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SEXUAL ORIENTATION DISCRIMINATION IN THE UK LABOUR MARKET

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INTRODUCTION

When I was in the military, they gave me a medal

for killing two men – and a discharge for loving one.

Sergeant Leonard Matlovich

In the past, the category of sexual orientation has been highly neglected by the economic profession. Only recently some interest for this issue has appeared, mainly for two reasons. The first is related to policy issues. Growing evidence of discrimination against homosexuals, which results in different levels of occupational attainment and in a wage gap[1], has raised some concern. In the case of the United Kingdom, it is worth mentioning the two studies by the Social and Community Planning Research (SCPR) and the gay lobbying group Stonewall. In the first one (Snape et al., 1995), 4% of the random sample of homosexuals have declared that they had experienced loosing their job because of their orientation, 8% had been refused promotion, and 21% had been harassed at work[2]. In the research 'Less Equal than Others' conducted by Stonewall (Palmer A., 1993) with a non-random sample of 2000 homosexuals, 16% of respondents had faced discrimination, 21% suspected they had been discriminated against because of their sexuality, and 48% had been harassed at work. These findings go against the common opinion that homosexuals benefit from a privileged position in the labour market because they are free from family ties.

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[1] For some evidence on this point see Badgett L. (1995), Brown C. L. (1998), and Klawitter M. M., and Flatt V. (1998).

[2] The sample was drawn from participants in the National Survey of Sexual Attitudes and Lifestyles and is composed of 116 homosexual and 619 heterosexual respondents.

A further factor that has forced sexual orientation issues in the agenda of policy makers is related to the process of international integration, which has led several countries to re-think their concepts and definitions of minority groups. In the United Kingdom this process is very evident and topical, due to the incorporation into British law of the European Convention on Human Rights[3] and the coming into effect of the Treaty of Amsterdam on May 1, 1999, which explicitly introduces the category of sexual orientation into international law.[4] In a country like the United Kingdom, where discrimination on the basis of sexual orientation is not illegal[5], the tendencies mentioned above have caused some lively political debate, and a private member's bill, the 'Sexual Orientation Discrimination in the Workplace Bill', is going through the parliamentary procedure at present. This bill would amend the Sex Discrimination Act of 1975 and it would prohibit employers to discriminate on the basis of sexual orientation in recruitment and in terms and condition of employment and pay.

Apart from policy issues, a second reason why sexual orientation has become of interest in the economic profession has to do with the analysis of household economics and new modes of production. In his famous work, *A treatise on the family* (1981), Gary Becker dedicates only one paragraph to the issue of sexual

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[3] For a thorough discussion on the implications of the European Convention on Human Rights on sexual orientation issues, see Wintmute (1995).

[4] The treaty of Amsterdam amends the Treaty on European Union, the Treaties establishing the European Communities and certain related acts. Article 6a reads: "Without prejudice to the other provisions of this Treaty and within the limits of the powers conferred by it upon the Community, the Council, acting unanimously on a proposal from the Commission and after consulting the European Parliament, may take appropriate action to combat discrimination based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation."

[5] In fact, in Britain male homosexual behaviour was a criminal offence until 1967.

orientation[6]. It is however believed that a deeper understanding of human sexuality can be useful in the study of the division of labour, the family, and the social structure of production.[7]. In particular the study of the behaviour of homosexual people within the labour market allows controlling for several exogenous factors such as children and traditional family institutional arrangements.

The plan of this research is the following. In the first chapter a review of the theory and evidence on sexual orientation is presented. In the second chapter the literature on discrimination is reviewed and this is followed by a discussion on how that literature can be applied to the category of sexual orientation. Finally the empirical issues involved in the detection and measurement of discrimination are analysed. The third chapter starts with a description of the National Child Development Study, the dataset that will be used in this research. Then the classification of our sample according to partnership history is explained, together with the construction of the relevant economic variables. Finally, the sample is described with respect to the main variables of interest. The fourth chapter presents the results associated with possible different formulations of econometric model of discrimination, referred to the sample of men and women separately.

