8b Coefficients of percent female in an occupation in logistic regression on training chances with controls, British men and women

	Men	Women
Fempct	0.0077**/***	-0.0048 n.s. / n..s.
s.e.	(0.0028)	(0.0031)
Chi-sqr	427.672	353.405
df	40	40
N	1423	1339

Source: The Employment in Britain survey.
Note: *** p<.001, ** p<.01, * p<.05. n.s. = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

Separate models for men and women basically show the same results; men are more likely to have training chances as they move to more female occupations, but

women's training chances are not significantly affected by occupational sex segregation (see Table 5.8b).

Job tenure

Finally, we examine job tenure. The model without control variables shows that the effect of percent female in an occupation is significantly greater for women than for men, and it positively affects women's job tenure (see Table 5.9a). Therefore, women's chance to get a permanent job increases as they work in more female occupations. However, the effect for men is insignificant so that occupational sex segregation does not significantly affect men's job tenure. The same result can be found if we include human capital, organisational characteristics, job requirements and part-time/full-time work as controls.

Table 5.9a Coefficients of percent female in an occupation in logistic regression on job tenure, Britain (N=2760)

	Without Controls		With controls	
	Coefficients	Standard errors	Coefficients	Standard errors
Fempct for men	-0.0059	(0.0030)	-0.0006 n.s./ n.s.	(0.0034)
Sex.Fempct	0.0131**	(0.0044)	0.0136**/**	(0.0049)
Fempct for women	0.0072*	(0.0033)	0.0130**/*	(0.0038)
Chi sqr	9.500*	df = 3	147.539*	df = 42

Source: The Employment in Britain survey.
Note: *** p<.001, ** p<.01, * p<.05. n.s. = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

This is the same even if we further control for sex-specific effects of control variables (see Table 5.9b). Thus, job tenure is the only dependent variable in which we found a positive impact of occupational sex segregation for women.

Table 5.9b Coefficients of percent female in an occupation in logistic regression on job tenure with controls, British men and women

	Men	Women
Fempct	-0.0005 n.s./n.s.	0.0090*/*
s.e.	(0.0037)	(0.0043)
Chi sqr	70.802	141.468
df	40	40
N	1415	1345

Source: Employment in Britain survey.
Note:*** p<.001, ** p<.01, * p<.05. n.s. = not significant. Asterisk after slash denotes significance if industry is excluded from the model.

Summary and Conclusion

In summary, our findings show that after controlling for human capital, organisational characteristics, job requirements and full-time/part-time work, both men and women receive lower pay as they work in more female occupations. However, men gain more access to fringe benefits and more training chances as they work in more female occupations. On the other hand, women lower their access to fringe benefits, though they gain more secure jobs as they work in more female occupations. What do these findings imply for the aggregate stability of occupational sex segregation, or the patterns of individual job mobility across sex-typed occupations that are found in the previous chapters?

Firstly, from employer's point of view, it seems in their interests to employ women in female occupations. By doing this, they could cut labour costs by providing women with less economic rewards (i.e., pay and fringe benefits) relative to their human capital or job skills. The advantage in job tenure for women in more female occupations might suggest that this cost effectiveness leads British employers to utilise women seriously in these occupations. Thus, British employers have incentives

to maintain occupational sex segregation by hiring and retaining women in female occupations, and this seems to be reflected in the aggregate stability of occupational sex segregation in the British labour market.

Secondly, for men, they lower their pay as they work in more female occupations. However, our results also suggest that men have greater access to fringe benefits and training chances as they work in more female occupations. Therefore, even if men lose their income as they move to more female occupations, they could get some compensations. Thus, female occupations do not necessarily disadvantage men.[5] Men's low attrition of male occupations, their greater inflows into male occupations from other occupations, and their relatively long job duration in male occupations, that are found in the previous chapter, however, seem to suggest that there are incentives for men to move to and stay in male occupations. Although it is difficult to compare the loss of pay to the gain of fringe benefits and training chances by an increase in percent female in an occupation, greater pay in more male occupations could well be one of the factors which induce men's movements into male occupations and make them stay in these occupations.

Finally, for women, occupational sex segregation negatively affects their pay and fringe benefits; women lower their pay and lose access to fringe benefits as they work in more female occupations. This might be reflected in their relatively higher attrition from sex-typical occupations as well as their relatively shorter job duration in sex-typical occupations compared to men, as we found in the previous chapter.

Having said that, however, the question of why women enter and stay in female occupations still remains. Even if it is cost effective for employers to hire and

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[5] This might help to avoid the potential conflicts between employers and male workers in these occupations, as suggested elsewhere (see Williams 1993).

retain women in female occupations, and this helps to generate more job opportunities for women in female occupations, women still seem to have alternative options in the labour market. In fact, some women, if not many, do enter and remain in male occupations as we saw in the previous chapter.

Thus, we were not very successful in explaining the patterns of women's movement between sex-typed occupations in this chapter. We will, therefore, investigate further why women move to and remain in female occupations by focusing on job preferences and job satisfaction in Chapter 7. But firstly in the next chapter, we will compare the impact of occupational sex segregation on employment conditions between Britain and Japan, to examine the issue of why the extent of occupational sex segregation is greater in Britain than in Japan.

CHAPTER 6

OCCUPATIONAL SEX SEGREGATION AND EMPLOYMENT CONDITIONS 2: COMPARISON OF BRITAIN AND JAPAN

Introduction

As we found in Chapter 3, at the aggregate level, the extent of occupational sex segregation is substantially greater in Britain than in Japan. This is because both men and women in Britain are concentrated into sex-typical occupations, while in Japan, this is only the case for men, but not for women. In the previous chapter, we found that women receive lower pay and lose access to fringe benefits as they work in more female occupations. We have argued that this can be one of the factors contributing to the maintenance of occupational sex segregation, since British employers can cut labour costs relative to human capital and skills by hiring women in more female occupations. If this mechanism of occupational sex segregation is valid, then occupational segregation should generate greater benefits for British employers than for Japanese employers, so that the former have more incentives to provide more job opportunities for women in female occupations, while the latter have little incentive to do so.

In this chapter, we will examine the impact of occupational sex segregation on employment conditions in Britain and Japan, using two sources of data - the International Social Justice Project survey data and the Comparative Project on Class Consciousness survey data - both of which have the same or equivalent questions for both countries. We will examine income, supervisory responsibilities, job autonomy

and promotion chances as the characteristics of employment conditions. We will firstly examine to what extent sex differentiates these variables, and how much occupational sex segregation accounts for the sex differences in Britain and Japan. In the second half of this chapter, we will focus on the payment systems of Britain and Japan, trying to understand why the implications of occupational sex segregation differ between Britain and Japan. Also we will discuss how this could affect the aggregate patterns of occupational sex segregation.

Sex differences in employment conditions and occupational sex segregation

Although there are some statistics which make it possible to compare sex pay differential across countries (see for example, ILO 1995), it is difficult to find data which permits us to compare sex difference in other aspects of employment conditions. The International Social Justice Project survey data and the Comparative Project on Class Consciousness survey data, however, allow us to compare the sex gap in various employment conditions, such as income, supervisory responsibilities, job autonomy, and promotion chances, between Britain and Japan. However, since these two data sets have smaller sample sizes as compared to the Employment in Britain survey data, and lack the equivalent variables to those found in the EIB, we will apply simpler analyses in this chapter than the one we did in the previous chapter.

Income data comes from the International Social Justice Project survey (ISJP, for details of the sample, see Chapter 1, p21). In the ISJP, the respondents were asked their annual income from their jobs before tax. For Britain, it was the income of the respondent in the last 12 months before tax and for Japan it was the income of the respondent in 1990 before tax.

Data on supervisory responsibilities, job autonomy and promotion chances comes from the Comparative Project on Class Consciousness survey (CPCC, for details of the sample, see Chapter 1, pp21-22). As we noted in Chapter 1, the Japanese survey is not a national representative sample but a representative sample of persons living in Tokyo metropolitan area, so that we need some caution in comparing the results between Britain and Japan.[1]

The variable for supervisory responsibility is binary - whether or not to supervise others. The wording of the question for Britain is "as part of your job do you supervise or manage the work of other employees?", and for Japan is "as an official part of your job, are you in a position in which you supervise the work of other employees or give instructions to other employees?". The job autonomy variable is also binary. The wording for Britain is "is yours a job which allows you to design and plan important aspects of your own work or is your work largely defined for you?", and for Japan is "is your job the one in which you are required to design important aspects of your own work and put your idea into practice? Or is yours a job in which most of your work is routinized?". The variable of promotion chances is binary as well. The British survey asked the respondents "how high you think your chances are

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[1] As we already noted in Chapter 1, compared to the Japanese Census, the men's sample over-represents professional, technical, managerial and clerical workers, and significantly under-represents skilled, semi-skilled and unskilled workers. The women's sample significantly over-represents clerical, sales and service workers, slightly under-represents professional and technical workers, and significantly under-represents skilled, semi-skilled and unskilled workers (Ushijima 1995). In analysing the Japanese CPCC data to compare the situation between Britain and Japan, we took this into consideration, applying extra analyses, such as the one after controlling for occupational distribution or enterprise size, and see whether we can confirm the results. By doing this, we found that the analyses after controlling for the size of enterprises (4 categories) as well as occupational class (higher non-manual/lower non-manual/manual) basically supported the arguments made in this chapter (results not shown here).

of being given a significant promotion within your present organisation?", and the respondents answered on a 5 point-scale, 1) 100% definite, 2) 75% high chance, 3) 50% fifty/fifty, 4) 25% low chance, and 5) 0% no chance. We recoded the variable into two categories, 1) 50% or more chances and 2) less than 50% chances, so that we can find a comparability with the Japanese variable, which is based on the response to the question, "at your place of work, are more than half the people in a position like yours likely to get significant promotions?".

In this section, we will divide the data by sex and groups of occupational sex segregation, and examine whether each group has different employment conditions from the others. We constructed a variable of occupational sex segregation which has three categories, according to percent female in an occupation, 1. male (0-30 percent female in an occupation), 2. mixed (31-69 percent female in an occupation), and 3. female (70-100 percent female in an occupation). This classification corresponds to the one used in Chapters 3 and 4, so that examining men's and women's employment conditions by using this variable helps us to understand why men and women are distributed differently into these three groups of occupations (Chapter 3), and why men and women show systematic movements between the three groups of occupations (Chapter 4). As mentioned, the advantage of this classification is that it is not country-specific, and it is gender-symmetrical (see Chapter 3). Also it is often used by research on occupational sex segregation (Jacobs 1989b, Rosenberg and Spenner 1995). The percentage is calculated using the 3-digit occupational classification of the labour force survey or the census of each country. For the British ISJP, the percentage based on the 1991 labour force survey was attached, and for the British CPCC, the one based on the 1984 labour force survey was attached. For Japan, since the detailed

occupational classification is only available in the censuses in every five years, but not in the labour force survey, we attached the information from the census which was conducted at the nearest point in time. For both the Japanese ISJP and CPCC, we used the 1990 census. For the Japanese CPCC, we could use the 1985 census, but we used the 1990 census for the following reasons. Firstly, the occupational classification in the CPCC corresponds to the 1990 census classification, rather than the 1985 census classification, so that it is easier to attach the 1990 census data rather than the 1985 census data. Secondly, the Equal Employment Opportunity Law came into force in 1986, so this might have changed the distribution of men and women across occupations. As the Japanese CPCC was conducted in 1987, it is preferable to use the 1990 census.

We will firstly compare between male employees and female employees. Women are divided between full-timers and part-timers. Only full-timers are included for men, due to the small number of part-timers among them. The definition of part-time work is controversial in both countries. There are basically two definitions: one is by the status defined by the employment contract or reported by the respondent, and the other is based on working hours. For the latter, 30 hours a week is conventionally used as the dividing point between full-time work and part-time work in Britain, while 35 hours a week is used in Japan. However, these two definitions do not necessarily coincide.[2] This is particularly so for Japan: a survey on part-time workers in 1989 reported that nearly one-fifth of so-called part-timers worked as long hours as full-timers with the average worker working 43 hours as week (*Rododaijin-kanbo-seisaku-*

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[2] The Employment in Britain survey data, however, shows that two definition in Britain often coincide. 95% of self-reported full-time employees worked 30 hours or more a week, and 93% of self-reported part-time employees worked less than 30 hours a week.

chosabu 1990). Thus, from the point of view of comparability, it is preferable to use the working-hour definition.

In analysing supervisory responsibilities, job autonomy and promotion chances using the Comparative Project on Class Consciousness data, we use the variable of full-time/part-time work based on working hours. In terms of the ISJP, however, the variable of self-reported part-time/full-time status is only available.

As it is reported that employment conditions between female full-timers and female part-timers differ significantly (Martin and Roberts 1984, Rubery et al 1994), and the distribution of part-timers differs across gendered occupations (Jacobs, S 1995, Hakim 1996), we will select full-time employees but exclude part-time employees to see the effect of occupational sex segregation on employment conditions.

Income

We firstly examine gross annual income for Britain and Japan. From Table 6.1a we can see that for Britain, the mean annual income for female full-time employees is 10,567 pounds, which is 70 percent of that for male full-time employees (= 15,093 pounds). Female part-timers earned 32% of the amount of male full-timers, and 46% of female full-timers. For Japan, female full-timers on average earned 2,875,660 yen a year, which is 52% of the amount of male full-timers (= 5,478,797 yen). Japanese female part-timers earned 19% of the amount of male full-timers and 37% of female full-timers. Thus, in both Britain and Japan, women's annual income is significantly lower than men, and female part-timers' income is significantly lower than female full-timers' income. However, compared to Britain, the sex gap in annual income for

Japan is substantially greater, so is the gap between female full-time employees and female part-time employees.[3]

Table 6.1a Average gross annual income by sex by full-time/part-time work, Britain and Japan

	Britain	(pounds)	Sig.	Japan	(yen)	Sig.
	Men	Women	men vs. women	Men	Women	men vs. women
Full-time	15,093	10,567	***	5,478,797	2,875,660	***
%	100%	70%(100%)		100%	52%(100%)	
N	275	160	fft vs. fpt	133	53	fft vs. fpt
Part-time		4,876	***		1,061,515	***
%		32%(46%)			19%(37%)	
N		135			33	

Source : The International Social Justice Project survey
Note: *** $p < .001$, fft = female full-time employees, fpt = female part-time employees

We now examine the effects of occupational sex segregation on men's and women's income (see Table 6.1b). As mentioned, only full-time employees are included in this analysis. For Britain, there are marked differences for both men and women between those in male or mixed occupations and those in female occupations. The differences are statistically significant at the 5% level. For British men, those in female occupations on average earned only 63% of the amount of those in male occupations, and 56% of the amount of those in mixed occupations.[4] For British

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[3] Similar figures can be found in the ILO Year book of Labour Statistics 1995. According to the ILO statistics, for non-agricultural workers, in 1991, Japanese women earned 51% of the amount of men, and British women earned 70% of the amount of men, though the figure for the former is based on earnings per month and the latter per hour.

[4] The effect of occupational sex segregation on employment conditions is not linear, but mixed occupations often show the best conditions in our analysis. This seems to be because people with degree-level qualifications are most likely to be found in mixed occupations, and these occupations are most likely to include professional/managerial occupations. However, the difference in employment conditions between male occupations and mixed occupations is not statistically

women, the mean income for those in female occupations is 80% of the amount for those in male occupations, and 75% of the amount for those in mixed occupations. Thus, female occupations provide substantially lower income than the other occupations for both men and women in Britain, but this is particularly so for men.

The sex gap in income in Britain is lower than the average in every occupational segregation group, showing that it is partly accounted for by occupational sex segregation. The largest decrease can be found for female occupations, where women's income is as much as 97% of men's. This is not because women earned a good amount of income in these occupations, but because men's income is substantially lower in these occupations than the other occupations. If male occupations and mixed occupations are compared, the sex gap becomes lower in the former than the latter. Women in male occupations earned 77% of the amount of men in these occupations, while women in mixed occupations earned 73% of the amount of men in these occupations.

For Japan, we do not find that female occupations particularly disadvantage men's and women's income. For men, it is those in mixed occupations who had the lowest income, though the average income for those in mixed occupations is not significantly lower compared to those in male occupations (the difference is not significant at the 10% level). For women, on the contrary to men, mixed occupations provided the highest income, and female occupations did not provide the lowest

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significant at the 5% level for both men and women for all the variables of employment conditions, except for men's job autonomy. In the last half of this chapter, however, we will examine the effect of occupational sex segregation after controlling for educational qualifications, occupational class, and other factors relevant to employment conditions.

income, though the difference in women's income by the groups of occupational sex segregation is not statistically significant at the 10% level.

Table 6.1b Average gross annual income by sex-typed occupations, Britain and Japan

	Britain	(pounds)	Japan	(yen)
	Men	Women	Men	Women
Male occupations	15,209	11,691	5,411,363	2,500,000
%	100%	77%	100%	46%
N	189	17	88	2
Mixed occupations	17,236	12,459	4,823,529	2,997,187
%	100%	73%	100%	62%
N	64	48	34	32
Female occupations	9,631	9,368	5,163,333	2,794,444
%	100%	97%	100%	54%
N	29	94	6	18

Source : The International Social Justice Project survey

When the sex gap is examined across gendered occupations for Japan, it is mixed occupations where the largest decrease in the sex gap can be found for Japan, though the gap is still very large (= 62%). This is because men's income in these occupations is relatively low, while women's income in these occupations is relatively high. However, there is no evidence that the sex gap decreases in male occupations, though the case number for women might be too small to confirm this. Also, the sex gap shows little change in female occupations where women earned only 54% of the amount of men.

In sum, the sex gap in annual income is substantially larger in Japan than in Britain. The sex gap decreases for Britain after controlling for occupational sex segregation, but this is not true in all cases for Japan. The sex gap does decrease for mixed occupations in Japan, but even so, women earned only 62% of the amount of

men, a substantially smaller proportion compared to their British counterparts. It is possible that Japan has a higher degree of vertical sex segregation within occupations, which cannot be captured by our measurement of occupational sex segregation as it primarily captures horizontal segregation. This may help to explain the greater sex gap in income in Japan. Next, we will look at supervisory responsibilities which reflect the vertical aspects of work. If the sex gap in supervisory responsibilities is still large and hardly affected after controlling for occupational sex segregation, this helps to account for the greater sex gap in income in Japan than in Britain.

Supervisory responsibilities

Table 6.2a shows the sex gap in supervisory responsibilities in Britain and Japan. In Britain, 40% of male full-time employees supervised others while the figure for female full-time employees is 31%, and for female part-time employees is 20%. In Britain, women are significantly less likely to have supervisory responsibilities than men. On the other hand in Japan, 54% of male full-timers replied that they had supervisory responsibilities, while only 12% of female full-timers and 10% of female part-timers replied so.[5] Thus, compared to their British counterparts, Japanese women, whether in full-time work or in part-time work, are much less likely to have supervisory responsibilities than men.[6]

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[5] If we apply the British definition of full-time/part-time work, the figure are slightly changed; they are 53.4% for male full-timers, 14.2% for female full-timers, and 2.2% for female part-timers.

[6] The difference in supervisory responsibilities between Japanese female full-timers and Japanese female part-timers is not statistically significant at the 10% significance level.

Table 6.2a Percentage of workers who supervise others by sex by full-time/part-time work, Britain and Japan

	Britain		Japan	
	Men	Women	Men	Women
Full-time	39.7%	31.4%	53.6%	12.0%
N	248/376	103/225	135/117	16/117
Part-time		20.0%		9.8%
N		20/154		6/55

Source : The Comparative Project on Class Consciousness survey
Note: The number before slash denoted the number of workers who supervise others, and after slash the number of workers who do not. 30 hours a week is used to divide between full-time work and part-time work in Britain, but 35 hours a week is used for Japan.

We now turn to the effect of occupational sex segregation on men's and women's supervisory responsibilities, and on the sex gap (see Table 6.2b). For both men and women in Britain, those in female occupations are least likely to say that they had supervisory responsibilities, but this is more likely so for men.[7] In female occupations, women are more likely than men to report that they had supervisory responsibilities. For both men and women, those in mixed occupations are most likely to reply that they had supervisory responsibilities, and in this group, the sex gap is just 2%.[8] In male occupations, men are more likely to report that they had supervisory responsibilities than women, but the difference is only 5%. Thus, the sex gap is lower than the average for every occupational sex segregation group for Britain.

On the other hand in Japan, in every occupational sex segregation group, the sex gap in supervisory responsibilities remains large. No women in male occupations had supervisory responsibilities[9], while more than half of men in these occupations

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[7] The differences for men between male/mixed occupations and female occupations, and for women between mixed occupations and female occupations are statistically significant at the 5% level.
[8] For both men and women, however, the differences between male occupations and mixed occupations are not statistically significant at the 5% level.
[9] The Japanese Social Justice Project Survey data also shows that no women out of 5 in male occupations had supervisory responsibilities.

had supervisory responsibilities. However, in mixed occupations, the sex gap becomes smaller, since relatively many women (19%) reported that they supervised others.[10] Having said this, the sex gap in mixed occupations is still large with a difference of nearly 20%. In female occupations, the sex gap is very large as women hardly had supervisory responsibilities in these occupations, though men on average had the lowest supervisory responsibilities in these occupations.[11]

Table 6.2b Percentage of men and women who supervise others by sex-typed occupations, Britain and Japan

	Britain		Japan	
	Men	Women	Men	Women
Male occupations	39.7%	35.1%	53.2%	0%
N	192/293	13/24	66/58	0/8
Mixed occupations	50.0%	48.0%	46.7%	18.9%
N	45/45	36/39	42/48	14/60
Female occupations	20.8%	24.7%	30.8%	4.3%
N	10/38	53/162	4/9	2/44

Source : The Comparative Project on Class Consciousness survey data
Note: The number before slash denoted the number of workers who supervise others, and after slash the number of workers who do not.

Thus, after controlling for occupational sex segregation, the sex gap in supervisory responsibilities becomes very small in Britain, while in Japan, there still remains a great sex gap. This seems to be reflected in the greater sex gap in income within occupational sex segregation groups in Japan than in Britain.

[10] The difference between women in mixed occupations and women in female occupations is statistically significant at the 5% level.

[11] However, we cannot find any statistical evidence that the supervisory responsibilities for men in female occupations is significantly lower compared to men in other occupations.

Job Autonomy

We now turn to job autonomy. For Britain, the difference between male full-timers and female full-timers is not significantly large; 27% of male full-timers replied that their jobs required them to design important aspects of their work, and the figure for female full-timers is 21%.[12] Whereas, a significant difference can be found between female full-timers and female part-timers in Britain; the proportion of female part-timers whose jobs required them to design important aspects of their work is just 10%.[13] On the other hand, a substantially greater sex gap can be found for Japan. As much as 61% of male full-timers replied that their jobs required them to design important aspects of their work, while the proportion for female full-timers is 31%, and for female part-timers is 20%.[14]

Table 6.3a Percentage of workers who design important aspects of their work by sex by full-time/part-time work, Britain and Japan

	Britain		Japan	
	Men	Women	Men	Women
Full-time	26.9%	21.1%	60.7%	30.8%
N	166/451	69/258	153/99	41/92
Part-time		10.4%		19.7%
N		18/155		12/49

Source : The Comparative Project on Class Consciousness survey data
Note: The number before slash denoted the number of workers who design important aspects of their work, and after slash the number of workers who do not. 30 hours a week is used to divide between full-time work and part-time work in Britain, but 35 hours a week is used for Japan.

[12] The difference is not statistically significant at the 5% level.

[13] The difference between female full-timers and female part-timers is statistically significant at the 5% level.

[14] The difference for Japanese women between full-timers and part-timers is not statistically significant at the 10% level. If we use the British definition of full-time/part-time work, the figures for Japan are very similar: 60.5% for male full-timers, 30.4% for female full-timers, and 17.4% for female part-timers.

After controlling for occupational sex segregation, the sex gap in Britain further decreases, and the figures for men and women in each occupational sex segregation group become quite similar with the difference within 2%. Again, for both men and women in Britain, those in female occupations are least likely to say that their jobs required them to design important aspects of their work compared to other occupations, while those in mixed occupations are most likely to reply so.[15]

Table 6.3b Percentage of men and women who design important aspects of their work by sex-typed occupations, Britain and Japan

	Britain		Japan	
	Men	Women	Men	Women
Male occupations	25.7%	27.0%	61.3%	25.0%
N	123/356	10/27	76/48	2/6
Mixed occupations	38.9%	36.0%	65.6%	29.7%
N	35/55	27/48	59/31	22/52
Female occupations	16.7%	14.5%	38.5%	32.6%
N	8/40	31/183	5/8	15/31

Source : The Comparative Project on Class Consciousness survey data
Note: The number before slash denoted the number of workers who design important aspects of their work, and after slash the number of workers who do not.

With respect to Japan, the sex gap in job autonomy remains large for male and mixed occupations. On the other hand, it decreases substantially in female occupations, where the proportion of men who replied that their jobs required them to design important aspects of their work is considerably smaller than in other occupations.[16] For women, however, those in female occupations are more likely to

[15] The differences for both men and women between female occupations and male/mixed occupations are statistically significant at the 5% level. For men, the difference between mixed occupations and male occupations is significant at the 5% level, but this is not the case for women.

[16] We cannot, however, find any statistical evidence that men in female occupations had lower job autonomy than other men.

say than other women that their jobs required them to design important aspects of work.[17] This is contrary to the result for British women.

Thus, after controlling for occupational sex segregation, the sex gap in job autonomy almost disappears for Britain. However, this is not the case for Japan where a large sex gap remains in male occupations, as well as in mixed occupations. It is notable that although for British men and women, as well as for Japanese men, female occupations are associated with lower job autonomy, this is not the case for Japanese women.

Promotion Chances

We now turn to promotion chances. From Table 6.4a we can see that not much difference can be found between male full-time employees and female full-time employees in Britain; 41% of male full-timers replied that they had a better than 50/50 chance of promotion, while the figure for female full-timers is 37%.[18] However, a significant difference can be found between female full-timers and female part-timers with only 17% of the latter replying that they had a better than 50/50 chance of promotion. On the other hand, for Japan, the sex gap is considerably larger; 52% of male full-timers replied that more than half the people in positions like them would have promotions, but the corresponding figure for female full-timers is 24%, and for female part-timers is just 5%.[19]

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[17] However, the difference between female occupations and other occupations is not statistically significant at the 10% level.

[18] The difference is not statistically significant at the 5% level.

[19] The difference is significant between male full-timers and female full-timers, as well as between female full-timers and female part-timers. If we use the British definition of part-time/full-time work, the figures are 51.9%, 21.7%, and 6.8% respectively, so the results do not change very much.

Table 6.4a Percentage of workers with more than 50% chances of promotion by sex by full-time/part-time work, Britain and Japan

	Britain		Japan	
	Men	Women	Men	Women
Full-time	40.7%	36.8%	52.1%	24.2%
N	227/331	106/182	123/113	31/97
Part-time		16.8%		5.1%
N		26/129		3/56

Source : The Comparative Project on Class Consciousness survey
Note: The number before slash denoted the number of workers who have 50% more promotion chances, and after slash the number of workers who do not. 30 hours a week is used to divide between full-time work and part-time work in Britain, but 35 hours a week is used for Japan.

Table 6.4b Percentage of men and women with more than 50% chances of promotion by sex-typed occupations, Britain and Japan

	Britain		Japan	
	Men	Women	Men	Women
Male occupations	39.3%	50.0%	55.5%	25.0%
N	170/263	16/16	66/53	2/6
Mixed occupations	44.0%	35.5%	46.3%	23.9%
N	37/47	22/40	38/44	17/54
Female occupations	48.8%	35.2%	72.7%	27.3%
N	20/21	68/125	8/3	3/12

Source : The Comparative Project on Class Consciousness survey
Note: The number before slash denoted the number of workers who have 50% more promotion chances, and after slash the number of workers who do not.

After controlling for occupational sex segregation (see Table 6.4b), for Britain, the sex gap reversed for male occupations, but increased for female occupations, This is because men in female occupation are most likely to say that they have a better than 50/50 chance of promotion, while women in male occupations are most likely to say so.[20] For Japan, however, the sex gap remains large in every occupational sex segregation group, though it slightly decreases for mixed occupations.

[20] However, we cannot find any statistical evidence that sex-type of occupations differentiate men's and women's promotion chances in Britain.

Summary

In summary, we found a considerably larger sex gap in income, supervisory responsibilities, job autonomy, and promotion chances for Japan than for Britain. Also, the gap between female full-timers and female part-timers is substantially larger in Japan than in Britain, except for job autonomy. It seems that employment conditions are differentiated by sex to a greater extent in Japan than in Britain.

Occupational sex segregation affects British employees. For men, those in female occupations have substantially lower income, less supervisory responsibilities and less job autonomy than other men, though this is not the case for their promotion chances. For women, as well, those in female occupations have considerably lower income, less supervisory responsibilities, and less job autonomy. Thus, for both men and women in Britain, those in female occupations are in disadvantageous positions. This helps to understand why the number of British men in female occupations is small (Chapter 3), why the attrition of female occupations for British men is high, and why the average duration of a job in female occupations for British men is shorter than in other occupations (Chapter 4). Though for British women, we still need to investigate the reason why they enter and remain in female occupations.

For Japan, occupational sex segregation did not show any systematic effect. However, workers' sex seems to be much more important than the sex-type of occupations in differentiating employment conditions; in every occupational sex segregation group, there remains a great sex gap. Nevertheless, the division between full-time work and part-time work greatly differentiates Japanese women's employment conditions. Thus, the concentration of Japanese women into part-time

work helps to account for the sex gap in employment conditions at the aggregate level, but occupational sex segregation seems to have little impact on it.

On the other hand in Britain, sex itself becomes less important after controlling for full-time/part-time work and occupational sex segregation. Rather, we have found that full-time/part-time work and the sex-type of occupations contribute to differentiate employment conditions. The differentiations by full-time/part-time work and by occupational sex segregation help to account for the sex gap in employment conditions at the aggregate level, given that women are concentrated into part-time work and into female occupations in Britain.

In the next section, we will examine why occupational sex segregation has less impact on employment conditions in Japan than in Britain by focusing on the payment systems in Britain and Japan.

Payment systems in Britain and Japan

Our results in the first half of this chapter suggest that occupational sex segregation is utilised to differentiate workers' employment conditions more in Britain than in Japan. In this section, we will focus on the payment systems in Britain and Japan, and examine why the function of occupational sex segregation differs for Britain and Japan.

There are various systems of pay, such as those based on job grading, seniority, or performance and merit. In Japan, it is often maintained that pay is mainly determined by the individual worker's characteristics, such as educational qualification, age, and the length of service, rather than by job characteristics (Kalleberg and Lincoln 1988, Tachibanaki 1996). In particular, seniority is said to be one of the important factors for the Japanese payment system, both directly affecting basic pay and indirectly through influencing the qualification grade system (Tachibanaki 1996, Sako 1997, also see Chapter 8 for details). On the other hand, in Western industrialised countries, including Britain, pay is more likely to be determined by job content and skills, rather than by individual workers' characteristics (Dore 1973, 1986, Kalleberg and Lincoln 1988, Rubery and Fagan 1994). This might be relevant to the differences in the function of occupational sex segregation in Britain and Japan, as occupational sex segregation exists at the job-level, rather than at the individual-level.

Also, if Japan greatly emphasises seniority, or life-time commitment to work, to determine the pay level, this would disadvantage women greatly, as women in

Japan are likely to have interrupted careers (see Chapter 2 and Chapter 4), and they have strong gender and family norms, and hence have heavy domestic burdens (Brinton 1993, Stockman et al 1995, and also see Chapter 8 for details). Therefore, it is difficult for Japanese employers to expect the same level of life-time commitment to work for women as for men. Thus, the combination of the emphasis on seniority pay, and women's intermittent work life or gendered family life seems to bring a double disadvantage to Japanese women for being women. While on the other hand, in the countries which emphasise job content and skills to determine the pay level, the disadvantage of being a woman would not be so great. However, the sex differences may appear in these countries as a result of differentiating job content or skills between the two sexes.

The International Social Justice Project survey (ISJP) allows us to examine how the systems of payment differ between Britain and Japan. We will firstly examine how people perceive the factors which determine their level of pay. Then, we will analyse income data with various explanatory variables, which could potentially affect the pay level.

In the International Social Justice Project, respondents were asked about the factors which they think *actually* influence the level of pay, as well as the factors which they think *should have* influenced the level of pay. These were (1)the employee's level of education, (2) unpleasant working conditions, such as dirty, noisy or strenuous work, (3)the employee's individual effort, (4)the size of the family the employee supports, (5)the responsibility held by the employee on the job, (6)the length of service with employer, and (7)being a man and not a woman. These factors

can be ordered according to the extent to which they belong to individuals or to their jobs. The order is presented in Table 6.5 and Table 6.6, where the top factor, i.e., sex, means the most personal-level characteristics, and the bottom factor, work conditions, means the most job-level characteristics. We place sex at the top, and family size as the second, as they are external to their job content. Educational level and the length of service also belong to individuals, but as they also indicate the ability of workers to carry out their work, they are relevant to their jobs. On the other hand, employees' effort and their responsibilities are more relevant to their jobs, as they are regarded as the aspects of job demand. Finally, work conditions are external to individuals, but job-specific. The answers for each factor were originally nominal, coded into four categories from 'a great deal' to 'none', but we recoded it into a 4-point scale score, where 4 means 'great deal' and 1 means 'none'. Table 6.5 shows the average scores for the factors which the respondents think actually influence the level of pay, and Table 6.6 shows the average scores for the factors which the respondents think should have influenced the level of pay.

Table 6.5 Factors which actually influence pay, Britain and Japan

	Britain (N=1297)	Japan (N=730)	Sig. Britain vs. Japan
Sex	2.5	3.0	***
Family size	1.5	2.5	***
Education	3.0	3.5	***
Length of service	2.7	3.2	***
Effort	2.9	2.7	**
Responsibilities	3.1	3.0	*
Work conditions	2.6	2.6	n.s.

Source : International Social Justice Project survey
Note: *** $p < .001$, ** $p < .01$, * $p < .05$, n.s.= not significant.

From Table 6.5 we can see that British people tend to think that job characteristics are actually more likely to be reflected in pay than personal characteristics; they tend to emphasise job related characteristics, such as responsibilities and effort, as well as individual ability and experience, more than personal characteristics, such as the size of the family to support and worker's sex. On the other hand in Japan, people are most likely to emphasise individual abilities to carry out work, such as educational level and the length of service. What is notable for Japan is that people put equal emphasis on worker's sex and job responsibilities. Moreover, worker's sex is more likely to be emphasised than job effort. If we compare between Britain and Japan, Japanese people are more likely to emphasise personal characteristics, i.e., worker's sex and the size of the family to support, as well as education and the length of service, than British people. While British people are more likely to emphasise the job characteristics, i.e., effort and responsibility, than Japanese people.

Table 6.6 Factors which should have influenced pay, Britain and Japan

	Britain (N=1297)	Japan (N=730)	Sig. Britain vs. Japan
Sex	1.4	2.0	***
Family size	1.9	2.8	***
Education	2.9	2.5	***
Length of service	3.0	3.0	n.s.
Effort	3.6	3.6	n.s.
Responsibility	3.6	3.4	***
Job condition	3.4	3.3	**

Source : International Social Justice Project survey
Note: *** $p < .001$, ** $p < .01$, * $p < .05$, n.s.= not significant.

Table 6.6 presents respondents' opinions about what should have influenced the level of pay. In Britain, we can see that people emphasise job-related characteristics more than personal characteristics, and this is the same for Japan.

However, if Britain and Japan are compared, Japanese people are more likely to emphasise personal characteristics, i.e., worker's sex and the size of the family to support, than British people, while British people are more likely to emphasise educational qualifications, job responsibilities and unpleasant working conditions. Also, compared to Table 6.5, people in both Britain and Japan feel that job characteristics should have influenced pay more than they actually do, and that personal characteristics should have influenced pay less than they actually do.

Thus, the results imply that the systems of payment are different for Britain and Japan. In Britain, not only human capital variables, but also job demand and content seem to be the main determinants of pay, but in Japan, personal characteristics, such as worker's sex, and the size of the family to support, as well as human capital, are likely to be emphasised.

These results have an important implication for the impact of occupational sex segregation on employment conditions. If the British payment system emphasises the characteristics of the "job" more than the characteristics of the "individual worker", occupational sex segregation, as a job characteristic, might become an alternative way to differentiate employment conditions for men and women in Britain other than sex *per se*. However, if the Japanese payment system emphasises the characteristics of the "individual worker" more than of the characteristics of the "job", workers' sex might have a greater impact on pay determination and other employment conditions. In the next section, we will analyse the income data and examine how the income level is determined in Britain and Japan, taking these different systems of payment, and different systems of sex differentiation into consideration.

Pay differentials between sexes and occupational sex segregation in Britain and Japan

So far, we have examined people's perception of the determinants of pay, but in this section, we will analyse income data using the International Social Justice Project survey data. The purpose here is to link the findings of the first part of this chapter (a greater sex gap remains for Japan than for Britain even after controlling for full-time/part-time work and sex-type of occupations) to the findings of the previous section (people in Britain and Japan put different emphasis between the personal characteristics and job characteristics as the potential determinants of pay).

We will construct a model which makes it possible to examine the factors that influence income for Britain and Japan. We select employees, as we assume that the decision about their employment conditions is external to them. The dependent variable in the model is the natural logarithm of gross annual income. The independent variables are sex, age, marital status, educational qualifications, the length of service in the present job, occupational class, supervisory responsibilities, occupational sex segregation, full-time/part-time work, size of organisations and industries. Sex, age, and marital status are personal characteristics of workers which are external to their jobs. Educational qualifications and the length of service in the present job belong to individual workers, but they also represent their abilities to carry out their work. Occupational class and supervisory responsibilities are used as the indicators of job content and skills. If it is right that job characteristics are more important for Britain than for Japan, these variables should affect the level of income for British employees more than for Japanese employees. Occupational sex segregation is also a job characteristic. Full-time/part-time work is included as a

control variable, as our dependent variable is gross annual income. Finally size of organisations and industries are also added as controls since they are structural variables that influence the income level.

Table 6.7 Variables used in analysis of income

Variables	Britain	Japan
Sex	Dummy variable, if female=1	Dummy variable, if female=1
Age	5 categories, (1)-24, (2)25-34, (3)35-44, (4)45-54 and (5)55+	5 categories, (1)-24, (2)25-34, (3)35-44, (4)45-54 and (5)55+
Marital Status	Dummy variable, if married=1	Dummy variable, if married=1
Educational Qualification	4 CASMIN levels[21], (1)low,(2)ordinary,(3)advanced & (4) degree	4 CASMIN levels (1)low,(2)ordinary,(3)advanced & (4) degree
Length of Service	length of service with current employer in months	length of service with current employer in months
Occupational Class	Goldthorpe 8 categories, (1) salariat, (2)routine clerical, (3)petite bourgeois, (4)farmers (5)supervisors,(6)skilled workers, (7)semi and unskilled workers, (8)agricultural workers	SSM 8 categories[22], (1)professional, (2)managerial, (3)clerical, (4)sales (5)skilled workers,(6)semi-skilled workers, (7)unskilled workers, (8)agricultural workers
Supervisory responsibilities	Dummy variable, if supervise others =1.	Dummy variable, if supervise others =1.
Occupational Segregation	%female in an occupation from the LFS91	%female in an occupation from the Census90
Part-time/Full-time	self report	self report
Size of the organisation	(1) up to 9, (2) 10-24, (3)25-99, (4) 100-499, and (5)500 or more	1) up to 9, (2) 10-24, (3)25-99, (4) 100-499, and (5)500 or more
Industries	(1) construction (2)durable manufacturing (3) non-durable manufacturing, (4)communications and utility, (5)wholesale/retail, (6)business service, (7)personal service, (8)public services/non-profit service	(1) construction (2)durable manufacturing (3) non-durable manufacturing, (4)communications and utility, (5)wholesale/retail, (6)business service, (7)personal service, (8)public services/non-profit service

Source: The International Social Justice Project survey

Note: Unless otherwise stated, the first category of each categorical variable is set as the base category to create dummy variables.

[21] See Appendix B for the detailed classification and recoding system for the CASMIN educational levels.

[22] See Appendix B for the SSM occupational groups.

We firstly test whether the sex gap is simply due to the different distribution of men and women across the factors relevant to pay determination. In so doing, we construct a model which has only sex as the predictor variable (= simple model), and then make a model which includes all the independent variables mentioned above (= full model). By comparing the sex coefficients in these two models, we can see to what extent the variables added in the equation explain the sex-differentials in income. If we see a large reduction in the coefficient, this would imply that sex itself becomes less important to predict income; it is rather the different distributions of men and women across the other independent variables, such as longer length of service for men than for women, or men's greater supervisory responsibilities than women, that explains the sex gap. However, if we see little reduction in the sex gap, after controlling for all the other predictor variables, this implies that sex is the primary determinant of income.

Table 6.8 shows the coefficients of the dummy variable for sex (female is set as "1", so that the coefficient can be interpreted as the difference between men and women) for the two models for Britain and Japan. When we compare the results of the simple models between Britain and Japan, we can see that the predictive power of sex is much larger in Japan (adj $R^2 = 0.44$) than in Britain (adj $R^2 = 0.20$), which means that knowing workers' sex, we can predict the income level for Japan more than for Britain. After controlling for all the other predictor variables, the sex gap in Britain was reduced to one quarter, so that three quarters of the initial sex gap was explained by the different distribution of men and women across the other predictor variables. On the other hand, in Japan, the sex gap did decrease, but still half the

initial gap remained. Therefore, compared to Britain, the reduction is smaller in Japan, which suggests that sex is more fundamental in Japan than in Britain in determining the income level.

Table 6.8 Coefficients of sex dummy in OLS regression on log gross annual income, Britain and Japan

	Britain		Japan	
	Simple model	Full model	Simple model	Full model
Sex coefficient	-0.68***	-0.17**	-1.08***	-0.52***
(S.E.)	(0.06)	(0.05)	(0.08)	(0.09)
adj R^2	0.20	0.64	0.44	0.71
F	144.30***	36.67***	169.76***	18.61***
N	584	564	217	211

Source: The International Social Justice Project survey
Note: *** p >.001, ** p > .01, * p > .05

We now look at the results for the full models in both countries and examine which variables are influential in determining the level of income. From Table 6.9 we can see that for Britain, both the personal characteristics and job characteristics have significant impacts in determining income, while in Japan, the job characteristics have little impact after controlling for other variables. Although there is a possibility that smaller sample size in Japan makes some of the effects of our predictor variables insignificant, even if we allow for a 10% significance level for Japan, or even if we reduced the British sample randomly by half (so we can have approximately the same sample as in the Japanese data), the results are basically the same (see the asterisks after slash which denotes the significance using the half sample for Britain).

Table 6.9 OLS regression on log gross annual income, Britain and Japan

	Britain		Japan
Female	-.173**/**	Female	-.519***
Age:25-34	.123^{+}/$^{+}$	Age:25-34	.037
Age:35-44	.195**/*	Age:35-44	.309*
Age:45-54	.046	Age:45-54	.298
Age:55+	.089	Age:55+	.436*
Married	.056	Married	-.008
Education: ordinary	.041/$^{+}$	Education: ordinary	.148
Education: advanced	.103	Education: advanced	.246
Education: degree	.297***/***	Education: degree	.404*
Length of Service	.006^{+}	Length of Service	.015***
Routine Clerical	-.081	Managers and administrators	-.202
Supervisors	-.652***/***	Clerical workers	-.155
Skilled workers	-.378***/***	Sales workers	-.197
Semi/un-skilled workers	-.295***/***	Skilled workers	-.060
Agricultural workers	-.095	Semi-skilled workers	-.220^{+}
		Unskilled workers	.145
		Agricultural workers	-.308
Supervise	.258***/***	Supervise	.028
Fempct	-.003**/*	Fempct	-.003^{+}
Part-time	-.809***/***	Part-time	.880***
Size: 25-99	.071	Size: 25-99	-.054
Size: 100-499	.105^{+}	Size: 100-499	.189*
Size: 500+	.196**/*	Size: 500+	-.029
Durable manufacturing	-.040	Durable manufacturing	-.032
Non-durable manufacturing	-.116	Non-durable manufacturing	-.049
Communications and utility	-.070	Communications and utility	.504
Wholesale/Retail	-.126/***	Wholesale/Retail	-.008
Business service	-.027^{+}	Business service	.507**
Personal service	-.171*/*	Personal service	.059
Public services/Non-profit service	-.071 /*	Public services/Non-profit service	-.024
Constant	9.354***/***	Constant	14.873***
adj R^2	0.639	adj R^2	0.715
F	36.669***	F	18.607***
N	554	N	211

Source: International Social Justice Project survey data
Note: Asterisks after slash denote the significance of the coefficient when the British sample is randomly reduced to half. *** p<0.001, ** p<0.01, * p<0.05, $^{+}$p<0.10

For both Britain and Japan, sex, age and educational qualifications have significant effects on income. However, the differences between Britain and Japan are that firstly, the effect of the length of service in the present job is significant in Japan, but not in Britain at the 5% significance level. Thus, seniority has a greater effect for income determination in Japan than in Britain, net of other variables. Secondly, job-related variables, such as occupational class, supervisory responsibilities and percent female in an occupation have significant impacts on the income level for Britain, while this is not the case for Japan. If we permit the 10% significance level, however,

the effect of semi-skilled workers (compared to professional workers) and the effect of percent female in an occupation are significant for Japan. The value of the coefficient of percent female in an occupation for Japan shows that an increase in percent female in an occupation decreases Japanese employees' income. However, the size of the coefficient of occupational sex segregation relative to the size of the coefficient of sex is substantially smaller in Japan than in Britain, which suggests that after controlling for other variables, the effect of occupational sex segregation relative to the effect of sex is considerably smaller in Japan than in Britain.

Thus, the results show that individual workers' characteristics, in particular seniority, are important determinants of the income level in Japan, but that job characteristics are not so important. Perhaps because of this, sex is more influential, but occupational sex segregation is less important in Japan for the income determination, compared to Britain.

Our analysis so far has examined the general impact of our explanatory variables on the level of income, assuming that the effect of each variable does not differ for men and women. However, it is expected that these variables have sex-specific effects. For instance it has been suggested that the wage for women does not increase by age as much as for men, because of their intermittent work life (OECD 1985, Takenaka 1991). Therefore, we construct different models for men and women.

Making sex-specific functions also helps us to understand why the extent of occupational sex segregation is greater in Britain than in Japan. We discussed in the previous chapter that employing women in more female occupations is in British employers' interests because they could pay less to women relative to their human capital and job skills. If this mechanism can be applied to explain the greater extent of

occupational sex segregation for Britain than for Japan, then the negative effect of occupational sex segregation for women should be greater for Britain than for Japan.

Table 6.10 OLS regression on log gross annual income for men and women in Britain and Japan

	Britain			Japan	
	Men	Women		Men	Women
Age:25-34	.185 */$^{+}$	.075	Age:25-34	.068	.320
Age:35-44	.251**/$^{+}$	.184	Age:35-44	.376**	.540^{+}
Age:45-54	.001	.109	Age:45-54	.350*	.649^{+}
Age:55+	-.169	.291^{+}	Age:55+	.110	1.211**
Married	.161*	-.077	Married	.150^{+}	-.500*
Education: ordinary	-.029	.076	Education: ordinary	.174	.352
Education: advanced	-.001	.246*	Education: advanced	.111	.597
Education: degree	.191*	.360**/*	Education: degree	.161	1.122*
Length of Service	.013***/*	-.001	Length of Service	.014***	.010
Routine Clerical	-.362**/**	-.003	Managers and administrators	-.075	n.a.
Supervisors	-.592***/***	-.772***/*	Clerical workers	-.118	-.154
Skilled workers	-.467***/**	.221 /*	Sales workers	-.026	-.567
Semi/un-skilled workers	-.357***/**	-.209$^{+/+}$	Skilled workers	-.116	.217
Agricultural workers	-.691***	-.202	Semi-skilled workers	-.137	-.519
			Unskilled workers	-.086	-.410
			Agricultural workers	n.a.	-.037
Supervise	.124^{+}	.307***/*	Supervise	.070	-.089
Fempct	-.002^{+}	-.004*/*	Fempct	-.001	-.0004
Part-time	-.670***/***	-.782***/***	Part-time	-.193	-.796***
Size: 25-99	.068	.024	Size: 25-99	.140^{+}	-.106
Size: 100-499	.120^{+}	.095	Size: 100-499	.247**	.222
Size: 500+	.228**	.110	Size: 500+	-.008	-.015
Durable manufacturing	-.029	-.011	Durable manufacturing	-.062	.044
Non-durable manufacturing	-.027	-.198	Non-durable manufacturing	-.105	-.055
Communications and utility	-.046	-.050	Communications and utility	.591*	n.a.
Wholesale/Retail	-.055	-.165/*	Wholesale/Retail	-.182^{+}	.216
Business service	.013	.017	Business service	.369*	.616^{+}
Personal service	-.008	-.276*/$^{+}$	Personal service	.012	-.066
Public services/Non-profit service	-.006	-.065	Public services/Non-profit service	-.164	.025
Constant	9.310***	9.274***	Constant	14.764***	13.947***
adj R^2	0.601	0.547	adj R^2	0.585	0.568
F	16.664***	13.622***	F	7.458***	5.005
N	281	282	N	128	82

Source: International Social Justice Project *** p<0.001, ** p<0.01, * p<0.05, $^{+}$ p<.010
Note: n.a., not applicable because of missing correlation. Asterisks after slash denote the significance of the coefficient when the British sample is randomly reduced to half.

Table 6.10 shows the summaries of the results for income models for men and women in Britain and Japan. There are several points to be made. Firstly, age affects

the level of income of our sub-samples in different ways. For British men, their income level reaches its highest level in their late 30s and early 40s. For Japanese men and women, the peak comes somewhat later; for Japanese men, it reaches its highest level in their late 40s and early 50s, and for Japanese women, even later in their late 50s. We cannot find any clear age effect for British women. This again seems to suggest that seniority is more important in Japan than in Britain. Secondly, marital status positively affects men's income level in Britain and Japan, but it negatively affects women's income in both countries, though the effect is significant only for British men and Japanese women after controlling for the other variables. Thirdly, getting higher educational qualifications increases the level of income in general, but the effect is larger for women than for men in both countries. Fourth, the effect of the length of service in the present job is significant only for men but not for women for both countries. This, together with the result that the effects of size of organisation are only significant for men but not for women in both countries, seems to suggest that women are unlikely to be in the internal labour market. In other words, men in large organisations and with longer length of service have an advantage in pay over other men, but this is not the case for women. Fifth, occupational class has a greater impact in Britain than in Japan. It significantly affects British men's and British women's income after controlling for other variables, but the effect is not statistically significant at the 10% level for Japanese men and Japanese women. Having supervisory responsibilities significantly increases British women's income (and British men's income if we allows for the 10% significance level), but it has little impact for both men and women in Japan after controlling for the other variables. Thus, the finding of the previous analysis that job content and skills are important

determinants of income in Britain but not in Japan is basically supported. Occupational sex segregation has a significant impact for British women (and British men, if we permit the 10% significance level). However, the coefficient for Japanese women shows that it hardly affects their income.

In summary, the results of sex-specific functions show similarities and differences between countries, as well as between men and women. In comparing the two countries, the results confirmed that seniority is more important in Japan than in Britain, while job characteristics are more influential in Britain than in Japan. If men and women are compared, the length of service in the present job and the size of organisation only significantly affect men in both countries, but they are not so relevant to women's income in either countries. As discussed, this seems to suggest that women in both countries are likely to be excluded from the internal labour market.

About the effect of occupational sex segregation for women, and its implication for the mechanism of occupational sex segregation, we confirmed that for British women, an increase in percent female in an occupation significantly decreases their income, net of other predictor variables. Therefore, British employers could cut labour costs by employing women in more female occupations. However, we cannot find any significant impact of percent female in an occupation for Japanese women, net of other predictor variables. Thus, Japanese employers seem to have little incentive to employ women in female occupations.

Summary and Conclusion

In the first half of this chapter, we found that occupational sex segregation affects Britain and Japan differently. In Britain, both men and women in female occupations are paid less, have less supervisory responsibilities and job autonomy. However, given the concentration of women into female occupations, the aggregate effect is more negative for women than for men. On the other hand in Japan, we could not find that female occupations disadvantage women. Neither did these occupations disadvantage men's income. However, in Japan, the large sex gap remains even after controlling for full-time/part-time work and occupational sex segregation.

We suggested that differences between Britain and Japan in the nature of payment systems would explain the different function of occupational sex segregation. Our findings showed that in Japan, individual worker's characteristics, particularly worker's sex, are more likely to be reflected in their income level, while in Britain, job content and skills have a substantial impact on the income level independently of individual characteristics. Perhaps because of this, occupational sex segregation, as one of the job characteristics, has a significant impact on British employees' income level. Thus, in the British labour market, there are two gender lines differentiating the level of income - worker's sex and the sex-type of occupations. In Japan, however, sex has a much greater impact than in Britain, and little differentiation can be found by the sex-type of occupations.

It seems that in a society like Britain where the characteristics of the "job" are emphasised independently of the characteristics of the "individual worker" in determining the level of income, employers have the incentives to generate sex differentials through allocating different occupations to men and women. By doing so,

they can avoid the costs arising from overt discrimination by "worker's sex", but they can benefit from covert discrimination by the "sex-type of occupations". However, in a society like Japan where the characteristics of the "individual worker" are more important than the characteristics of the "job", employers seem to have little incentive to allocate different occupations between men and women, as this does not benefit them so much as in the job-oriented society. Rather, they may have more incentives to differentiate employment conditions by individual workers' characteristics. If "worker's sex" is cost-effective, they would use it, and if it costs them, as it is overt discrimination, they would find another way to differentiate between men and women (see Chapter 8 for Japanese employer's policies towards women).

Therefore, these differences in the payment systems of Britain and Japan seem to provide different conditions for occupational sex segregation to emerge and maintain itself. Our analysis of income actually showed that the effect of percent female in an occupation is significant and negative for British women (the consistent result with the previous chapter), but it is not significant for Japanese women, after controlling for other predictor variables. Thus, British employers can cut labour costs as they employ women in more female occupations, but this is not the case for Japanese employers. This in turn seems to be reflected in the fact that the extent of occupational sex segregation is greater for Britain than for Japan at the aggregate level.

The differences in the impact of occupational sex segregation between Britain and Japan also help us to understand individual workers' mobility patterns in the two countries. The more systematic impact of occupational sex segregation on employment conditions for British employees compared to Japanese employees seems

to provide British employees with a greater basis to judge whether to enter, exit from, and remain in female occupations or in male occupations. This may explain the more clear and rigid mobility patterns across sex-typed occupations for British men and women, compared to Japanese women that were found in Chapter 4.

CHAPTER 7

JOB PREFERENCES, JOB SATISFACTION AND OCCUPATIONAL SEX SEGREGATION

Introduction

As we discussed in Chapter 4, the systematic patterns of job mobility across gendered occupations for men and women in Britain seem to imply the involvement of men and women, as the suppliers of the labour, in the construction and maintenance of occupational sex segregation. The purpose of this chapter is to examine why men and women move to and stay in male occupations and in female occupations from the supply-side of the labour market. In so doing, we firstly examine job preferences. If women's job preferences differ from those of men, this would affect their occupational choices between female occupations and male occupations. We also investigate whether the job preferences of men and women who are employed in female occupations differ from those employed in male occupations. If there are any distinct job preferences for men and women in female occupations or in male occupations, this would help to account for why they enter and remain in the same sex-typed occupations. Secondly, we will examine job satisfaction. If men and women tend to be satisfied with sex-typical occupations, this would help to account for why they stay in these occupations. Also, in the last part of this chapter, we will make a comparison between British women and Japanese women, in order to investigate the implication of the supply-side involvement for the differences in the aggregate pattern of occupational sex segregation.

Job preferences and occupational sex segregation

It is difficult to tell how much individual workers' attitudes are reflected in their actual behaviour in the labour market, as the relation between attitudes and behaviour is not straightforward (see Dex 1988). Moreover, the outcome in the labour market should be regarded as the result of the interaction between employers and employees, but not solely of individual workers' preferences. It has also been suggested that the importance of job preferences for job structure depends on the sex of the employee. For instance, Reskin and Roos (1990), in their study of the US labour market, suggest the minor role of women's job preferences in their occupational outcomes. They argue that it is employers' and male workers' preferences that are important in constructing occupational sex segregation, but not women's job preferences. Moreover, they suggest that basically women's job preferences do not differ from men's, but women are queuing up to male occupations, taking them if these occupations become available.

Opposite views are suggested by studies carried out in Europe (Hakim 1991, Crompton and Le Feuvre 1996). For example, Hakim (1991), in her study on British women, argues that the persistence of job segregation should be regarded as a reflection of women's own preferences and choices. She suggests that the distinction between primary/secondary earners or between full-time/part-time workers are important in considering women's preferences and choices. Crompton and Le Feuvre (1996), in their comparative study of British women and French women, also suggest that women's job preferences and life plans are important in determining the outcome in the labour market, although they suggest that these are not the sole important factors, as some women in their study had "unintentional" careers, just responding to

the situation around them. Crompton and Le Feuvre, like Hakim, also recognise "qualitatively different types" of working women with some emphasising work roles and others emphasising family roles.

Thus, there are two opposing views about women's job preferences and their importance for the outcomes in the labour market - occupational sex segregation. As has seen, the first view suggests that women's job preferences do not basically differ from those of men, but the second view suggests that they do differ from men's, or - at least - that this is true for a category of women. In the following section, we will firstly examine whether women's job preferences are different from men's. We will distinguish two groups of women; full-time workers and part-time workers, following the argument that full-time/part-time work can be used as the proxy to distinguish women with different work values (Martin and Robert 1980, Hakim 1991). We use self-reported status to define full-timers and part-timers rather than the definition based on working hours.[1]

Men's and Women's job preferences

In analysing job preferences in Britain, we use the Employment in Britain survey data, which has various items of job preferences. In the EIB the respondents are asked their opinion about the things they look for in a job. They are (1) friendly people to work with, (2) good promotion prospects, (3) good pay, (4) good relations with their supervisor or manager, (5) a secure job, (6) a job where they can use their own initiative, (7) work they like doing, (8) convenient hours of work, (9) choice in hours

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[1] This is to obtain greater comparability between the British data and Japanese data, as the information of working hours in the Japanese data is based on a day, rather than a week (see Appendix B).

of work, (10) the opportunities to use abilities, (11) good fringe benefits, (12) an easy work load, (13) good training provision, (14) good physical working conditions, and (15) a lot of variety in the type of work. The answer was coded in a four-point scale from essential to not very important.

Firstly, we will examine whether women, particularly female part-timers, are less concerned than men about job characteristics in looking for their jobs. If so, it could be said that they are more likely to adapt to the market situation than men, thus becoming more vulnerable to the impact of demand-side factors. In so doing, we simply add the scores for each item of job preferences and construct the variable of "intensity" of job preferences. It should be noted that our sample is restricted to employees; if we include non-working women, the results might change significantly (see Hakim 1991). Table 7.1 summarises the average score for our three groups of employees; male full-timers, female full-timers and female part-timers.

Table 7.1 Intensity of job preferences by sex by full-time/part-time work, Britain

Male full-timers (N=1694)	Female full-timers (N=974)	Female part-timers (N=670)	Sig. male full-timers vs. female full-timers	Sig. female full-timers vs. female part-timers
39.72	40.84	39.54	***	***
(5.96)	(5.70)	(6.00)		

Source: The Employment in Britain survey. *** $p < .001$

From Table 7.1 we can see that female full-timers' score is the highest, male full-timers' score is in the middle, and female part-timers' score is the lowest. The difference between male full-timers and female full-timers is significant, which means that in terms of overall score, female full-timers are more likely to be concerned about job characteristics than male full-timers in looking for their jobs. However, female

part-timers are less likely to be concerned than female full-timers about job characteristics in looking for their jobs. Thus, it seems that women are not necessarily more vulnerable to the impact of demand-side factors, just adapting to the market situation. However, female part-timers are the group which is least likely to be concerned about job characteristics in looking for their jobs.

So far, we have examined the overall score, putting the same weights on each item of job preferences. However, people may place different weights on different job characteristics in looking for their jobs. For instance, a person who is a breadwinner may emphasise economic rewards, or a person with small children might emphasise convenient working hours. In order to find out possible differences in the dimensions of job preferences, the inter-correlation among the items of job preferences were factor analysed. As a result, four dimensions of job preferences emerged from the analysis.

As can be seen from Table 7.2, the items which have high loadings for the first factor are good pay, a secure job, good fringe benefits, good training provision, good promotion prospects, and good physical working conditions. Thus, they seem to represent the preference for the extrinsic aspects of work. The items which have high loadings for the second factor are a job where you can use own initiative, the opportunity to use abilities, work you like doing, and a lot of variety in the type of work. Thus, they seem to represent the preference for the intrinsic aspects of work. The items which have high loadings for the third factor are choice in hours of work, convenient hours of work, and an easy work load, so that they seem to represent the preference for convenient work arrangements. Finally, the items which show high loadings for the last factor are friendly people to work with and good relations with

supervisor or manager, so that they seem to represent the preference for a friendly workplace atmosphere.

Table 7.2 Factor loadings for four dimensions of job preferences, Britain

	1	2	3	4	communality
Preference for extrinsic aspects of work					
1. good pay	.67	-.02	.19	-.10	.50
2. a secure job	.63	-.08	.00	.26	.48
3. good fringe benefits	.57	.08	.36	-.01	.47
4. good training provision	.57	.28	-.09	.15	.44
5. good promotion prospects	.57	.33	-.10	-.06	.45
6. good physical working conditions	.54	.13	.16	.29	.41
Preferences for intrinsic aspects of work					
1. use own initiative	.10	.77	-.04	-.03	.61
2. use abilities	.17	.77	.00	-.03	.63
3. work you like doing	-.08	.66	.06	.28	.53
4. variety in the type of work	.12	.58	.08	.15	.38
Preferences for convenient work arrangement					
1. choice in hours of work	-.01	.09	.83	.05	.70
2. convenient hours of work	.03	.04	.81	.17	.68
3. an easy work load	.34	-.10	.57	.03	.45
Preferences for friendly workplace atmosphere					
1. friendly people to work with	.04	.05	.14	.77	.62
2. good relations with supervisor/manager	.16	.18	.05	.71	.56

Source: The Employment in Britain survey
Note: Varimax rotated factor loadings. The eigenvalues for the four factors are 3.4, 2.0, 1.5 and 1.1 respectively. Reliabilities (Cronbach's alpha) for the four factors are .68, .69, .65, and .47 respectively.

We will now examine whether male full-timers, female full-timers, and female part-timers differ in these factors of job preferences.[2] Table 7.3 shows the average scores for four dimensions of job preferences for male full-timers, female full-timers, and female part-timers. In terms of the preference for the extrinsic aspects of work,

[2] We excluded male part-timers as their proportion is small (=3% of the male sample).

male full-timers' score is the highest, female full-timers' score is in the middle, and female part-timers' score is the lowest. The difference between male full-timers and female full-timers, as well as the difference between female full-timers and female part-timers are statistically significant.

Table 7.3 Job preferences by sex by full-time/part-time work, Britain

	Male full-timers (N=1607)	Female full-timers (N=932)	Female part-timers (N=626)	Sig. male full-timers vs. female full-timers	Sig. female full-timers vs. female part-timers
Extrinsic work	.177 (.9341)	.000 (.976)	-.489 (1.034)	***	***
Intrinsic work	.042 (1.009)	.153 (.955)	-.312 (.966)	**	***
Convenient work	-.247 (.959)	.007 (.972)	.649 (.855)	***	***
Friendly workplace	-.224 (1.049)	.197 (.886)	.276 (.889)	***	not significant

Source: The Employment in Britain survey. *** $p < .001$, ** $p < .01$

For the preference for the intrinsic aspects of work, female full-timers' score is the highest, male full-timers' score is in the middle, and female part-timers' score is the lowest. The difference between male full-timers and female full-timers is statistically significant, and the difference between female full-timers and female part-timers is statistically significant.

For the preference for convenient work arrangements, female part-timers are the group which is most likely to emphasise this aspect of work, and male full-timers are the group which is least likely to emphasise it. There is a significant difference between male full-timers and female full-timers in emphasising this factor, as well as between female full-timers and female part-timers.

Finally, for the preference for a friendly workplace atmosphere, female part-timers are most likely to emphasise this factor, and male full-timers are least likely to

emphasise this factor. The difference between male full-timers and female full-timers is significant, but the difference between female full-timers and female part-timers is not significant.

Thus, the emphasis placed on the four dimensions of job preferences differs between the three groups of employees. Compared to the other groups, male full-timers are most likely to emphasise the extrinsic aspects of work, but least likely to emphasise convenient work arrangements, and a friendly workplace atmosphere. Compared to the other groups, female full-timers are most likely to emphasise the intrinsic aspects of work, but they are also likely to emphasise a friendly workplace atmosphere. Compared to the other groups, female part-timers are most likely to emphasise convenient work arrangements and a friendly workplace atmosphere, but least likely to emphasise the extrinsic aspects of work and the intrinsic aspects of work.

We now examine whether workers' job preferences differ by occupational sex segregation, in order to understand the systematic patterns of job mobility across sex-typed occupations for men and women in Britain. We again use the variable of occupational sex segregation which is based on percent female in an occupation: 1. male (0-30 percent female in an occupation), 2. mixed (31-69 percent female in an occupation), and 3. female (70-100 percent female in an occupation). In Chapter 5, we found that working in more female occupations brings lower pay and less access to fringe benefits for women, and thus failed to account for the pattern of job mobility for women from the point of view of economic interests. Then, do job preferences help to account for the patterns of job mobility for men and women in Britain? For

example, do women in female occupations have particularly low expectations in the extrinsic rewards?

We firstly look at men's results. Table 7.4 presents the four dimensions of job preferences for men by three occupational sex segregation groups. From this table, we can see that no significant difference can be found in the extrinsic aspects of work by the sex-type of occupations. However, in terms of the intrinsic aspects of work, men in male occupations are significantly less likely to emphasise this factor than men in mixed occupations. Also men in mixed occupations are significantly less likely than men in male occupations and female occupations to emphasise convenient work arrangements.[3] Finally, men in female occupations are more likely than men in mixed and male occupations to emphasise a friendly workplace atmosphere. The same results can be seen if we select male full-timers only (see Asterisks after slash in Table 7.4).

Table 7.4 Job preferences by sex-typed occupations, British men

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. female	sig. male vs. female
Extrinsic work	.212	.126	.097	n.s. /n.s.	n.s. /n.s.	n.s./n.s.
	(.938)	(.910)	(.965)			
Intrinsic work	-.028	.156	.074	**/**	n.s./n.s.	n.s./n.s.
	(1.019)	(.976)	(.973)			
Convenient work	-.224	-.367	-.084	**/*	**/**	n.s./n.s.
	(.961)	(.900)	(1.021)			
Friendly workplace	-.233	-.226	-.047	n.s./n.s.	*/*	*/*
	(1.054)	(1.008)	(1.079)			
N	1096	385	169			

Source: The Employment in Britain survey

Note: ** $p < .01$, * $p < .05$, n.s. = not significant. Asterisks before slash denote the significance for all men, and after slash denote the significance when full-timers are only included

[3] This seems to be relevant to the fact that the proportion of those who had degree-level qualification is the highest in mixed occupations (=32%. The corresponding figures for male and female occupations are 18% and 26% respectively), and those with higher educational qualifications are more likely to emphasise the intrinsic aspects of work, but less likely to emphasise convenient work arrangements.

We now turn to women. Like men, there is no significant difference in the preference for the extrinsic aspects of work by the sex-type of occupations. However, women in female occupations show significantly lower preference for the intrinsic aspects of work than women in mixed occupations and male occupations. Women in female occupations also show significantly higher preferences for convenient work arrangements and for a friendly workplace atmosphere than women in mixed occupations and male occupations.

Table 7.5 Job preferences by sex-typed occupations, British women

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. fem	sig. male vs. fem
Extrinsic work	-.161	-.112	-.230	n.s.	n.s.	n.s.
	(.992)	(1.049)	(1.024)			
Intrinsic work	.169	.034	-.086	n.s.	*	**
	(1.011)	(.980)	(.981)			
Convenient work	-.046	.203	.329	*	*	***
	(1.067)	(.965)	(.963)			
Friendly workplace	.033	.147	.284	n.s.	*	**
	(.955)	(.894)	(.871)			
N	144	368	1045			

Source: The Employment in Britain survey
Note: ** $p < .01$, * $p < .05$, n.s. = not significant

These results for women, however, may be influenced by the fact that part-time employees are concentrated into female occupations. In fact, in the Employment in Britain survey data, 48% of the female employees in female occupations were part-timers, while the corresponding figures for mixed occupations and male occupations are 30% and 17% respectively. Therefore, we will divide the sample by full-time/part-time work.

Table 7.6 shows the results for female full-timers. In fact, we can see less difference in their job preferences by the sex-type of occupations than when we included all women. However, female full-timers in male occupations are significantly

less likely to emphasise convenient work arrangements than others. Also female full-timers in female occupations are significantly more likely to emphasise a friendly workplace atmosphere than those in male occupations.

Table 7.6 Job preferences by sex-typed occupations, British female full-timers

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. fem	sig. male vs. fem
Extrinsic work	-.066	.082	-.021	n.s.	n.s.	n.s.
	(.954)	(.995)	(.972)			
Intrinsic work	.250	.156	.131	n.s.	n.s.	n.s.
	(1.009)	(.932)	(.955)			
Convenient work	-.278	.033	.055	*	n.s.	**
	(.928)	(.940)	(.988)			
Friendly workplace	.018	.168	.249	n.s.	n.s.	*
	(.937)	(.895)	(.868)			
N	119	257	555			

Source: The Employment in Britain survey
Note: ** $p < .01$, * $p < .05$, n.s. = not significant

Table 7.7 Job preferences by sex-typed occupations, British female part-timers

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. fem	sig. male vs. fem
Extrinsic work	-.621	-.560	-.467	n.s.	n.s.	n.s.
	(1.064)	(1.037)	(1.033)			
Intrinsic work	-.222	-.247	-.331	n.s.	n.s.	n.s.
	(.950)	(1.032)	(.952)			
Convenient work	1.078	.596	.640	*	n.s.	*
	(.987)	(.911)	(.831)			
Friendly workplace	.101	.099	.325	n.s.	*	n.s.
	(1.058)	(.896)	(.874)			
N	25	111	490			

Source: The Employment in Britain survey
Note: ** $p < .01$, * $p < .05$, n.s. = not significant

The results for female part-timers do not show much difference either (see Table 7.7). Female part-timers in male occupations are significantly more likely to emphasise convenient work arrangements. This is opposite to the result for female full-timers. Also female part-timers in female occupations are more likely to emphasise a friendly workplace atmosphere than those in mixed occupations.

Thus, the results shown in Table 7.5 which are based on all women sample are very much influenced by the fact that the share of part-timers is considerably larger in female occupations. However, once full-time/part-time work is controlled, little differentiation can be found by the sex-type of occupation *per se*. The only common difference that is found for both female full-timers and part-timers is that those in female occupations are more likely to emphasise a friendly workplace atmosphere.

The differences in job preferences between men and women, as well as between female full-timers and part-timers, however, suggest the active involvement of men and women in the construction and maintenance of occupational sex segregation. For instance, since men emphasise the extrinsic aspects of work, they seem to move to and remain in male occupations where they can realise their values most. On the other hand, compared to men, women are less likely to emphasise the extrinsic aspects of work, so that even if they are paid less or they get less fringe benefits, they may move to and remain in female occupations. This is particularly so for female part-timers who are least likely to emphasise the extrinsic aspects of work.

Then, why do they show different job preferences? There are mainly two approaches to explain the differences in job preferences among the groups of workers. One emphasises the family role which is seen to produce distinctive constraints, values and priorities, which in turn are reflected in distinctive work orientations (Feldberg and Glenn 1979, Hakim 1991, 1996). The other emphasises objective work conditions which shape work values, as workers try to resolve the dissonance between work values and reality (see Kalleberg and Griffin 1978, Hanson et al 1987, de Vaus & McAllister 1991, Marsden et al 1993, Rowe and Snizek 1995). Both these approaches are consistent with our results. The clear contrast in job preferences

between male full-timers and female part-timers (the former emphasising the extrinsic aspects of work, but the latter emphasising convenient work arrangements), could be interpreted as the result of the fact that the former are supposed to be the primary earners, while the latter are supposed to be the secondary earners and have more domestic responsibilities. The difference between male full-timers and female full-timers (the former emphasising the extrinsic aspects of work but the latter emphasising the intrinsic aspects of work), might be due to the fact that the extrinsic job rewards are greater for men than for women (see Chapter 5), so that women try to value the intrinsic rewards more than the extrinsic rewards to resolve the dissonance between their values and reality. Also, the commonality between men and women (both full-timers and part-timers) in female occupations, that they all tend to emphasise a friendly workplace atmosphere, might reflect the reality that female occupations do provide such an atmosphere.

Job satisfaction and occupational sex segregation

We now examine the relation between job satisfaction and occupational sex segregation. Job satisfaction is relevant to the worker's decision to leave or remain in their jobs. If they are satisfied with their jobs, they are more likely to remain there, and if they are dissatisfied, they are more likely to leave. We have found in Chapter 4 that men tend to move to and remain in male occupations, as women do with respect to female occupations. Then, does this mean that men in male occupations are more likely to be satisfied with their work than men in female occupations, and that women in female occupations are more likely to be satisfied with their work than women in

male occupations? If so, why are they likely to be satisfied with their sex-typical occupations?

It is widely accepted that job satisfaction is a function of work values and work rewards (Kalleberg 1977, Kalleberg and Loscocco 1983, Mottaz 1987). The prime cause of workers' dissatisfaction is said to be the failure to achieve their values with respect to the content of the work itself (Kalleberg 1977). Therefore, the workers who experience the highest congruity between work values and work rewards are most likely to be satisfied with their jobs. Although we have found in Chapter 5 that, in Britain, female occupations are associated with low economic rewards, this does not necessarily mean that those in female occupations are dissatisfied with their jobs more than those in male occupations, since people have different work values, and their work experiences are rather subjective, being influenced by their work values. In fact, the previous section showed that women, particularly part-timers, are less likely than men to emphasise the extrinsic aspects of work. Instead, we found that workers in female occupations place more importance on a friendly workplace atmosphere, so that if these occupations provide this feature, then this would enhance their job satisfaction.

Job satisfaction is said to be a unitary concept (see Kalleberg 1977), and often measured as a composite scale from several related items. In the Employment in Britain data, there are three questions which are relevant to job satisfaction. Firstly, the respondents were asked "all in all, how satisfied would you say you are with your job?", and the answer was coded on a 7 point-scale from completely satisfied to completely dissatisfied. The second question is "if you were free to go into any type of job you wanted, what would your choice be?", and the respondents chose from 1. they

want the job they have now, 2. they want to retire and not work at all, and 3. they would prefer some other job to the one they have now. The third question is "knowing what you know now, if you had to decide all over again to take the job you now have, what would you decide?". The respondents chose from 1. they would decide without any hesitation to take the same job, 2. they would have some second thoughts, and 3. they would decide definitely not to take the same job. We produce a measure of overall job satisfaction which is scaled as the composite of the responses to these three items. These items are often used in job satisfaction studies (Janson & Martin 1982, Mottaz 1987, Hanson et al 1987, Wharton and Baron 1991). The reliability (Cronbach's alpha) for the three items is 0.64. We recode each item on a 7-point scale, and then sum the scores for the three items. The result is then averaged, producing a scale of overall job satisfaction that ranges from 1.0 to 7.0.

Although, job satisfaction is a unitary concept, and would affect the decision to leave or remain in a job by itself, the cause of overall job satisfaction is multidimensional. Overall job satisfaction is a function of the range of specific satisfactions and dissatisfactions (Kalleberg 1977). Therefore, it is helpful to examine various aspects of job satisfaction to understand where the overall job satisfaction (or dissatisfaction) comes from. The EIB also has information about various aspects of job satisfaction with a 7-point scale. They are satisfaction with 1. promotion prospects, 2. pay, 3. relation with supervisor or manager, 4. job security, 5. the opportunities to use abilities, 6. being able to use own initiative, 7. the ability and efficiency of the management, 8. working hours, 9. fringe benefits, 10. the work itself, 11. the amount of work, 12. the variety in the work, 13. the training provided, and 14.

friendliness of the people to work with. Examining these specific job satisfaction items will help us to understand the causes of overall job satisfaction.

In order to investigate the relation between occupational sex segregation and job satisfaction, it is necessarily to control for the factors which are said to be relevant to job satisfaction. Firstly, we will control for age. Age influences job satisfaction, because older workers have better jobs, or different cohorts have different work values, or age indicates different life-cycle stages (e.g. marital status, number of dependent children) that affect work values (Janson and Martin 1982, Kalleberg and Loscocco 1983, Mottaz 1987). Secondly we will control for structural or job-related characteristics. Various studies on job satisfaction suggest that structure-based (or job-based) explanations help to account for job satisfaction as well as work values (Kalleberg and Loscocco 1983, Hanson et al 1987, de Vaus and McAllister 1991). As structural variables, we will control for occupational class and full-time/part-time work. Occupational class can be regarded as an approximate indicator of job characteristics in both the intrinsic and extrinsic senses. Full-time/part-time work is an important structural variable particularly for women, as it not only differentiates women's employment conditions but also their attitudes to work (Martin and Roberts 1984, Dex 1988, Hakim 1991, Curtice 1993). Controlling for these variables enables us to see the independent effect of occupational sex segregation.

The variable of occupational sex segregation used in the analysis is the continuous one - percent female in an occupation. Thus, we will examine what would happen to workers' level of satisfaction if they moved to more female occupations. We, however, run the same models using the categorical variable; 1. male (0-30%

female in an occupation), 2. mixed (31-69% female in an occupation), and 3. female (70-100% female in an occupations).

Table 7.8 OLS regression on overall job satisfaction, British men and women

	Men (N=1661)	Women (N=1567)
fempct	.001 (.002)	.006 (.002)**
age -24	.289 (.121)*	.008 (.133)
age 35-44	.069 (.106)	.048 (.104)
age 45-54	.256 (.111)*	-.076 (.113)
age 55+	.302 (.166)	.565 (.176)**
lower service	-.135 (.128)	.387 (.161)*
routine non-manual	-.552 (.173)**	-.036 (.163)
technicians and supervisors	.231 (.171)	.004 (.306)
skilled manual	-.405 (.129)**	-.063 (.266)
semi/unskilled manual	-.431 (.117)**	-.224 (.173)
part-time	.043 (.222)	.123 (.087)
constant	4.860 (.112)***	4.444 (.160)***
adjusted R^2	.020	.026
F	3.796***	4.477***

Source: The Employment in Britain survey
Note: * p <.05, ** p <.01, *** p <.001

The results in Table 7.8 show that for men, the effect of percent female in an occupation is not significant after controlling for the other independent variables. Therefore, for men, we cannot find any evidence that an increase in percent female in an occupation affects men's overall job satisfaction. However, for women, the effect is significant and positive after controlling for the other independent variables. In other words, as women work in more female occupations, they become more likely to be satisfied with their jobs.

The model with the categorical variable of occupational sex segregation for men also shows that there is no significant effect of occupational sex segregation on men's overall job satisfaction. However, for women, the effect is significant, and those in female occupations are more likely to be satisfied with their jobs than other women (see Table 7.9). Unlike many studies which argue that part-timers are more

likely to be satisfied with their work than full-timers (Martin and Roberts 1984, Dex 1988, Hakim 1991, Curtice 1993), after controlling for the other variables, we cannot find any statistical evidence to support this argument.

Table 7.9 OLS regression on overall job satisfaction with the categorical variable of occupational sex segregation, British men and women

	Men (N=1659)	Women (N=1563)
female occupations	.037 (.155)	.497 (.105)***
male occupations	.012 (.102)	.275 (.158)
age -24	.289 (.121)*	.011 (.132)
age 35-44	.067 (.106)	.044 (.104)
age 45-54	.254 (.111)*	-.061 (.112)
age 55+	.302 (.166)	.565 (.176)**
lower service	-.120 (.129)	.415 (.160)**
routine non-manual	-.520 (.172)**	-.040 (.162)
technicians and supervisors	.667 (.473)	.005 (.305)
skilled manual	-.419 (.128)**	.006 (.266)
semi/unskilled manual	-.434 (.118)**	-.242 (.171)
part-time	.054 (.222)	.121 (.086)
constant	4.875 (.127)***	4.539 (.154)***
adjusted R^2	.019	.033
F	3.481***	5.148***

Source: The Employment in Britain survey
Note: * p <.05, ** p <.01, *** p <.001.

Our results help us to understand why women, despite the relatively poor economic rewards, stay in female occupations; these women stay in female occupations as they are satisfied with their jobs. However, this may be simply due to the fact that female occupations are more available to women; women in female occupations may find the jobs more easily than women in male occupations that realise their work values, because they have greater choice in these occupations. To examine this, we chose a question from the EIB, which asked the respondents "when you were looking for your current job how much choice would you say you had over

the type of job you could get?" The answer was coded on a 4-point scale from a great deal of choice to no choice at all.

In fact, as women work in more female occupations, they are more likely to say that they have greater choice in choosing their jobs, even after controlling for age, occupational class, and full-time/part-time work. We will, therefore, include the variable of choice in the model of overall satisfaction to see whether the effect of percent female in an occupation remains significant after controlling for the level of choice.

Table 7.10 OLS regression on overall job satisfaction with the level of choice, British women

	Women (N=1567)
fempct	.006 (.002)**
age -24	.034 (.132)
age 35-44	.077 (.104)
age 45-54	-.072 (.112)
age 55+	.574 (.176)**
lower service	.430 (.160)**
routine non-manual	.031 (.164)
technicians and supervisors	.122 (.306)
skilled manual	.036 (.266)
semi/unskilled manual	-.124 (.174)
part-time	.164 (.087)
hardly any choice	.063 (.114)
some choice	.289 (.116)*
a great deal of choice	.519 (.136)***
constant	4.192 (.183)***
adjusted R^2	.036
F	4.942***

Source: The Employment in Britain survey.
Note: * p <.05, ** p <.01, *** p <.001

Table 7.10 shows the results. As can be seen, the level of choice significantly affects overall job satisfaction; those with greater choice are more likely to be satisfied with their jobs. However, the effect of percent female in an occupation remains

significant even after controlling for the level of choice.[4] Thus, as women work in more female occupations, they do have greater choice in their jobs, and this seems to enhance their job satisfaction, but an increase in percent female in an occupation itself contributes to women's job satisfaction, independently from the level of choice.

Now, we will examine specific items of job satisfaction to see with which aspects of their jobs women and men are satisfied or dissatisfied. As has been mentioned, overall job satisfaction is a function of the range of specific satisfactions and dissatisfactions. By examining specific items of job satisfaction, therefore, we can explain why women in female occupations are satisfied with their jobs.

Table 7.11 Coefficients of percent female in an occupation in OLS regression on specific job satisfaction, British men and women (s.e. in parentheses)

	Men	Women
Promotion prospects	.003 (.002)	.000 (.002)
Pay	.000 (.002)	.002 (.002)
Relation with supervisor or manager	.002 (.001)	.004 (.002)**
Job security	.000 (.002)	.002 (.002)
Opportunity to use abilities	-.002 (.001)	.006 (.001)***
Use own initiative	-.001 (.001)	.003 (.001)*
Ability and efficiency of the management	.001 (.002)	.003 (.002)
Working hours	.001 (.001)	.003 (.001)
Fringe benefits	-.001 (.002)	.000 (.002)
Work itself	.000 (.001)	.005 (.001)***
Amount of work	-.001 (.001)	.004 (.001)**
Variety in work	-.001 (.001)	.004 (.001)**
Training provided	.002 (.002)	.004 (.002)*
Friendliness of people to work with	.001 (.001)	.004 (.001)**

Source: The Employment in Britain survey. * p <.05, ** p <.01, *** p <.001

Table 7.11 shows the coefficients of percent female in an occupation and its significance in the models of specific items of job satisfaction for men and women

[4] The model using the categorical variable of occupational sex segregation also showed that women in female occupations have greater overall job satisfaction after controlling for the level of choice.

after controlling for age, occupational class, and full-time/part-time work. As can be seen, for men, the effect of percent female in an occupation is not statistically significant for any single specific item of job satisfaction after controlling for age, occupational class, and full-time/part-time work. However, for women, it is significant for several items; women in female occupations are more likely than other women to be satisfied with the intrinsic aspects of work, such as the opportunity to use their own abilities, being able to use their own initiative, the work itself, the amount of work, the variety in the work, and the training provided, as well as with the workplace atmosphere, such as relations with their supervisor or manager, the ability an efficiency of the management, and the friendliness of the people to work with. However, the result shows that the effect of percent female in an occupation is not significant to explain satisfaction with the extrinsic aspects of work for women, such as pay, promotion prospects, job security, working hours, and fringe benefits. Therefore, it seems that as they work in more female occupations, women become more satisfied with their jobs, because they become more satisfied with the intrinsic aspects of their jobs and with their workplace atmosphere.

Then, why are women in female occupations more likely to be satisfied with these aspects of work, or their jobs in general? One plausible explanation is that women in female occupations feel less pressure and stress than women in male occupations, as they are in their sex-typical occupations. Women in male occupations are reported to experience hostility or harassment from male co-workers (see Kanter 1977, Jacobs 1989b, Stockdale 1996). This explanation is consistent with our findings that women in female occupations are more likely to be satisfied with their workplace atmosphere, such as relations with their supervisor or manager, and the friendliness of

the people to work with. As has been seen in our analysis of job preferences, women (both full-timers and part-timers) in female occupations are more likely to emphasise a friendly workplace atmosphere in looking for their jobs than other women. Therefore, the greater overall job satisfaction for women in female occupations may be also because women in female occupations are more likely than other women to realise their work values.

Another explanation comes from the nature of their work. Although we found in Chapters 5 and 6 that female occupations are associated with lower economic rewards, women may be satisfied with these occupations, as these occupations might provide other rewards that compensate for lower economic rewards (Ross and Mirowsky 1996). Gallie and White (1993) suggest that satisfying jobs are often those which are concerned primarily with people, such as dealing with clients and customers, organising people, and above all caring for other people. The Employment in Britain survey data shows that more than nine out of ten women who replied that caring for people took up at least half their work time were employed in female occupations. Therefore, the high correlation between occupational sex segregation and caring for people might well be reflected in the effect of occupational sex segregation in our models of job satisfaction. If we add the dummy variable of caring for people (which coded people who said that at least half of whose work time was spent in caring for people as "1") to our model of overall job satisfaction, as well as to our models of the specific items of the intrinsic job satisfaction, the effects of percent female in an occupation in all these models are reduced, and they all become insignificant. This suggests that the high intrinsic satisfaction among women in female

occupations, or the high overall job satisfaction of these women in general, is in part due to the fact that these women often work in "caring" jobs.

The greater job satisfaction of women in more female occupations seems to account for their low attrition from female occupations as compared to male occupations that was found in Chapter 4; women seem to remain in female occupations as they are satisfied with the intrinsic aspects of work and with the workplace atmosphere.

Job preferences and job satisfaction for Japanese women

In Chapter 3, we found that unlike British women, Japanese women are not concentrated into female occupations. Also, in Chapter 4, we found that compared to British women, the movement across sex-typed occupations are much more fluid for Japanese women. Then does this mean that Japanese women are less likely to be involved in the construction and maintenance of occupational sex segregation than British women? In this section, we will examine job preferences and job satisfaction for Japanese women, and compare them with British women, in order to see whether there are any differences which help to account for the aggregate differences in the patterns of occupational sex segregation. In analysing job preferences and job satisfaction for Japanese women, we use the Occupational Mobility and Career Research survey data (OMC) which was conducted in 1983. The sample for the OMC only included women so that we cannot compare between men and women for Japan. However, it is for women in the two countries that we did find substantial differences in the pattern of occupational sex segregation (see Chapter 3), so that the lack of men's sample seems not to be very crucial.

Job preferences and occupational sex segregation for Japanese women

In the OMC, the respondents were asked "how much did you emphasise the following conditions when you chose your current job?". The list includes pay, working hours, holidays, commuting time, job content, no fear of unemployment, equality between the sexes, promotion prospects, and the availability of social insurance. The answers were coded in a four-point scale from very important to not important. We will firstly construct the variable of intensity of job preferences by adding the responses to each item of job preferences. By the same method, we found in Britain that female part-timers are less concerned about job characteristics than female full-timers, and therefore, seem to be more vulnerable to demand side factors. But can we find the same result for Japanese women?

Table 7.12 Intensity of job preferences by full-time/part-time work, Japanese women

Female full-timers (N=365)	Female part-timers (N=256)	Sig. female full-timers vs. female part-timers
23.57	22.83	*
(5.01)	(4.36)	

Source: the Occupational Mobility and Career Research survey .
Note: * $p < .05\%$. Self-reported full-time/part-time work is used.

The result in Table 7.12 shows that female part-timers' score is significantly lower than that for female full-timers. Therefore, as in Britain, female part-timers in Japan are less likely than female full-timers to be concerned about job characteristics in choosing their jobs, and thus seem to be more vulnerable to demand-side factors.

Now, we will look at different dimensions of job preferences and compare them between full-timers and part-timers. The items of job preferences in the Japanese

data are different from those in the British data. In order to find some correspondence between these two data sets, we selected a group of items which seem to be relevant to each dimension of job preferences extracted from the British data, and constructed an indicator by using a principal components factor analysis. We include pay, job security, promotion prospects and the availability of social insurance to construct an equivalent factor to the preference for the extrinsic aspects of work. In terms of the preference for the intrinsic aspects of work, we put job content and sex equality. For the preference for convenient work arrangements, working hours, holidays, and commuting time were included. The Reliabilities (= Cronbach's Alpha) for the preference for the extrinsic aspects work, the intrinsic aspects of work, and convenient work arrangements are .64, .57, and .74 respectively. We cannot find any equivalent items for the preference to a friendly workplace atmosphere in the Japanese data. We obtained good results from the factor analysis as shown in Table 7.13.

Table 7.13 Principal components analysis of job preferences, Japanese women

Variable	Communality	*	Factor	Eigenvalue	Pct of Var
Preference for extrinsic aspects of work					
1. pay	.37	*	1	1.93	48.2
2. job security	.69	*			
3. promotion prospects	.31	*			
4. social insurance	.57	*			
Preferences for intrinsic rewards					
1. job content	.70	*	1	1.40	70.1
2. sex equality	.70	*			
Preferences for convenient work arrangement					
1. working hours	.72	*	1	1.98	66.2
2. holidays	.67	*			
3. commuting time	.59	*			

Source: the Occupational Mobility and Career Research survey
Note: Reliabilities (Cronbach's alpha) for the three factors are .64, .57, and .74 respectively.

Table 7.14 shows the average scores of the three factors of job preferences for female full-timers and female part-timers in Japan. As can be seen, female full-timers in Japan are more likely than female part-timers to emphasise both the extrinsic and intrinsic aspects of work in choosing their jobs. However, female part-timers are more likely than female full-timers to emphasise convenient work arrangements. Thus, basically, in terms of job preferences for full-timers and part-timers, we can find similarities between British women and Japanese women.

Table 7.14 Job preferences by full-time/part-time work, Japanese women (s.e in parentheses)

	Female full-timers (N=371)	Female part-timers (N=268)	Sig. female full-timers vs. female part-timers
Preference for extrinsic work	.183 (1.002)	-.260 (.939)	***
Preference for intrinsic work	.126 (1.033)	-.177 (.926)	***
Preference for convenient work	-.167 (1.024)	.236 (.916)	***

Source: The Occupational Mobility and Career Research survey *** $p < .001$

We now examine whether Japanese women's job preferences differ by the sex-type of occupations. As can be seen from Table 7.15, we cannot find any statistical evidence that women's job preferences differ by the sex-type of occupations. This is the same if we select female full-timers (Table 7.16) or female part-timers (Table 7.17). In Britain, we also found that the sex-type of occupations had little impact on women, once full-time/part-time work was controlled. However, the sex-type of occupations showed a significant impact on the job preferences for British women as a whole, because of the uneven distributions of part-timers across sex-typed occupations. However, the distributions of part-timers across sex-typed occupations in the Japanese data is not so skewed as in the Britain data. In fact, the shares of part-

timers in gendered occupations are quite similar in our Japanese data: 46% of women in male occupations, 43% in mixed occupations, and 40% in female occupations are part-timers. As we have seen, the corresponding figures for the British data are 17%, 30%, and 48% respectively.[5] Therefore, the differences in job preferences between full-timers and part-timers do not significantly affect the relation between Japanese women's job preferences and sex-typed occupations.

Table 7.15 Job preferences by sex-typed occupations, Japanese women

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. female	sig. male vs. female
Extrinsic work	-.076	-.004	.048	n.s.	n.s.	n.s.
	(1.080)	(.991)	(.984)			
Intrinsic work	.093	-.057	.093	n.s.	n.s.	n.s.
	(1.048)	(.986)	(1.005)			
Convenient work	-.035	.018	-.026	n.s.	n.s.	n.s.
	(1.062)	(.986)	(1.001)			
N	93	394	165			

Source: The Occupational Mobility and Career Research survey
Note: ** p < .01, * p < .05, n.s. = not significant at the 10% level.

Table 7.16 Job preferences by sex-typed occupations, Japanese female full-timers

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. female	sig. male vs. female
Extrinsic work	.147	.163	.237	n.s.	n.s.	n.s.
	(1.142)	(.996)	(.964)			
Intrinsic work	.215	.082	.192	n.s.	n.s.	n.s.
	(1.102)	(1.028)	(1.014)			
Convenient work	-.337	-.093	-.238	n.s.	n.s.	n.s.
	(1.092)	(1.022)	(.994)			
N	50	225	105			

Source: The Occupational Mobility and Career Research survey
Note: ** p < .01, * p < .05, n.s. = not significant at the 10% level

[5] The share of part-time workers in the Japanese data is considerably larger compared to the British data, because Japanese sample included those aged 25 and over. We cannot, however, compare the Japanese figures to the official statistics, such as the census or the labour force survey, as they lack the information of detail-classified occupation by full-time/part-time work or by working hours.

Table 7.17 Job preferences by sex-typed occupations, Japanese female part-timers

	male occ	mix occ	female occ	sig. male vs. mix	sig. mix vs. female	sig. male vs. female
Extrinsic work	-.321	-.233	-.288	n.s.	n.s.	n.s.
	(.961)	(.939)	(..935)			
Intrinsic work	-.049	-.244	-.080	n.s.	n.s.	n.s.
	(.973)	(.895)	(.972)			
Convenient work	.333	.165	.345	n.s.	n.s.	n.s.
	(.908)	(.917)	(.904)			
N	43	169	60			

Source: The Occupational Mobility and Career Research survey
Note: ** $p < .01$, * $p < .05$, n.s. = not significant at the 10% level

In sum, we have found that job preferences for Japanese female full-timers and part-timers differ significantly; the former tend to emphasise both the extrinsic and intrinsic aspects of work and the latter convenient work arrangements. However, we cannot see any difference in job preferences by the sex-type of occupations for either female full-timers or female part-timers in Japan.

Job satisfaction and occupational sex segregation for Japanese women

Now we will examine job satisfaction for Japanese women. It is supposed that if they are satisfied with their jobs in a particular sex-typed occupations, they are likely to stay in these occupations. However, as Chapter 4 shows, Japanese women are more likely than British women to move across sex-typed occupations, when they change their jobs. Then, is Japanese women's level of job satisfaction not so much affected by the sex-type of occupations as in the case for their British counterparts?

In the Japanese data, there are two questions which are relevant to overall job satisfaction, and they are equivalent to two of the three British questions that are used to construct the overall job satisfaction score. The first question is "are you satisfied with your job or dissatisfied? Considering your job as a whole, please choose from the

followings the one which is closest to your opinion". The answer is coded on a 5 point scale from satisfied to dissatisfied. The second question is "would you like to continue your current job? If possible, would you like to change it, or would you like to retire and not work at all?". The respondent chose from 1. they would like to continue, 2. they would prefer to change, and 3. they would like to retire. To find a correspondence with the British analysis, we produce a measurement of overall job satisfaction which is scaled as the composite of responses to these two items which ranges from 1.0 to 7.0. Unlike the British data, the Japanese data lacks the information about specific job satisfaction.

Table 7.18 OLS regression on overall job satisfaction, Japanese women

	Women (N=653)
fempct	-.002 (.002)
age 35-44	.352 (.143)*
age 45-54	.556 (.150)***
age 55+	.583 (.225) **
managerial/administrative	-.478 (1.392)
clerical	-.631 (.192)**
sales	-.856 (.223)***
skilled	-.642 (.242)**
semi-skilled	-.733 (.200)***
unskilled	-.817 (.282)**
agricultural	-.632 (.600)
part-time	-.298 (.115)**
constant	6.129 (.250)***
adjusted R^2	.045
F	3.551***

Source: the Occupational Mobility and Career Research survey
* p <.05, ** p <.01, *** p <.001

Table 7.18 shows the result. As expected, the effect of percent female in an occupation is not statistically significant after controlling for the other predictor variables. Moreover, unlike British women, the value of the coefficient is negative, rather than positive. However, this result may change, if we use the categorical variable of occupational sex segregation. As has been seen in Chapter 4, the attrition

of mixed occupation is relatively low for Japanese women, then women in these occupations might show greater overall job satisfaction than other women.

Table 7.19 OLS regression on overall job satisfaction with the categorical variable of occupational sex segregation, Japanese women

	Women (N=653)
female occupations	-.214 (.145)
male occupations	-.108 (.169)
age 35-44	.343 (.143)*
age 45-54	.540 (.151)***
age 55+	.568 (.225) *
managerial/administrative	-.371 (1.389)
clerical	-.707 (.200)***
sales	-.837 (.218)***
skilled	-.661 (.239)**
semi-skilled	-.723 (.198)***
unskilled	-.829 (.279)***
agricultural	-.591 (.600)
part-time	-.309 (.115)**
constant	6.136 (.195)***
adjusted R^2	.046
F	3.415***

Source: the Occupational Mobility and Career Research survey
* p <.05, ** p <.01, *** p <.001

As can be seen from Table 7.19, even if we use the categorical variable of occupational sex segregation, we cannot find any statistical evidence that women in mixed occupations are more satisfied with their jobs than those in female occupations and male occupations, though the coefficients of female occupations and of male occupations show that those in female occupations and male occupations are less satisfied with their jobs than those in mixed occupations.[6]

Thus, occupational sex segregation have little effect on Japanese women's job satisfaction. However, age and job-structure variables, i.e., occupational class, and full-time/part-time work, significantly affect Japanese women's job satisfaction. In

[6] Even if we allows for the 10% significance level because the sample size is relatively smaller in the Japanese data compared to the British data, the effect of occupational sex segregation, either in categorical variable or continuous variable, is not significant.

particular, the result shows that female part-timers are less likely to be satisfied with their jobs than female full-timers despite their relatively low expectations.

In the Japanese data, the respondents were asked their opinion about the working conditions of part-timers. The statement is "compared to full-time work, part-time work is insecure and the working conditions are poor". The average overall satisfaction score for part-timers who strongly agreed to the statement is 5.25. However, the corresponding figure for the part-timers who did not agree to the statement at all is 6.17. The difference between the two groups is statistically significant at the 5% level. Therefore, the lower satisfaction among Japanese part-timers could be related to their particularly poor job security and work conditions.

In summary, we cannot find any significant evidence that occupational sex segregation is related to Japanese women's job preferences or it affects their level of overall job satisfaction. This seems to be reflected in the job mobility patterns for Japanese women; they move across sex-typed occupations relatively easily compared to British women. It also seems to be reflected in the aggregate difference in the pattern of occupational sex segregation; while British women are concentrated into female occupations, this is not the case for Japanese women.

Summary and Conclusion

In summary, we firstly examined in this chapter whether job preferences differ between male full-timers, female full-timers and female part-timers in Britain. Four dimensions of job preferences emerged from the British data; they are preference for the extrinsic aspects of work, preference for the intrinsic aspects of work, preference

for convenient work arrangements, and preference for a friendly workplace atmosphere. Male full-timers are more likely than others to emphasise the extrinsic aspects of work but less likely to emphasise convenient work arrangements and a friendly workplace atmosphere. Female full-timers are more likely than others to emphasise the intrinsic aspects of work. And female part-timers are more likely than others to emphasise convenient work arrangements and a friendly workplace atmosphere. We suggested that the greater emphasis of men on the extrinsic aspects of work as compared with women helps to explain why men move to and stay in male occupations, as these occupations in fact provide better pay than female occupations (see Chapter 5), and therefore match with their work values.

Secondly, we examined job satisfaction for men and women in Britain. Although we did not find any statistical evidence that men in male occupations are more likely than other men to be satisfied with their jobs, we did find that women in female occupations are more likely than other women to be satisfied with their jobs. The greater satisfaction for women in female occupations is derived from their greater satisfaction with the intrinsic aspects of work, as well as from their greater satisfaction with a friendly workplace atmosphere. Given that women in female occupations have higher preferences than other women for a friendly workplace atmosphere, the greater satisfaction with a friendly workplace atmosphere of these women seems to suggest that female occupations in fact provide such a work atmosphere. In terms of the intrinsic job satisfaction, we suggested that the fact that women in female occupations are more likely than other women to work in a job which requires them to care for people seems to contribute to their greater satisfaction.

Thus, even if employers paid less to women in female occupations, their experiences in female occupations - the friendly workplace atmosphere and the feeling of achieving high intrinsic rewards - make these women feel satisfied with their jobs. Occupational sex segregation, therefore, seems to be maintained in the British labour market by benefiting employers on the one hand, and by providing women with the work conditions which make them feel satisfied with their jobs on the other hand.

In contrast in Japan, we did not find any evidence that women's job preferences and job satisfaction differ by occupational sex segregation, though they do differ between full-timers and part-timers. Female full-timers are more likely than female part-timers to emphasise both the extrinsic and intrinsic aspects of work, while female part-timers are more likely than female full-timers to emphasise convenient work arrangements. Also, female part-timers are less likely than female full-timers to be satisfied with their jobs in Japan, and we suggested that this seems to be because of their particularly poor job security and work conditions.

The greater differences made by occupational sex segregation for women's job preferences, as well as for their job satisfaction in Britain than in Japan seem to suggest the greater involvement of British women in the construction and maintenance of occupational sex segregation. This in turn seems to be reflected in the differences in the individual job mobility between the two countries (i.e., it is less likely for British women than for Japanese women to move across sex-typed occupations), as well as in the difference in the distributions across sex-typed occupations (i.e., British women are concentrated into female occupations but this is not the case for Japanese women).

CHAPTER 8

SOCIAL AND ECONOMIC CONDITIONS AND OCCUPATIONAL SEX SEGREGATION

Introduction

From Chapter 5 to Chapter 7, we examined the experiences of men and women in the labour market, trying to understand how occupational sex segregation is constructed and maintained at the individual level, and why the extent differs between Britain and Japan at the aggregate level. In this chapter, we will further examine the mechanism of occupational sex segregation in a wider context. Occupational sex segregation can be captured as the results of the interaction of employers, employees and the government. Although there is little doubt that employers and employees are the main agents who construct and maintain occupational sex segregation, state intervention, through law and regulation, or through the systems of social security, may influence the decision of the two agents by giving positive weights on some options and negative weights on the others.

Also, in a wider context than the labour market, gender norms and women's expected roles in the society based on these norms influence the behaviour of employers and employees. For employers, gender norms and women's expected family roles would influence their beliefs and judgement about the nature of employees. For employees, these factors would influence their labour market behaviour directly through affecting feasible options, or indirectly through affecting

their beliefs about feasible options. Therefore, there exists a potentially complex mechanism behind occupational segregation.

To understand this complex mechanism, firstly we will examine gendered attitudes and women's family roles for Britain and Japan. Gendered attitudes and family roles would affect women's behaviour in the labour market by giving different weights between the options of sex-typical careers and sex-atypical careers. Secondly, we will examine social security systems - the tax and pension schemes - in Britain and Japan. We will consider whether they influence women's decisions about work, particularly between the "non-work" option and "work" option, or between the "full-time work" option and "part-time work" option. Thirdly, we will turn to demand-side factors and investigate employer's policies in Britain and Japan. In particular we will investigate how Japanese employers utilise female labour, and what implication this has for the impact of occupational sex segregation. Then, we will investigate how effective the labour laws in Britain and Japan are to restrict employers' discriminative policies towards women.

Gendered attitudes and women's family roles in Britain and Japan

The beliefs and assumptions based on gender, i.e., what is appropriate for men to do and what is appropriate for women to do, influence not only women's decisions about work, but also employers' decisions about the appropriate candidate for a job. In this section, we will look at some empirical evidence on gendered attitudes and behaviour using a survey containing both British women and Japanese women. The 1992 Public Opinion Survey regarding Equality of the Sexes (POSES) was conducted in eight different countries by the Office of the Prime Minister in Japan, including Britain and

Japan (*Tokyo-to Seikatsubunka-kyoku* 1994). The British survey was conducted in March 1993. It is a national representative sample of women aged 20 years and over. The Japanese survey (*Joseimondai-ni-kansuru Kokusai-hikaku-chosa*) was conducted in November 1992, and it is a national representative sample of people aged 20 and over. The POSES asked a number of questions about gender roles, attitudes, and household responsibilities. We will summarise the results of this survey to see how Japanese women are different from British women.

We firstly pick up four questions which are in Table 8.1 to see gendered attitudes in Britain and in Japan. These four questions about gendered attitudes reflect how women internalise norms and values about gender roles, marriage, women's reproductive role, and children's socialisation. We can see from Table 8.1 that, in every question, Japanese women show much stronger gendered attitudes than British women. For the bread-winner question, more than half the Japanese women agreed that the husband should be the breadwinner and the wife should stay at home, but only 20% of the British women agreed to it. Marriage means more to Japanese women than British women; nearly 80% of the Japanese women agreed that women's happiness lies in marriage, so it is better for women to marry, but only 37% of the British women agreed to this view. Also, for Japanese women, marriage often means becoming a mother; less than one-third of the Japanese women agreed that marriage does not mean that one should have children, while nearly nine out of ten British women agreed to the statement. Finally, Japan is also much more traditional in child socialisation than Britain; nearly half of the Japanese women agreed to gender-specific socialisation, but the figure for the British women is only 16%.

These attitudes, however, vary by age. For both Britain and Japan, the younger generation show less traditional attitudes than the older generation. When we focus on the differences between Britain and Japan by generation, we can see that in terms of the attitudes to the bread-winner role and marriage, the country difference is larger among the younger generation than among the older generation. This suggests that the generation change in attitudes to the bread-winner role and marriage is greater for British women than for Japanese women. On the other hand in terms of the attitudes to women's reproductive role and child socialisation, the difference between Britain and Japan is larger for the older generation than for the younger generation (except for attitudes to child socialisation for those in their 60s), which suggests that Japanese women's attitudes to their reproductive role and child socialisation are becoming similar to those of British women. Having said that, however, even the youngest generation in Japan show much more traditional attitudes than their British counterparts.

Also, gendered attitudes differ in both countries by whether women are in employment or not, and if they are in employment, the attitudes differ by whether they work as full-time employees or part-time employees. In general, the results show that those in employment have less traditional attitudes than those not in employment, and if those in employment are compared, those who are full-time employees have less traditional attitudes than those who are part-time employees. The biggest variation can be seen in the bread-winner question for both countries; for British women, only one out of ten in employment (and 8% of full-timers) agreed that men should be the bread-winner but women should stay at home, while three out of ten who were not in employment agreed to it. In Japan, 47% of women in employment (and 37% of full-

timers) agreed to this statement, but as much as two-thirds of those who were not in employment agreed to it. However, when employed women are compared between Britain and Japan, those in Britain have much less traditional attitudes than those in Japan in every question. Thus, even if in employment, Japanese women still have very traditional attitudes.

Table 8.1 Percentage of women who agreed to statements of gendered attitudes, Britain (N=1064) **and Japan** (N=1971)

	All	all in employment	employees full-time	part-time	Not in employment	Age 20s	30s	40s	50s	60s
a. The husband should be the bread winner and the wife should stay at home										
Britain	20.3	10.3	7.8	12.7	29.6	8.3	8.5	14.0	21.8	43.9
Japan	55.6	47.2	36.9	47.1	65.9	47.9	46.7	53.9	54.3	68.7
b. All things considered, women's happiness lies in marriage, so it is better for women to marry										
Britain	37.0	29.2	25.0	32.8	44.3	17.2	23.1	31.1	50.4	61.4
Japan	78.2	77.3	73.2	77.4	79.2	72.9	71.8	74.4	81.1	86.8
c. Marriage does not mean that one should have children										
Britain	88.3	92.0	94.3	89.1	84.9	90.7	90.3	89.6	89.4	83.2
Japan	32.2	33.4	38.6	38.3	30.8	47.5	41.9	34.7	28.0	18.9
d. It is the best to teach a boy to behave like a boy and a girl to behave like a girl										
Britain	15.8	10.1	10.1	10.0	21.1	6.3	8.1	10.4	14.6	34.6
Japan	45.6	41.8	32.2	47.0	50.4	31.3	31.2	48.7	49.6	54.2

Source: 1992 Public Opinion Survey regarding Equality of the Sexes

In summary, firstly, we can see that Japanese women are much more traditional than British women towards gender roles, marriage, reproduction role, and children's socialisation. Secondly, for both British women and Japanese women, the younger generation show less traditional gendered attitudes than the older generation. However, in Japan, even the youngest generation show much stronger traditional attitudes than women in Britain. Thirdly, for both countries, gendered attitudes depend

on whether women are in employment or not; those in employment show less traditional attitudes than those not in employment. This is particularly so if they are full-time employees. However, if employed women are compared between Britain and Japan, those in Japan have much stronger gendered attitudes than the British counterparts.

We now turn to the actual family roles of women in Britain and Japan. In so doing, we will look at wives' responsibilities for the various household chores, and the decision making in the household. The POSES asked the respondents who were married or who were not married but living with a partner about who mainly takes care of various household chores. The result is shown in Table 8.2, where the figures show the percentage of the respondents who replied that it was the wife who mainly took care of the household core.

Table 8.2 Wives' responsibilities for household chores, Britain and Japan

Household chores	Japan	Britain	*Difference*
Cleaning the house	86.0%	77.6%	*8.4%*
Doing the laundry	91.3%	89.9%	*2.4%*
Grocery shopping	84.9%	64.2%	*20.7%*
Cooking	91.5%	75.4%	*16.1%*
Washing the dishes	84.7%	45.6%	*39.1%*
Helping child(ren) with homework and study[a]	52.5%	36.6%	*15.9%*
Child care[b]	68.6%	61.2%	*7.4%*
Taking care of parents[c]	72.5%	51.1%	*21.4%*

a. Only for families which have child(ren) under 16
b. Only for families which have infant(s) and/or baby(babies)
c. Only for families that provide daily care to or nurse parents everyday
Source: 1992 Public Opinion Survey regarding Equality of the Sexes

From Table 8.2, we can see that Japanese women in general are more responsible for household chores than British women. The difference can be particularly found in washing the dishes, where less than half of the British women replied they were mainly responsible for it, but 24% of them said that husband mainly took care of it. On the other hand, as much as 85% of the Japanese women replied that they mainly took care of it, while very few said that this was the chore for the husband (2% of the respondents said that their husband were mainly responsible for it). Also, grocery shopping is more likely to be shared among the family in Britain but it is the wife's job in Japan; less than two-thirds of the British women replied that they mainly took care of it but a quarter of them said that the entire family was responsible, while the corresponding figures for the Japanese women are 85% and 8% respectively. Caring for members of the family is also more likely to be in hands of the wife in Japan than in Britain, though in terms of caring for infants or babies, the difference between them is relatively small. More than half of the Japanese women replied that they mainly help children's study, and 73% of them mainly take care of parents, though in Britain the corresponding figures are 37% and 51% respectively.

We will now turn to the decision making at home. The POSES asked the respondents who makes the final decision in their household with respect to purchase of house/residence, purchase of furniture and major household appliances, and handling of the household budget, and finally, it asked who has the real power in the household in making major decisions. Table 8.3 shows the proportion of the respondents who said that the husband, or the couple together, or the wife was the final decision maker.

Table 8.3 Decision making in the household, Britain and Japan

	Husband	Couple	Wife	Family	Others	Don't know
a. Purchase of house/residence						
Britain	9.7%	75.9%	10.0%	3.4%	0.0%	1.0%
Japan	56.7%	29.0%	2.1%	7.2%	3.1%	1.9%
b. Purchase of furniture and major household appliances						
Britain	3.7%	72.5%	22.4%	1.4%	0.0%	0.0%
Japan	26.3%	42.2%	19.8%	9.7%	1.6%	0.4%
c. Handling of the household budget						
Britain	18.2%	34.2%	46.9%	0.4%	0.0%	0.3%
Japan	10.4%	14.5%	70.5%	1.8%	2.4%	0.3%
d. Overall, who in the household has the real power in making major decisions?						
Britain	21.5%	51.3%	26.3%	0.8%	0.0%	0.1%
Japan	62.4%	19.1%	12.4%	2.4%	3.2%	0.5%

Source: 1992 Public Opinion Survey regarding Equality of the Sexes

From Table 8.3, we can see that in Japan, husbands have much greater power than wives in household decisions except for the handling of the household budget, and this is particularly so if the decision is for more valuable things. Handling the household budget is more likely to involve routine tasks than the other types of decisions. On the other hand, in Britain, the couple together tend to make the final decision. Unlike Japan, we cannot see any tendency in Britain that husbands are more powerful decision makers than wives at home.

In summary, we can see much a clearer division of labour at home in Japan than in Britain. Japanese women are more responsible for taking care of household chores than British women. However, this does not necessarily mean that Japanese women have more say in household decisions. In fact, the result shows that compared to women in Britain, they have less power in making important decisions in the household.

How could these differences in attitudes and family roles of women between Britain and Japan affect the choices of women in the labour market? Firstly, attitudes are the reflection of norms and values which are acquired in the process of socialisation. Stronger gender attitudes in Japan, therefore, mean that Japanese women are more likely to internalise gender norms and values than British women. Norms and values shape preferences as well as the perception of the set of feasible alternatives. Although the final decision in the labour market is very much influenced by demand-side factors, these internalised norms and values "push" women to choose sex-typical careers when they make the decision between non-work and work, or between sex-typical jobs/careers and sex-atypical jobs/careers. Secondly, domestic responsibilities not only make it difficult for women to pursue their careers, but also shape the preferences and the perception of feasible alternatives, through the mechanism of "sour grapes" (Elster 1983b). In other words, once married and having experienced their household responsibilities, the preference order may be based on "convenience" in work rather than "intrinsic or extrinsic rewards" in work. The household responsibilities, or just the fact that they are married or have children, may make them believe that certain jobs or careers are not for them. Thus, given the stronger gendered attitudes and greater domestic responsibilities for Japanese women than for British women, the "pushing" forces to choose gender typical careers seem to be stronger for the former than the latter.

From the point of view of employers, more traditional attitudes and greater domestic responsibilities for women in Japan than in Britain seem to encourage Japanese employers to differentiate employment conditions by sex more than British employers, because these attitudes and behaviour could well affect women's

commitment to work and their productivity. At the same time, these women's attitudes and behaviour in turn make it easier for Japanese employers than for British employers to pursue discriminative policies against women.

Social security system in Britain and Japan

Social security systems influence employment independently from market forces (Esping-Andersen 1990). In this section, we will examine some aspects of the social security systems in Britain and Japan which could possibly influence women's decisions about work. They are the taxation and the pension schemes. These two system can affect women's occupational choice, by differentiating not only their (or their family's) current income, but also their life-time income.

Taxation

In Britain, taxation is based on an individual. Every man and woman, single or married, is entitled to the personal allowance. A married man, whose wife is living with him can claim the married couple's allowance. However, a wife can elect to receive one-half of the married couple's allowance, and she does not need her husband's consent to make this election. Or the allowance can be deduced wholly from the wife's total income, instead of the husband's income, if the election is made jointly by husband and wife (Genders 1996) .

In terms of the taxation system in Japan, the base is an individual and no difference in personal allowance is made by sex. For married couples, there are two kinds of spouse allowance - the basic spouse allowance and the special spouse allowance. Both of these spouse allowances are based on the income of the spouse,

rather than the simple fact that they are married. A person can claim the basic spouse allowance if the spouse earns not more than ¥350,000, and the special spouse allowance can be claimed if a person's income is not more than 10 million yen, and the spouse earns more than ¥350,000 but less than ¥700,000 (Hobara 1993).

For Britain, if we compare the individuals who earn the same amount of money, the net income of those who are single becomes lower than those who are married, because of the married-couple's allowance. This can also apply to Japan, if the spouse earns not more than the allowance limit. In this respect, a married person benefits more than a single person. The difference between Britain and Japan in the taxation system with regard to women's paid work is that the spouse's allowance in Japan is based on the amount of income of the spouse, while in Britain, every married couple if living together, irrespective of the income level of the spouse, is entitled to the married couple's allowance. Though the Japanese system looks sex-neutral, as "spouse" can be both sexes, given the fact that husbands often earn much more than wives, the system may well give disincentives for wives to earn more than the allowance level, and could affect the decision between work/non-work, or between full-time/part-time work. This is what is actually happening in Japan, as we will see later. In this sense, the Japanese system seems to be more gender-biased than the British system.

Pension Scheme

In Britain, there are basically three types of contributors to the national insurance, which includes state retirement pension, together with sickness and unemployment. Firstly, employees are liable for Class 1 contributions unless their weekly earnings are

below a specified limit (£58 in 1996). Secondly, self-employed persons must pay either Class 2 or Class 4 contributions. Class 2 is a weekly flat rate, and if their earnings are below a specified annual limit, they can be exempted from the contributions. Class 4 contributions are based on a percentage of their taxable business profits. Finally, an individual who is neither employed nor in self-employment can pay Class 3 contributions, which is, however, a voluntary option. For a married couple, even if the wife is not a contributor, the husband is entitled to an increase in his pension (European Commission 1993, Genders 1996).

In terms of Japan, it is more convenient to categorise people according to the type of insured person, rather than of contribution, since the standard pension scheme which came into force in 1986 has enabled all individuals to have their own retirement pension. There are three categories of insured persons. The first category consists mainly of those who are in self-employment, but also students of 20 years old or over and wives of those self-employed belong to this category. They contribute a fixed sum. The second category is employees, and their contributions are relative to their income level. Finally, the third category is the wives of employees who are not in employment, or even if they are in employment, if they work less than 3/4 hours a day/week or 3/4 days a month of full-time ordinary workers and earn not more than ¥1,300,000 (Fujii 1993, Hobara 1993).

There are mainly two differences in the pension schemes between Britain and Japan from the point of view of gender. The first difference is about who contributes to the benefit. In Britain, regardless of their sex, all the persons whose income is less than £58 a week are exempted from the contribution, or if a person is neither employed nor in self-employment, the person can choose not to contribute regardless

of their sex. In Japan, only the wives of employees can be exempted from the contribution. Therefore, the Japanese system is more gender biased. The second is about who gets the benefits. In Britain, all married women, unless they earn more than £58 a week, can indirectly (but not independently) get the benefits through an increase in her husband's pension. So the unit of the benefits is the family rather than the individual. While in Japan, the wives of employed husbands, but not of self-employed husbands, can get their "individual" pension without any contribution. The difference in entitlement between the wives of employed husbands and the wives of self-employed husbands in Japan may encourage women's dependency more for the former than the latter.

In fact, many Japanese researchers suggest that the exemption of the wives of employed husbands from pension contributions, together with the spouse allowance in taxation, gives them advantages if they stay at home or their earning is the minimum taxable level (Yashiro 1993, Fujii 1993, Maruyama 1994). Also, a survey on part-time workers conducted by the Ministry of Labour in 1990 shows that more than half the part-timers were concerned not to earn more than minimum taxable level (*Rododaijin-kanbo-seisaku-chosabu* 1990).

In summary, we have found that the taxation and pension schemes in both Britain and Japan are gender-biased; basically, they encourage that "the husband should be the bread-winner and the wife should stay at home". However, the extent of the encouragement for women to be dependent on their husbands (either as housewives or part-timers) seems to be stronger in Japan than in Britain, in particular if their husbands are employees. This could well affect women's occupational choice, through

making an "exit" option for married women, or for women who are expected to marry soon, cheaper. Or when women try to re-enter the labour market after marriage, the tax and pension schemes influence women's preferences and feasible sets; they tend to choose part-time jobs, which provide "low enough" income but with less working hours. As we saw in Chapter 7, female part-timers are the group who are least likely to be concerned about the extrinsic and intrinsic aspects of work in looking for their jobs. Thus, they seem to be vulnerable to demand-side factors.

Employer's policy and occupational sex segregation

In this section, we will examine how employer's policy influences occupational sex segregation. The interests of employers - to reduce labour costs - seem to be clear, though some researchers argue that this employer's interest interacts with "patriarchal" interests (Reskin & Hartmann 1986, Walby 1990). If an occupation can be an effective unit for employers to utilise female labour at a relatively cheap rate, this will encourage occupational gender segregation. This is actually what we have found in the British labour market in the previous chapters. However, if occupation cannot be used in this way or there is another method through which they could realise their interests in a more effective way, there should be no incentive for employers to allocate different occupations to different sexes. This difference in the function of an occupation may help to explain the difference in the extent of occupational sex segregation between Britain and Japan. However, we need to explain why the function of occupation differs between Britain and Japan from the point of view of employer's policies. In so doing, we will examine employment practices in Japan in comparison with these in Britain. Also, if an occupation is not an effective unit for the Japanese

employers to utilise female labour, how do they utilise the female labour? Given the strong gendered attitudes and behaviour in Japan, there must be great incentives for Japanese employers to differentiate the employment conditions by sex. We will try to answer this question by examining how Japanese employers utilise female labour using the result from a survey carried out by the Ministry of Labour (Ministry of Labour 1990, 1992).

Employment practices in Japan

Firstly, it is necessary to introduce the employment practices in Japan in order to understand what "occupation" means in Japan and how the notion of occupation differs from Britain.

It is often said that Japanese economic success is greatly due to its special employment practices. Life-time employment, seniority wages, and enterprise unions are said to be the three main factors which make of the Japanese employment system (Dore 1973, 1993, Koike 1988, Ito & Kagono 1993), though the application of these systems differs by the size of enterprises (Ishikawa 1993, Tachibanaki 1993).The cultural origin of the Japanese employment system is said to be found as far back as in the Edo and Meiji era (Dore 1993), but it was after the war when it became widely accepted by the Japanese enterprises (Ito & Kagono 1993). Life-time employment is defined as,

> After being hired, workers receive education and training within the enterprise and thus get to experience various kinds of jobs through job rotations and transfers, in the course of which they obtain promotion. As a general rule, they complete their career in the same enterprise. Their employment is, in principle,

> guaranteed until a certain age (this age varies in each enterprise, most enterprises setting this age between 55 and 60).
> (The Japan Institute of Labour 1993a, p31)

This practice, however, becomes less common as the size of the enterprises becomes smaller (Inagami 1988, Sato 1997a). Different recruitment systems exist between large enterprises and smaller ones; while large enterprises tend to hire fresh school leavers, smaller enterprises tend to fill the vacancies by mid-career workers (The Japan Institute of Labour 1993a, Kita 1995). Also women are often excluded from the life-time employment because a large number of them stop working when they get married or have children (The Japan Institute of Labour 1993a).

The life-time employment system and the *nenko* (seniority-plus-merit)[1] wage system go hand in hand. In Japan, fresh school leavers are recruited at the same time in a year, and their starting salaries are determined according to their educational qualifications (The Japan Institute of Labour 1993a). In the *nenko* wage system, the wage curve increases by each year of service. For the first 10 to 20 years, the workers are given lower wages relative to their contributions, but after then, their wage becomes higher than their actual contributions. This is reported to give workers the incentives to work longer in the organisations (Ito & Kagono 1993). Koike (1988, 1993a) found that the *nenko* wage system is not distinctive to Japan but in the large enterprises in Britain and in the US, similar systems can be found for the white-collar workers. What is peculiar for Japan, he argues, is that the *nenko* wage system is applied to the blue-collar workers in the large enterprises (see also Higuchi 1997), and

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[1] *Nenko* is made up of two words - *nen* and *ko*. *Nen* means seniority and *ko* refers to performance and ability (Kumazawa 1996).

that they stay with their companies for long periods. Women are also covered by the *nenko* wage system, but their wage curves by each year of service are lower than men's (The Japan Institute of Labour 1993a). The wage gap by sex is relatively low for young workers, but as they get older, it becomes larger because of the different wage curve. This can be found not only for the white-collar workers but also for the blue-collar workers in Japan, because of the "white-collarisation" of the male blue-collar workers (Koike 1988).

There are two explanations for what makes the *nenko* wage system possible in Japan. The first is the "white-collarisation" hypothesis, which is suggested by Koike (1988). He argues that not only the white-collar workers but also the blue-collar workers in Japan have a wider range of skills than the Western counterparts, and their skills increase by the length of service. These skills are mainly acquired by on-the-job training, and enable them to cope not only with usual operations but also with unusual operations (Koike 1993a 1993b). Another explanation is the "life-assurance-wage" hypothesis, suggested by Nomura (1992). He argues that the wage curve is decided in a way which enables male workers to support their family, so that the companies provide them with considerable training to increase their skills to recover the costs. These hypotheses, however, cannot be applied to women, either because 1. women have not accumulated such a wide range of skills because of their intermittent work life, or 2. women are not expected to support their family, so that their wage curve is stagnant (Osawa, Mari 1993).

Differences between the Japanese employment system and the British employment system

So far, we have seen some features of what is called "Japanese employment system", but how does this differ from British system?

Dore (1986) suggests a number of interesting contrasts between a "market-oriented" system, which is the dominant practice of the typical British firm, and an "organisation-oriented" system, which is mainly found in the typical large Japanese firm.

According to Dore, in the market-oriented system, workers move from firm to firm frequently, always watching the market. However, in the organisation-oriented system, the mobility rate is low, and workers are assured 'life-time careers' and expect to fill all but junior jobs (including board directorships) by internal promotion. In terms of pay, in the market-oriented system, the wage rate is decided on the basis of 'the rate for the job', or 'the going rate' in the labour market, whereas, in the organisation-oriented system, pay is on incremental scales which are differentiated by qualification level. Incremental progression depends on seniority and assessed 'merit'. For the former system, fairness resides in 'equal pay for equal work' or 'work of equal value to employer', but for the latter it means 'equal pay for equal levels of qualification, service, willingness, cooperativeness, etc.'. With regard to collective bargaining, in the market-oriented system, trade unions combine all those with the same skill to sell in the market in a co-operative effort to raise the going rate for their skills. While in the organisation-oriented system, unions are organised at the enterprise level, combining all the lower ranks in a co-operative effort to ensure that they get a fair share of the proceeds of the firm's collective endeavour. They are taken

as seriously as the shareholders by the enterprise managers. In terms of skills, in the market-oriented system, once acquired, skills are individual property, and they can take them into the market, looking for a new employment contract at any time it seems to their advantage. Hence the possibility of mobility is a fairly salient thought in the minds of both employers and employees. An employee who acquires a new skill and remains in the same employment can expect a new job at a new rate, because of the salience of the consciousness of "market price' of skill. Training is seen by employers as an alternative to buying in skills. While in the organisation-oriented system, it is difficult to leave a major firm and expect to get a job with a competitor firm of equal standing. The likely market values of a skill they might acquire are of little concern to employees as they do not foresee any great likelihood of their being in the market. The employee's wage does not immediately depend on their job-function, and it is not necessarily altered by acquiring a new skill, because of the lack of consciousness of the 'market price' of skill. The employers see training as a means of getting their employees to do a better job, and the purchase of necessary skills in the market is not normally considered as a possible substitute (Dore 1986, pp29-31).

These contrasts might have been influenced by the historical development of industrial organisations, in particular, trade unions, in the two countries. British trade unions originated as local societies of skilled workers, and these local societies began to form national amalgamations from the middle of the nineteenth century. After the turn of the century, unions of cognate trades began to merge, and subsequently, these craft unions came to include non-craft occupations (Pelling 1992, Hyman 1995). Thus, British trade unions have a tradition of organising along occupational lines. In terms of collective bargaining, multi-employer (or industry-wide) bargaining had been

the major form of negotiation up to the 1960s, although single-employer bargaining has become dominant after the 1970s (Millward et al, 1992, Brown et al, 1995). On the other hand in Japan, trade unions have been developed at the level of individual enterprises since World War II, including both the blue- and white-collar workers, and collective bargaining has been carried out within the enterprise between the union and the employer (The Japan Institute of Labour 1993, Hisamoto 1994).

The multi-employer bargaining of Britain helped to establish the notion of the 'rate for the job', and encouraged the identification of their members with their wider occupational and labour market collective interests (Brown et al, 1995), which resulted in differentiating wage and work conditions within enterprises by separating bargaining units(Keep and Rainbird 1995). In contrast, Japanese enterprise unions worked to protect workers against the ravages of severe inflation after the war by pressing for guaranteed minimum wages based on age and length of service, and they sought employment stability by strenuously opposing retrenchments aimed at rationalising company operations. They also set the objective of reducing hierarchical differences in company management and operation, and they played a significant role in narrowing the status and wage gap between office staff and factory and field workers (Utada 1987, Kumazawa 1996).

Thus, what can be seen from these contrasts, are; 1. skill belongs to the individual in Britain, but in Japan, it belongs to the individual and the firm where the individual gets company-specific training, and 2. the wage rate is based on the market price of a particular skill or job function in Britain, while in Japan, it is an attribute of a person rather than a job, as companies take on workers not for specific duties or work but for their life-time's work.

However, it is necessary to note that "duality" exists between large enterprises and smaller enterprises in Japan, and the features listed above cannot be applied to small enterprises. Firstly, workers in small enterprises are not immobile. Actually, a survey on small enterprises in Japan done by *Kokumin Kinyu Kinko* in 1994[2] shows that among workers recruited during the nine years before the survey, more than 80% were mid-career workers (Kita 1995). Secondly, the wage of workers in small enterprises does not increase by age so much as those in large enterprises. Ishikawa (1993) suggests the duality in the wage structure between large enterprises and smaller ones, and explains this wage gap from the point of view of dual labour market theory (Doeringer & Piore 1971) and firm-specific training. Large enterprises in Japan contain a larger proportion of workers in an internal labour market than smaller enterprises. This is particularly so for manufacturing industry. in which small enterprises have a large proportion of workers drawn from the external labour market. If workers in the internal labour market are compared between large enterprises and smaller ones, the intensity of firm-specific training is greater in the former than the latter. These two factors, Ishikawa suggests, produce the dual wage structure between large enterprises and smaller ones. Thirdly, unionisation rates differ between large and small enterprises in Japan.[3] Although it is common for large enterprises to have their own trade unions, this is much less likely for small enterprises (Sato 1994, 1997b). According to Sato (1994), about 90% of the enterprises with more than 1000 employees had trade unions in 1989, but the corresponding figure for enterprises with

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[2] The sample was drawn from the enterprises with more than 10 employees in 12 prefectures near Tokyo (only 1% of the enterprises employed more than 100 workers).

[3] Although the same tendency can be found for Britain(see Millward et al. 1992), the rate of unionisation at the level of individual workers (employees belong to unions divided by the number of employees) in small enterprises (less than 100) as compared to larger enterprises is particularly smaller in Japan (see Sato 1994).

50 to 99 employees was 24%. However, it is reported that about one-third of the small enterprises (50 to 299 employees) without trade unions have the labour-management consultation system, which has some similar, but more limited, functions to trade unions (Sato 1994, 1997b).

Summary: What is the meaning of "occupation" ?

We have seen that the notion of skill and the price of it differ between Britain and Japan. In the British firm, individual workers move between jobs in the market with their skill. In general, there exists a direct match between worker's wage and skill. On the other hand, in the Japanese firm, no market price exists for a particular skill, but workers are paid for their long-term work, or their capability to acquire the wide range of firm-specific skills, although this may not be applicable for smaller firms in Japan. So far as occupations are distinguished by skill (by the type and/or the level), and people get and move between occupations with their skills, the direct match between skill and wage in Britain also means that more or less, there exists a match between occupation and wage. This seems particularly so, given that trade unions in Britain have been organised and have negotiated wages along occupational lines. However, the lack of a direct match between skill and wage in the Japanese firm means the lack of a direct match between occupation and wage. Therefore, in Japan, "occupation" is not so effective a unit to differentiate workers and their wage as in Britain. Given this, there seem less incentives for Japanese employers to differentiate the sexes and their wage by occupation.

Gendered employment policies in Japan

Having seen the differences between Britain and Japan in the way occupation differentiates workers and their wage, we will now examine how the Japanese employers utilise female labour and differentiate women from men. As discussed before, given the strong gendered attitudes and traditional family roles for Japanese women, Japanese employers seem to have greater incentives to differentiate men's and women's employment conditions. In fact, we have seen in Chapter 6 that the sex gap in income and other employment conditions is larger in Japan than in Britain. Then, how is the sex gap generated in Japan? In order to examine how Japanese employers differentiate between the sexes, we will investigate the recruitment system, the training system, the promotion system, and the retirement convention in Japanese enterprises.

Recruitment

After the enactment of the Equal Employment Opportunity law in 1986, which made overt discrimination by sex difficult, Japanese employers became more likely to adopt the career-track system to utilise female labour. Basically, there are two tracks; one is the career track and the other is the non-career track. Those in the career track could reach managerial positions through job rotations and company-wide transfers, while the career prospect of those in the non-career track is limited and they often do auxiliary, fixed work without transfer. Some employers introduce more than two tracks, such as a career track without transfer, or with transfer in a limited area.

Introduction of the career-track system differs by the size of enterprise. According to the 1992 Women's Employment Survey (WES) conducted by the

Ministry of Labour, about half of the enterprises with more than 5000 workers introduced the system, but less than 2% of the companies with 30-99 workers did so.

According to the 1992 WES, large enterprises are more likely to recruit both men and women for available occupations or career tracks, but smaller enterprises are more likely to recruit men-only or women-only for available occupations or career tracks. Table 8.4 shows the percentage of enterprises which had occupations and career tracks in which they recruited both men and women, women only, or men only.

Table 8.4 Recruitment by size of enterprise, Japan

	University				High School				Mid-career	
	Clerical/ Sales		Skilled		Clerical/Sales		Skilled		All occupations	
Size	5000+	30-99	5000+	30-99	5000+	30-99	5000+	30-99	5000+	30-99
Men & Women	84.7%	57.7%	88.1%	45.4%	61.4%	55.3%	67.2%	43.6%	78.7%	55.6%
Women only	13.9%	4.6%	6.2%	0.7%	38.2%	36.9%	7.8%	6.4%	16.4%	26.5%
Men only	4.2%	39.4%	6.7%	54.1%	4.1%	12.7%	29.4%	51.8%	9.8%	31.2%

Source : The 1992 Women's Employment survey

From Table 8.4, we can see that for the recruitment of university graduates for clerical/sales occupations, 85% of the large enterprises (more than 5000 workers) replied that they recruited both men and women for the occupations and career tracks available, but the corresponding figure for the small enterprises (30-99 workers) is 58%, and as much as 40% of them replied that they had occupations and career tracks in which they recruited only men. For the recruitment of university graduates for skilled occupations, 88% of the large enterprises (5000+) replied that they recruited both men and women for the occupations and career tracks available, but the

corresponding figure for the small enterprises (30-99) is 45%, and as much as 54% of them recruited only men for the occupations and career tracks available. Therefore, for university graduates, large enterprises are more likely to offer sex-neutral recruitment than small enterprises, but smaller enterprises are more likely to offer men-only recruitment for the occupations and career tracks available.

The difference by size becomes somewhat smaller for the recruitment of high school leavers because large enterprises are more likely to offer sex-separate recruitment for high school leavers than for university graduates. For both large and small enterprises, as compared to the recruitment for university graduates, the proportions of women-only recruitment for clerical/sales occupations for high school leavers are larger. Also, compared to the recruitment for university graduates, the proportion of men-only recruitment for skilled occupations for high school leavers is larger in large enterprises. Thus, the employers in large enterprises offer more sex-discriminative recruitment for high school leavers than for university graduates.

In terms of the recruitment of mid-career workers, employers in smaller enterprises are more likely than large enterprises to recruit men and women for different occupations, or career tracks, if any.

Although compared to small enterprises, large enterprises are less likely to recruit men only or women only for available occupations or career tracks, the actual employment offer (rather than recruitment) in large enterprises is differentiated by sexes, because of the career-track systems that are widely available in these enterprises. According to the 1992 Women's Employment Survey, among the enterprises which had different career-track systems, 35% of them employed both men and women in the career-track, but as much as 41% employed only men for the career-

track. Even if they employed both men and women in the career-track, the proportion of women in the career-track is very small; a survey showed that it was only 8% (Wakisaka 1996). As the reason for not employing women in the career-track, 45% of the enterprises which employed men only replied that they did so because there was no female candidate, and 41% of them said they could not find suitable female candidates. However, it seems that the requirements of the career track, in particular, company-wide transfer, discourage women to apply for it. In fact, a survey on women in the career-track shows that even after successfully being employed in the career track, one-third of them said that transfer would be only possible before getting married, and 10% of them said it would be only possible before having children, but only 8% replied it would be possible anytime (Nijuisseiki Shokugyo Zaidan 1994). For the non-career track, 21% of the enterprises which had different career track systems employed both men and women, but as much as 61% of them employed only women.

Therefore, even if women are employed in large enterprises, they are likely to be channelled into the non-career track, rather than into the career-track. Thus, it is possible that women in large enterprises are employed in the same occupations as men, but channelled into different career-tracks from men where employers provide different employment conditions. Although some companies have exchange programs between the tracks, as far as the experiences of workers considerably differ between the tracks, it is not easy to change from the non-career track to the career-track (Wakisaka 1996). Thus, the career-track system in large Japanese enterprises actually limits women's career opportunities at the time of entrance. In the next sections, we

will examine how women's experiences in large companies are differentiated from men's, as compared to small enterprises.

Training

As discussed before, training chances differ between large enterprises and smaller ones in Japan. This can apply to women as well; women in large enterprises have more training chances than women in smaller enterprises.

Table 8.5 Training chances by size of enterprise, Japan

	Training for new employees	Training for necessary skills for the daily task	Training for managers
all companies	58.3%	53.9%	35.3%
30-99	47.1%	47.6%	27.5%
5000+	100%	96.5%	97.2%
% of which provide the training for both men and women: all size	86.0%	76.9%	63.5%
30-99	83.7%	74.8%	65.1%
5000+	87.2%	89.9%	87.9%
% of which provide the training for only men: all size	8.9%	18.7%	35.4%
30-99	10.9%	21.5%	33.4%
5000+	4.5%	3.6%	12.1%
% of which provide the training for only women: all size	7.0%	6.6%	1.5%
30-99	7.4%	5.1%	1.7%
5000+	13.9%	9.4%	0.7%

Source: The 1992 Women's Employment Survey

Table 8.5 shows training chances by size of enterprise. We can see that large enterprises in general provide greater training chances for their employees than small enterprises, and they are more likely to provide training for both men and women. Although, a fairly large proportion of both large and small enterprises provide training for both sexes, the chances for men only training increases as the level of training becomes higher for both large and small enterprises, particularly for small enterprises.

On the other hand, the chances for women only training decreases as the level of training becomes higher for both sizes of enterprises, but this is particularly so for large enterprises. The main reason for providing men only training is that employers cannot find any women candidate. These results suggest that at the lower level of jobs, women are likely to get sex-typical training, while at the higher level of jobs, men are likely to get sex-typical training. The fact that large enterprises are more likely than small enterprises to provide women only training at the lower level of jobs seems to suggest stronger gendered policies in large enterprises than small ones, and reflects the existence of the career-track systems in these enterprises. Although the information is not available, if we include on-the-job training, which is the crucial factor for the Japanese employment system, the differentiation between men and women in the chances of training in large enterprises is likely to become larger.

Promotion

It is often said that women are not so interested in promotion as men. In fact the 1990 Women's Employment Survey by the Ministry of Labour shows that 70% of the female workers replied that they did not want to be promoted. However, women in large enterprises (more than 500 workers) are more likely to say that they want to be promoted (36%) than women in small enterprises (30-99 workers; 26%). If those who wanted to be promoted are compared between large enterprises and small ones, the former has a higher proportion saying that they have few chances of promotion because they are not trained to be promoted (48% for large enterprises and 31% for small enterprises). or because their companies are reluctant to promote women (52% for large enterprises and 41% for small enterprises). This again suggests that women

in large enterprises are more disadvantaged than those in small enterprises, probably reflecting the effect of the career-track systems in these enterprises.

Convention of retirement upon marriage and child-birth

According to the 1990 Women's Employment Survey, about half of the female workers said that they had a retirement convention in their companies, in spite of the fact that retirement and dismissal based on sex are prohibited under the Equal Employment Law. They said that they were expected to leave when they get married, or have children. This convention is more likely to exist in large enterprises than in small enterprises; 53% of women working in the enterprises with more than 500 employees replied that they had a retirement convention, while corresponding figure for women working in the enterprises with 30-99 employees is 45%. This seems to be reflected in the younger mean age for women working in large companies than that for those in small companies, which Brinton (1993) suggests is peculiar to Japan.

Summary

As have discussed, there seem to exist great incentives for Japanese employers to differentiate between men and women, given the strong gender norms and attitudes. In large Japanese enterprises, the wage level is determined by the attribute of a person rather than a particular skill required for a job, so that occupation is not the effective unit to differentiate between men and women. Instead of differentiating them by occupation, the employers in large enterprises employ men and women in different career tracks; men for the career track which assures life-time careers with intensive training, and women for the non-career track with restricted career progression. The

transfer requirement for the career track often conflicts with women's family life, and therefore, it deters women from the career-track. After men and women are channelled into different tracks, they have different training chances, promotion chances, and different expectations of retirement, and hence they have different career prospects. Thus, large Japanese enterprises differentiate the wage level between men and women through the career-track systems rather than through occupation.

Whereas for smaller enterprises, where workers are relatively mobile and therefore employers are likely to buy their skills for a job, employers are more likely to differentiate men and women by occupation by recruiting men and women in different occupations. In this way, they seem to differentiate men's and women's wage level. They could, for example, recruit women for low paid jobs and men for well paid jobs.

Labour law

We have seen how Japanese employers utilise female labour, by examining gender-biased employment practices. But how are these gender-biased practices possible in Japan? Further, we have suggested that for British employers occupational segregation can be effective to utilise female labour at a relatively cheap rate. Then, again how is this possible in Britain? In order to answer these questions, we will examine labour laws in Britain and Japan, as they give restrictions on (or opportunities for) employer's policies to utilise female labour. In so doing, firstly, we will contrast the labour laws which deal with sex discrimination in Britain and Japan.

In Japan, there are two pieces of legislation which deal with equal treatment of men and women in employment; one is the Equal Employment Opportunity Law (EEOL) which came into force in 1986, and the other is the Labour Standard Law (LSL) in 1970. For Britain, also, there are two pieces of legislation; the Sex Discrimination Act (SDA) in 1975, and the Equal Pay Act (EPA) in 1970.

In general, the restriction imposed by labour laws on employers substantially differs between Britain and Japan. In Britain, discrimination in selection procedure, employment offer and refusal or omission to offer employment, and discrimination in promotion, transfer, training, benefits, facilities and services, as well as discrimination in dismissal are all unlawful (SDA s6(1) & (2)). On the other hand in Japan, there are two different provisions in EEOL about the areas of discriminatory treatments - a "duty to endeavour" and "prohibitory provisions". Japanese employers have a "duty to endeavour" to treat female workers equally with male workers in terms of recruitment, hiring, job assignment and promotion (EEOL art 7 &8). On the other hand, discrimination in education and training, fringe benefits, mandatory retirement age, retirement, and dismissal is prohibited (EEOL art 9, 10 & 11). Since the violation of the provisions dealing with the "duty to endeavour" causes no effects under private law in Japan (Sugeno 1996), there are still many job offers only for men, as we saw in the previous section. Also, women-only recruitment for the non-career track or part-time jobs is not unlawful as this is regarded as encouraging women's employment. This gender-biased recruitment actually gives Japanese employers the opportunity to discriminate against women in other fields, such as training, promotion and retirement, as we saw in the previous section. Also, in Japan, the training for which discriminative treatment is prohibited is off-the-job training, but the ordinances

exclude on-the-job training (Sugeno 1996). This seems to have a significant impact on women's careers, given that on-the-job training is the crucial element of the Japanese employment system. In terms of retirement, although Japanese employers cannot stipulate marriage, pregnancy or childbirth as the reason for retirement or dismissal of female workers, retirement by mutual agreement or at the suggestion of the company are not prohibited. This seems to be reflected in the persistence of the convention for women to leave upon marriage or childbirth, as we saw in the previous section.

With regard to equal pay, under the Japanese employment system, the wage level is based not only on the demands of the job, but also on the individual worker's characteristics, such as age, educational qualifications, and years in the company, or the wage level is decided in a way in which workers can support their family, as we discussed previously. There is no direct match between wage and job demand, and therefore, it is difficult to find objective criteria to judge equal pay for work of equal value in Japan. This is particularly so, since under the Japanese employment system, the job assignment to workers is rather broad and vague (see Sugeno 1996), and they are involved in a wide range of work, so that the job content of occupations is not clear, except for particular occupations, such as professional occupations (Nakajima 1994).

On the other hand in Britain, finding objective criteria seems to be relatively easy, as the definition of occupation is much clearer than that in Japan. In Britain, EPA allows a woman the right to equal treatment, (1)when employed on work of the same or a broadly similar nature to that of a man in the same employment, or (2) if her job and his have been of equal value under a job evaluation study, or she can claim equal treatment (3) with a man doing work of equal value in the same employment

(Upex & Shrubsall 1995). The guideline of "equal value" is often based on the demands made on the employee (Hepple & Fredman 1992). However, EPA has a serious limitation, as it always requires a comparison with a specific member of the opposite sex in the same employment. Given many British women work in predominantly female occupations or grades, it is difficult to find a suitable comparator (Hepple & Fredman 1992). Even if a suitable comparator can be found, it is reported that women's skill is often devalued (Craig et al 1985, Horrell et al 1990), and this disadvantages women.

Positive discrimination is lawful in Japan, and as we have seen, many Japanese employers provide women only recruitment and women only training. Positive discrimination can be used by Japanese employers to treat women differently from men rather than treating them equally to men. While in Britain, discriminatory training is only possible if there have been disproportionately few persons of the sex (whether men or women) in question doing the particular work at any time during the past 12 months. In this sense, it encourages "equal treatment" rather than "different treatment" (Hepple & Fredman 1992).

Finally, indirect discrimination is still prevalent for Japanese employers. The definition of indirect discrimination is that, if (1) the employer imposes a requirement or condition which is such that (2) the proportion of women who can comply is considerably smaller than the proportion of men who can comply, (3) the person suffers detriment because she cannot comply, and (4) the condition is not justifiable irrespective of the sex of the applicant (Hepple and Fredman 1992). For example, the career-track system which emerged after the enactment of EEOL in large Japanese enterprises could be regarded as indirect discrimination; even though the requirement

of transfer is a crucial element of the Japanese employment system, it is difficult for women to choose and remain in the career track, as this contradicts their family role after marriage (Nijuisseiki Shokugyo Zaidan 1994). The problem of the career track system resides in that it makes women choose their career- or life-course at the time of recruitment, though it is not certain that their attitudes to work are stable throughout their lives (Wakisaka 1996). Also, the lower wage level of part-timers as compared to full-timers that can be seen in both Britain and Japan is considered as indirect discrimination, but the situation is more serious in the latter (Nakajima 1994). In Japan, compared to Britain, female part-timers work much longer, but are paid much less than the full-timers, so it is necessary to implement the right for them to claim equal hourly pay to full-timers (Nakajima 1994).

In summary, Japanese labour laws do not impose effective restrictions on employer's discriminative policies toward women. After the enactment of EEOL, Japanese enterprises have adopted the career-track system, which covertly enables them to provide different treatment between men and women. Also, women-only measures which are allowed under EEOL actually enable employers to provide "different treatment" between men and women rather than "equal treatment". On the other hand, the British labour laws seem to be more effective in encouraging equal treatment between men and women, since as we have seen, the restriction on employers imposed by the law is more strict, and gender-neutral. However, given the fact that women in Britain are concentrated into female occupations, it is difficult to find the suitable comparator, and this restricts the effectiveness of the laws in Britain.

Summary and Conclusion

Compared to British women, Japanese women have more traditional gendered attitudes and greater domestic responsibilities. Social security systems, such as the tax and pension schemes, also encourage gendered work and family life more for Japan than for Britain. In this sense, the forces which encourage women to choose sex-typical careers are stronger in Japan than in Britain. The strong gender norms and attitudes of Japanese women also seem to encourage Japanese employers to differentiate employment conditions by sex more than for British employers, because these attitude and behaviour could well affect women's commitment to work and their productivity, or because they make it easier for Japanese employers to pursue sex discriminative policies against women.

However, this does not necessarily lead to greater occupational sex segregation in Japan than in Britain. The employment practices differ between Britain and Japan, so do the notion of skill and occupation. In Britain, workers are paid for their skills, and they move between or remain in occupations with their skills. There exists the balance between what they do and how much they are paid in Britain. On the other hand, in Japan, particularly in large enterprises, workers acquire a wider range of skills, and experience a wider range of job tasks through periodic job rotation (Lam 1996, Sugeno 1995). No short-term balance exists between what they do and how much they are paid, but they are balanced in the long-run. Therefore, occupation is not so effective a unit to differentiate workers or differentiate between men and women in Japan as in Britain.

Given these characteristics of occupations in Japan, the career track system is an alternative way for Japanese employers to differentiate men and women. Many

women are deterred from the career track, due to the strong gender norms, or heavy domestic responsibilities which do not accord with the requirements of the career track, such as the company-wide transfer. Therefore, they are channelled into the non-career track whereby they get different training chances, promotion chances, and expectations of retirement from the career-track where most of men are employed. Because of this difference in career prospects, these women are paid less than men. This differentiation of men and women by career tracks is not unlawful under the Japanese labour laws which allow employers to recruit and train women in a women-specific way.

On the other hand, in Britain, it is in employers interests to allocate different occupations between men and women, since an "occupation" and the skill required for the occupation is the basis of the wage determination. It is possible for them to devalue "female" type of skills, and pay less to women in female occupations, or to make it difficult for women to find a suitable "comparator". These different employment systems, different methods of utilising female labour, and different opportunities (restrictions) imposed by the labour laws for Japanese employers and British employers are likely to be conducive to greater occupational segregation in Britain than in Japan.

CHAPTER 9

CONCLUSION

Occupational sex segregation is often treated by sociologists as the principal source of gender inequality. In this thesis, however, we demonstrated that this is not necessarily the case. Our findings showed that it could be one of the sources of gender inequality, but the function of occupational sex segregation in a society very much depends on social and economic institutions which differ across countries. In fact, this thesis revealed that despite the greater extent of occupational sex segregation in Britain than in Japan, gender inequality in the labour market is substantially larger in Japan than in Britain. Thus, our comparative study suggested that occupational sex segregation cannot be taken *a priori* as the principal source of gender inequality. Rather, this thesis revealed how important it is to investigate the actual influence of occupational sex segregation on individual workers' experiences, to understand the implication of occupational sex segregation in the society.

In Chapter 3, we examined and compared the extent and trends of occupational sex segregation for Britain and Japan. Our findings showed that the extent of occupational sex segregation is greater in Britain than in Japan; although men and women in Britain are concentrated into sex-typical occupations, this is only the case for men in Japan, but not for women. We suggested that sex segregation within occupations, rather than sex segregation across occupations, might be the form which has absorbed the increased number of female workers in the labour market. We also

found in this chapter that the aggregate trend of occupational sex segregation is towards de-segregation for Britain, but we cannot find any systematic trend for Japan.

Chapter 4 examined occupational sex segregation at the level of individual. We found systematic patterns of job movement for British men, British women, and Japanese women; they are all unlikely to change jobs across gendered occupations, but it is more difficult for British men and British women than for Japanese women to move across the boundary between sex-typical occupations and sex-atypical occupations. Although at the aggregate level, British women show a trend towards de-segregation, the trend at the individual level is towards greater segregation both before and after controlling for structural change. This suggests that the de-segregation at the aggregate level was mainly generated by cohort-replacement, rather than by the de-segregation of individual workers' careers. We also suggested that the nature of female occupations might differ between Britain and Japan. In Britain, women are likely to re-enter the labour market after domestic break through female occupations, while in Japan, women are likely to re-enter the labour market after domestic break through male occupations. We suggested in this chapter that the systematic job movement of British men, British women, and Japanese women seems to imply that experiences in gendered occupations might differ for them and affect their job mobility.

In investigating the influence of occupational sex segregation on individual workers' experiences, we have found in Chapter 5 that in the British labour market, occupational sex segregation contributes to differentiate employment conditions between men and women. The findings showed that occupational sex segregation affects women's employment conditions negatively; women receive lower pay and

have less access to fringe benefits when they work in more female occupations. For men, occupational sex segregation also affects their pay negatively, though they gain more training chances and more access to fringe benefits as they move to more female occupations. Given the fact that women are concentrated into female occupations, the aggregate effect of occupational sex segregation is more negative for women than for men.

The implications of occupational sex segregation on workers' experiences differ between Britain and Japan. Chapter 6 demonstrated that there is little impact of occupational sex segregation on Japanese women's employment conditions. However, the impact of sex is substantially larger in Japan than in Britain. We suggested that this is related to the different employment systems between the two countries; in the Japanese employment system, personal characteristics are emphasised, while in the British employment system, job characteristics are emphasised, so that for the former, being a woman gives a greater disadvantage, while for the latter, working in female occupations gives the disadvantage. Thus, occupational sex segregation is not necessarily the central component of gender inequality, or at least the function of occupational sex segregation as a vehicle to generate gender inequality differs between Britain and Japan.

Also in Chapter 7, we have found that occupational sex segregation influences work experiences for British women. In Britain, women in female occupations are more likely to be satisfied with their jobs, because they are content with their workplace atmosphere, and they feel that they achieve sufficient intrinsic rewards. We suggested that greater intrinsic job satisfaction, or greater overall job satisfaction in general, among women in female occupations is related to the fact that these women

are likely to work in "caring" jobs. Also we suggested that female occupations seem to provide a friendly workplace atmosphere, and this seems to enhance satisfaction with the work environment for women in female occupations. Whereas for Japanese women, we cannot see any significant difference in their job satisfaction by occupational sex segregation.

Chapter 8 examined various institutional differences between the two countries. The differences help us to understand the employers' policies in each country. For British employers, it seems difficult to differentiate job conditions by sex *per se*, because of less traditional gender norms and less traditional attitudes of British women as compared to Japanese women. Given that job skill is the fundamental determinant of pay under the British employment system, occupation could be the alternative way for British employers to differentiate between men and women. Even if they paid less to women in female occupations, these women are likely to be satisfied with their jobs, as their jobs provide a friendly workplace atmosphere and women feel content with the intrinsic aspects of their jobs. The British labour laws cannot effectively regulate this type of pay discrimination, as it is necessary to find a suitable comparator to claim the discrimination.

Whereas for Japan, women have traditional gendered attitudes and heavy domestic burdens, so that there exist great incentives for Japanese employers to differentiate men and women. This is particularly so, given the Japanese employment system which emphasises life-time work commitment. Also, Japanese women's traditional attitudes make it easy for Japanese employers to impose sex as a discriminative criterion. Nevertheless, there has been a growing pressure after the enactment of the Equal Employment Opportunity Law for Japanese employers not to

use sex as the discriminative criterion. As a result, mainly in the large enterprises, there emerged the multiple track system. By using this system, Japanese employers seem to differentiate various aspects of job prospects between men and women, which result in different economic rewards between men and women. The "duty to endeavour" clause in the EEOL still allows Japanese employers to recruit and hire women-only, and many women are channelled into the non-career track.

We now turn to the mechanism of occupational sex segregation at the level of individual workers. With respect to Britain, men have higher preferences for the extrinsic aspects of work which are least likely to be provided in female occupations. Therefore, they enter and remain in male occupations because they can realise their interests best in these occupations in an economic sense (and perhaps in a cultural sense, though we have not been able to examine this in this thesis). Even if men enter female occupations, it seems to be a minor part of their careers, since they on average stay in female occupations for a relatively short period. Men are likely to find their jobs in female occupations when they re-enter the labour market from out-of-employment activities, but these men are unlikely to stay in female occupations, as the attrition of female occupations is high.

British women seem to have more job opportunities in female occupations (remember that British employers have incentives to employ women in female occupations). Although female occupations provide lower economic rewards, women, particularly female part-timers, do not expect so much from this aspect of work compared to men. Rather female full-timers are more likely than other workers to emphasise the intrinsic aspects of work and a friendly workplace atmosphere, or in the case of female part-timers, they are more likely than other workers to emphasise

convenient work arrangements as well as a friendly workplace atmosphere. Once in female occupations, they remain there as these occupations match with their preference for a friendly atmosphere, and they feel that they have sufficient intrinsic rewards (as female occupations are more likely than other occupations to be associated with work that involves caring for people). Even if they are to leave the labour market due to domestic responsibilities, they might be able to come back to similar occupations, as female occupations give relatively easy access to the labour market after domestic leave.

For Japanese women, as there is little differentiation made by occupational sex segregation in their work experiences, the choice between male occupations and female occupations seems to be less crucial, compared to British women. This seems particularly so for those who are married; given the heavy domestic responsibilities or the gender-biased provision of the social security systems, the choice between work and non-work, or between part-time work and full-time work seems to be more important than the choice between male occupations and female occupations. In terms of fresh school leavers, however, the choice could be between the career-track and the non-career track, if they are well qualified to apply for a job in large enterprises. However, given the emphasis on the long-term commitment and provision of company-wide transfer in the career track, the career-track is not actually a feasible option for many women who expect to have "normal" family life.

Thus, compared to British women, there is less meaning for Japanese women in whether to work in female occupations or in male occupations. This can be seen in their employment conditions, and in their level of job satisfaction. This seems to be reflected in the fact that women in Japan are not concentrated into female occupations,

and they move across gendered occupations more easily as compared to British women.

It seems to be helpful to introduce the idea of a "gender system" to understand women's behaviour in the two different labour markets. By "gender system", I mean a set of institutions in a society that interact with each other and define the notion of gender. It is not my intention to go further to discuss whether the basis of the gender system is "capitalism" or "patriarchy". Rather it seems to me that both mechanisms operate to constitute the gender system. However, we need the idea of a "gender system" to understand why occupational sex segregation is prevalent in one society but not in the other.

If one element of the gender system is to be modified, it should change the whole structure of the interacting system. Although in this thesis, our focus is on the labour market, particularly occupational sex segregation, women's behaviour in the labour market can be regarded as the reflection of their positions in the other elements of the gender system, such as in family. Therefore, if a change occurs in the labour market, changes in the other institutions should follow. If this adjustment system fails, the whole system would go back to the previous state. For example, even if Japanese women successfully get into the career track, if the other elements of the gender system, such as gender norms and family responsibilities, do not adjust to the situation properly (remember that the career track requires company-wide transfer), they may be forced to leave the track, and go back to "typical" female careers.

We have seen that there have been considerable changes in the key elements of the gender system in Britain. Chapter 2 showed that in Britain, there has been a rapid change in the pattern of women's labour force participation over the last two decades.

We found a substantial change in gender norms by generation in Chapter 8. Also Chapter 8 showed that the tax system or pension scheme, as well as the labour laws are relatively sex-neutral in Britain. While for Japan, women's pattern of labour force participation still shows the bimodal curve, there are still strong gender norms, and women have heavy domestic responsibilities. Also, the tax and pension schemes encourage Japanese women's housewife roles, and the labour laws are not very effective in tackling discrimination based on sex. Therefore, in a number of important respects, the modification of the gender system has been slower for Japan than for Britain.

Having said so, however, the fact that British women are concentrated into part-time work, or into female occupations suggests that the modification of the gender system is not so radical. Although overt sex discrimination has decreased as more women have been integrated into the labour market and become more conscious about sex discrimination, there is still substantial gender inequality with part-time work or female occupations being used as the ways to preserve this inequality. For this situation to be changed, further modification of other elements which prevent women's access to equal positions to men's, such as the provision of the labour law, would be necessary.

In terms of Japan, given the stability of the other elements, it seems difficult to see a drastic change in the gender system in the near future. However, this is by no means to say that any positive actions to achieve gender equality are useless. Rather, any single action could generate change, but the change will occur in accordance with the change in other elements of the gender system. At the moment, for example, the pro-housewife social security system, or the "duty to endeavour" clause in the EEOL

could be amended. This would modify the overall gender system gradually, if not quickly, and hence, enhance greater sex equality in the labour market.

To conclude, we return to occupational sex segregation, and discuss some necessary conditions for occupational sex segregation to emerge and be maintained in a society. First of all, there should be a pressure - whether be it economic or cultural - in the society to preserve the existing inequalities in the gender system. The change in the pressure would occur through the change in individuals' attitudes and behaviour which as aggregates modify the elements of the gender system. The extent of pressure depends on societies. For example, more egalitarian countries have less pressure than less egalitarian countries. Secondly, in the labour market, it should be difficult to use sex *per se* as the criterion to differentiate individual workers, so that employers should need to find an alternative way to differentiate men and women to the extent that they feel some pressure - whether economic or cultural - to preserve sex differentials. Thirdly, occupation should be an effective alternative to differentiate between men and women in the labour market, given the other economic and social institutions in the society. And finally, there should be no better alternative than occupation, or at least occupation should be as effective as other options, to differentiate between men and women in the labour market.

To give an example, in Britain, the pressure to preserve the existing inequalities in the gender system is relatively low compared to Japan, but it may not low enough to achieve complete equality between men and women in the society. So employers still try to differentiate men's and women's employment conditions. However, the cost of using "sex" is substantially high given other social and economic institutions. Thus, occupation emerges as the way to differentiate between men and

women, since other institutions, such as the system of pay determination or labour laws provide the opportunity for employers to use occupations as an effective tool to differentiate between men and women.

Although we focus on occupational sex segregation, the conditions for occupational sex segregation to emerge and be maintained in a society that were mentioned above are applicable for the other areas of sex segregation, such as industrial sex segregation, workplace sex segregation, or the career-course segregation. For instance, in Japan, the pressure to modify the inequalities in the gender system is relatively low, so that Japanese employers try to differentiate men's and women's employment conditions. After the EEOL, however, it has become more difficult for them to use "sex" directly as the discriminative criterion. Under the life-time employment system which is mainly found in large enterprises in Japan, occupation is not an effective tool to differentiate between the sexes, so that the multiple track system emerged, as it is more effective than occupation to differentiate between men and women.

Thus, the function of occupational sex segregation as a vehicle to generate gender inequality is conditional on other institutions in a society. We cannot simply say that gender inequality in the labour market has declined as the extent of occupational sex segregation has declined. Unless the gender system in the society changes, alternative methods to differentiate men and women would emerge in the labour market, so that there might be a situation where the extent of occupational sex segregation has declined but the extent of gender inequality in the labour market has remained the same. In what way the alternative methods emerge very much depends on the given institutions in the society, as we saw in the case of the emergence of the

multiple-track system in Japan. At present, some scholars of segregation studies have shifted their interests from occupational segregation to job segregation, arguing that job segregation is the fundamental source of gender inequality (Beilby and Baron 1986, Tomoskovic-Devey 1995), but this again seems to depend on how effective a "job" is to differentiate men's and women's employment conditions. It is more plausible that the function of the "job" as a tool to differentiate workers' employment conditions differs across countries with different economic and social institutions. Again, the Japanese case is a good example.

APPENDIX A

British and Japanese Occupational Classifications

Table A.1 Standard Occupational Classification in the 1991 Census of Population in Great Britain

Major Groups	Minor Groups	Unit Groups
1. Managers and Administrators	10. General managers and administrators in national and local government	100 - 103
	11. Production managers in manufacturing, construction, mining and energy industries	110 - 113
	12. Specialist managers	120 - 127
	13. Financial institution and office managers, civil service executive officers	130 - 132, 139
	14. Managers in transport and storing	140 - 142
	15. Protective service officers	150 - 155
	16. Managers in farming, horticulture, forestry and fishing	160, 169
	17. Managers and proprietors in service industries	170 - 179
	19. Managers and administrators nec.	190, 191, 199
2. Professional Occupations	20. Natural scientists	201 - 202, 209
	21. Engineers and technologists	210 - 219
	22. Health professionals	220 - 224
	23. Teaching professionals	230 235, 239
	24. Legal professionals	240 - 242
	25. Business and Financial professionals	250 - 253
	26. Architects, town planners and surveyors	260 - 262
	27. Librarians and related professionals	270, 271
	29. Professional occupations nec.	290 - 293
3. Associate Professionals and Technical Occupations	30. Scientific technicians	300 - 304, 309
	31. Draughtspersons, quantity and other surveyors	310 - 313
	32. Computer analyst/ programmers	320
	33. Ship and Aircraft officers, air traffic planners and controllers	330 - 332
	34. Health associate professionals	340 349
	35. Legal associate professionals	350
	36. Business and financial associate professionals	360 - 364
	37. Social welfare associate professionals	370, 371
	38. Literary, artistic and sport professionals	380 - 387
	39. Associate professionals and technical occupations nec.	390 - 396, 399
4. Clerical and Secretarial Occupations	40. Administrative/ clerical officers and assistants in civil service and local government	400, 401
	41. Numerical clerks and cashiers	410 - 412
	42. Filing and records clerks	420, 421
	43. Clerks (not otherwise specified)	430
	44. Stores and despatch clerks, storekeepers	440, 441
	45. Secretaries, personal assistants, typists, work processor operators	450 - 452
	46. Receptionists, telephonists and related occupations	460 - 463

	49. Clerical and secretarial occupations nec.	490 - 491
5. Craft and Related Occupations	50. Construction trades	500 - 507, 509
	51. Metal machining, fitting and instrument making trades	510 - 519
	52. Electrical / electronic trades	520 - 526, 529
	53. Metal forming, welding and related trades	530 - 537
	54. Vehicle trades	540 - 544
	55. Textiles, garments and related trades	550 - 557, 559
	56. Printing and related trades	560 - 563, 569
	57. Woodworking trades	570 - 573, 579
	58. Food preparation trades	580 - 582
	59. Other craft and related occupations nec.	590 - 599
6. Personal and Protective Service Occupations	60. NCOs and other ranks, armed forces	600, 601
	61. Security and protective service occupations	610 - 615, 619
	62. Catering occupations	620 - 622
	63. Travel attendants and related occupations	630, 631
	64. Health and related occupations	640 - 644
	65. Childcare and related occupations	650
	66. Hairdressers, beauticians and related occupations	660, 661
	67. Domestic staff and related occupations	670 - 63
	69. Personal and protective service occupations nec	690, 691, 699
7. Sales Occupations	70. Buyers, brokers and related agents	700 - 703
	71. Sales representatives	710, 719
	72. Sales assistants and check-out operatives	720 - 722
	73. Mobile, market and door-to-door sales person	730 - 733
	79. Sales occupations nec	790 - 792
8. Plant and Machine Operatives	80. Food, drink and tobacco process operatives	800 - 802, 809
	81. Textile and tannery process operatives	810 - 814
	82. Chemicals, paper, plastic and related process operatives	820 - 826, 829
	83. Metal making and treating process operatives	830 - 834, 839
	84. Metal working process operatives	840 - 844
	85. Assemblers / lineworkers	850 - 851, 859
	86. Other routine process operatives	860 - 864, 869
	87. Road transport operatives	870 - 875
	88. Other transport and machinery operatives	880 - 887, 889
	89. Plant and machine operatives nec	890 - 899
9. Other occupations	90. Other occupations in agriculture, forestry and fishing	900 - 904
	91. Other occupations in mining and manufacturing	910 - 913, 919
	92. Other occupations in construction	920 - 924
	93. Other occupations in transport	930 - 934
	94. Other occupations in communication	940, 941
	95. Other occupations in sales and services	950 - 959
	99. Other occupations nec	990, 999

Table A.2 Standard Occupational Classification in the 1990 Population Census of Japan

Major Groups	Medium Groups	Minor Groups
1. Professional and Technical workers	1. Scientific researchers	1, 2
	2. Engineers and technicians	3 - 11
	3. Public health and medical workers	12 - 25
	4. Social and welfare workers	26, 27
	5. Judicial workers	28, 29
	6. Registered accountants and licensed tax accountants	30
	7. Professors and teachers	31 - 37
	8. Religious workers	38
	9. Authors, reporters and editors	39, 40
	10. Fine artists, photographers and designers	41 - 43
	11. Musician and stage artists	44 - 47
	12. Other professional and technical workers	48 - 52
2. Managers and Officials	13. Government officials	53
	14. Directors and companies and corporations	54, 55
	15. Other managers and administrators	56, 57
3. Clerical and Related workers	16. General clerical workers	58, 59
	17. Out-door clerical workers	60, 61
	18. Clerical workers in transportation and communication	62, 63
	19. Other clerical and related workers	64 - 66
4. Sales Workers	20. Sales workers of commodities	67 - 74
	21. Sales related workers	75 - 79
5. Service Workers	22. Domestic service workers	80 - 82
	23. Personal sanitary service workers	83 - 86
	24. Food and beverages preparing workers	87, 88
	25. serving workers	89 - 93
	26. Superintendents of residences and buildings	94 - 96
	27. Other service workers	97 100
6. Protective Service Workers	28. Protective service workers	101 - 106
7. Agricultural, Forestry and Fisheries Workers	29. Agricultural workers	107 - 110
	30. Forestry workers	111 - 115
	31. Fisheries workers	116 - 120
8. Workers in Transport and Communication Occupations	32. Workers operating land transport	121, 122
	33. Automobile drivers	123
	34. Workers operation marine and air transport	124, 126
	35. Other workers operating transport	127 - 131
	36. Communication workers	132 - 136
9. Craftsmen, Mining, Production Process and Construction Workers and Labourers	37. Mining workers	137 - 144
	38. Ceramic, clay and stone products workers	145 - 153
	39. Metal material workers	154 - 161
	40. Chemical products workers	162 - 164
	41. Metal processing workers	165 - 172
	42. General machine assembling and repairing workers	173, 174
	43. Electric machine assembling and repairing workers	175 - 180

	44. Transportation equipment assembling and repairing workers	181 - 187
	45. Watch, meter, optical instrument assembling and repairing workers	188 - 192
	46. Food manufacturing workers	193 - 203
	47. Beverage and tobacco manufacturing workers	203 - 208
	48. Silk reel and textile workers	209 - 219
	49. Clothing and textile products workers	220 - 226
	50. Wood, bamboo, grass and vine products workers	227 - 235
	51. Pulp, paper, and paper products workers	236 - 240
	52. printing and book-binding workers	241 - 245
	53. Rubber and plastic products workers	246 - 249
	54. Leather and leather products workers	250 - 252
	55. Other craftsmen and production process workers	253 - 267
	56. Stationary engine, machinery and construction machinery operators	268 - 271
	57. Electrical workers	272 - 276
	58. Construction workers	277 - 286
	59. Carrying labourers	287 - 291
	60. Other labourers	292, 293
10. Workers not classified by occupation	61. Workers not classified by occupation	294

APPENDIX B

Variables used in this thesis

It is helpful here to describe the basic variables used in this thesis. The question and coding scheme for each variable differ by data set and by country. For example, the title of occupations and educational qualifications differ between Britain and Japan, as they reflect the different social institutions of each country. Having a perfect match is impossible even if in a single survey. Effort was made to obtain basic comparability between the data sets and between countries, particularly in doing comparative data analyses, but we also used country specific variables if this was necessary.

Occupations

In the Employment in Britain survey data, the occupational data is coded by the CASOC, a computer-assisted occupational coding system developed by the University of Warwick. The CASOC codes enable to translate the basic codes into a variety of social classifications, including the classifications used in this thesis; the OPCS 1980 classification, the OPCS 1990 classification, and the Goldthorpe occupational class schema (see Goldthorpe 1987). As the variable of occupational class, we used the seven category version of the Goldthorpe class schema; (1) higher grade service class, (2) lower grade service class, (3) routine non-manual and personal service, (4) petty bourgeoisie, (5) technicians and supervisors, (6) skilled manual, and (7) semi-skilled/unskilled manual.

The occupational data in the Occupational Mobility and Career Research survey in Japan is based on the 1980 Census occupational classification. We constructed the SSM major occupational groups based on this occupational data. The

SSM occupational groups are widely used in class and stratification research in Japan. The classification is mainly based on the kind of skills required for the occupational activities, and have been developed by the 1975 SSM committee (relevant materials can be fond in Naoi 1978, Yesuda and Hara 1982, Naoi and Suzuki 1986, Seiyama et al, 1990). The SSM occupational groups have eight categories; (1) professional and technical workers, (2) managers and administrators, (3) clerical workers, (4) sales workers, (5) skilled workers, (6) semi-skilled workers, (7) unskilled workers, and (8) farmers.

The International Social Justice Project has both the national and international classification of occupations. The occupational data in Britain was coded into three kinds. The first is the OPCS 1980 classification. The second is the International Standard Classification of Occupations (both in the ISCO68 and ISCO88 classifications). The third is the Berufsstellungen Codes (Alwin et al, 1993). The Japanese data also has three kinds of occupational information; the 1985 Census classification, the 1968 ISCO classification, and the Berufsstellungen codes. The Goldthorpe occupational class was constructed by recoding the information from the ISCO classification and the Berufsstellungen codes. The Goldthorpe class has eight categories; (1) salariat, (2) routine clerical, (3) petite bourgeois, (4) farmers, (5) supervisors, (6) skilled workers, (7) semi and unskilled workers, and (8) agricultural workers. We also constructed the SSM eight occupational groups for the Japanese data from the Japanese occupational classification.

In the Comparative Project on Class Consciousness survey, occupations are classified by the national scheme. The British data is classified by the OPCS 1980

occupational classification, and the Japanese data is classified by the 1986 Japanese Standard Occupational Classification.

Full-time/Part-time work and Working hours

The distinction between full-time work and part-time work is important in examining women's employment experiences, but the definition varies by countries. There are basically two definitions; one is by the status defined by the employment contract or reported by the respondent, and the other is that based on working hours.

Official statistics use different definitions of full-time/part-time work. For instance, the British census and labour force survey have both the variable based on full-time/part-time work as a status and the variable based on working hours. 30 hours a week is conventionally used as the dividing point between full-time work and part-time work in the British research. On the other hand, in Japan, the census has neither the information of working hours not the full-time/part-time status. The labour force survey in Japan has a variable of working hours, and the cutting point is 35 hours a week rather than 30 hours a week. 35 hours a week is conventionally used by researchers to distinguish between full-timers and part-timers in Japan.

In the Employment in Britain Survey, both the information of the self-reported full-timer/part-timer as the status, and the information of working hours are available.

In the Occupational Mobility and Career Research Survey, both the information of self-reported full-time/part-time status and the information of working-hour are available. The working-hour data in the OMC, however, is the average hours a day rather than a week. It is possible to calculate per-week working hours, as the

information of working days per week is also available. However, given that part-timers often work fewer days than full-timers with a rather flexible working-time arrangement, and the respondents themselves answered the average working hours per day, simply multiplying working hours by working days seems not to be very reliable to construct a variable of working hours per week.

In the International Social Justice Project Survey, the self-reported full-timer/part-timer status is available for both Britain and Japan, but not working hours.

In the Comparative Social Class Consciousness Survey, both the information of self-reported full-timer/part-timer status and the information of working hours are available for Britain and Japan.

Education

The educational systems and educational qualifications significantly differ between Britain and Japan. In Britain, there are two dimensions of educational qualification; academic qualifications and vocational/professional qualifications. There is some correspondence in the academic qualifications between Britain and Japan, but no equivalence to the vocational qualifications in Britain can be found in Japan.

The educational qualifications in the Employment in Britain survey, the Occupational Mobility and Career Research survey in Japan, and the Comparative Project on Class Consciousness survey were all coded by each national educational/vocational qualifications. However, in the International Social Justice Project, the educational qualifications in Britain and Japan were coded into the same categories, which were developed by the CASMIN Project (for detail, see Konig et al., 1988). The CASMIN classification consists of the following categories:

1a. Inadequately completed general elementary education

1b. General elementary education

1c. General elementary education and basic vocational qualification

2a. Intermediate vocational qualification

2b. Intermediate general qualification

3a. Higher education--maturity level

3b. Higher education--lower-level tertiary certificate

3c. Higher education--upper-level tertiary certificate

These categories have been developed so as to obtain the international comparability of educational attainment. Each national academic and vocational qualification is mapped to the above categories.

Four educational dummies were constructed from this variable. They are a low level dummy, an ordinary level dummy, an advanced level dummy, and a degree level dummy. For the low level dummy, the respondents from 1a to 1c CASMIN classification were assigned 1 and others 0. For the ordinary level dummy, those in 2a and 2b were assigned 1 and others 0. For the advanced level dummy, those in 3a and 3b were assigned 1 and others 0. And for the degree level dummy, those in 3c were assigned 1 and others 0 (see Kluegel et al, 1995).

We created the same dummy variables for the Employment in Britain survey data, the Occupational Mobility and Career Research survey data, and the Comparative Project on Class Consciousness survey data.

Work Experience

In the Employment in Britain data, we constructed two variables of work experience from the work history data: years in employment and years out of employment. In constructing the variable of years in employment, we simply added the duration of the events where the respondents were in employment, and for the variable of years out of employment, we added the duration of the events where the respondents were out of employment. By "in employment", we mean self-employed, full-time/part-time employees, and working on the government scheme, and "out of employment" means unemployed, retired, full-time students, housekeeping, and on maternity leave.

For both the International Social Justice Project and the Comparative Project on Class Consciousness, we use the length of service with the current employer as the indicator of experience. The ISJP asked the respondents in what month and year they joined the organisation. We constructed the variable of the length of service with the current employer for the British data and Japanese data from this information together with the information of the date of interview.

In the CPCC, the British survey asked the respondents, "how long have you worked for your present organisation?" The answers were rounded to the nearest year. The Japanese survey asked, "how many years have you worked on this job?" The answers were coded in years. We use these variables as the variable of the length of service.

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