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[6] That paragraph states: '*Specific investment and imperfect information can explain why homosexual unions are much less stable than heterosexual marriages (…). Homosexual unions do not result in children, and generally they have a less extensive division of labour and less marital-specific capital than heterosexual marriages. Moreover, the opprobrium attached to homosexuality has raised the cost of search to homosexuals and thereby has reduced the information available to them. Furthermore, homosexual unions, like trial marriages, can dissolve without legal adversary proceedings, alimony, or child support payments*'. (p. 225)

[7] For a review of these issues, see for example Badgett and Williams (1992); D'Emilio (1983); Gluckman and Reed (1997); Matthaei (1995); Posner (1992).

CHAPTER ONE: SEXUAL ORIENTATION

1.1 Concepts of sexual orientation

The purpose of the following presentation is not to give an exhaustive account of the concepts and theories on sexual orientation. It is however necessary to define to a certain extent the field of this research, given the greatly diverse opinions that exist on the very notion of homosexuality. Furthermore, a better understanding of the nature of sexual orientation is essential both to derive policies from this analysis and to correctly specify the empirical model.

First of all, it is useful to stress the fact that the term 'sexuality' does not refer to a single category, but it expresses at least three different aspects of the human being. These are desire, intended both as attraction and appeal, behaviour and identity. As Laumann et al. (1994) point out using Venn diagrams for their sample, these three dimensions are not necessarily 'coherent' in every individual, where coherence is meant with respect to the commonly used dichotomy homo/heterosexuality. This leads to the first problem in handling data: even if there were sufficient information regarding each individual in relation to the three aforementioned aspects, we would be likely to find contradictory classifications for each sample point. Secondly, the binary perspective on sexuality, homo-heterosexual, does not seem to reflect the true nature of sexuality. The seminal study that popularised the concept and scope of sexual orientation, Kinsey et al. (1948), introduced a scale measured on a continuum from 0 to 6, which represent different degrees of sexual orientation. Finally, most recent theories argue that orientation

cannot even be measured along a single scale[8]; instead, we need a double scale, one to measure the degree of attraction to the same sex, and the other the degree of attraction to the opposite sex.

Given that the exact definitions of both sexuality and orientation are quite problematic, it can be useful to identify where the concept of sexual orientation originates in the first place. On this point, there are two main contrasting theories: Essentialism and Social Constructionism[9]. The first one states that sexual orientation is a culture-independent, objective and intrinsic property. It presupposes the existence of some transcultural, law-like explanations of the sexual orientation of an individual, like the hormonal and the psychoanalytical ones. The second theory, Social Constructionism, affirms that sexual orientation is a culture-dependent, relational, and possibly not even objective category. This difference in perspective is relevant for this study, because any policy conclusion necessarily depends upon the framework that is adopted, especially if we intend to generalise this policy to different points in time and place[10].

The debate between Social Constructionism and Essentialism is quite different from that concerning voluntarism and determinism. As pointed out by Stein (1992), a social constructionist can be a determinist, if we think, for example, of the fact that someone might not have the choice to belong to a specific social class, where social class is a socially constructed concept. On the other hand, one might be an essentialist

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[8] See for example Storms (1980).

[9] For a complete discussion of the debate between essentialists and social constructionists, see for example Stein (1992).

[10] With this statement, I don't mean that any one theory presents a stronger case for policy intervention, but that the appropriate policy will vary according to whether we accept one theory or the other.

and a voluntarist if he or she believes, for example, in the theory of the first-encounter, where an individual's sexual orientation is determined by the nature of his or her first sexual experience[11]. Again, the distinction between voluntarism and determinism will be relevant in this study to correctly interpret the role of the 'lesbian, gay, and bisexual' dummy in the empirical model.

Social Constructionism and Essentialism are linked to the two main paradigms in economic theory, the Neo-classical and the Marxist ones respectively, both of which will be briefly analysed. The Neo-classical view is based on the methodological individualist approach, which puts forward the idea that individuals act according to a set of given preferences, and the economy is a result of the interactions among agents. Furthermore, the individual's behaviour is driven by rational choice, which means that each agent processes all the relevant information to maximise her objective function[12]. In relation to sexual orientation, this implies that sexual preferences are given (e.g. biologically determined), but the decision to act on a preference is based on a personal choice that takes into account all the possible costs and benefits. A proof that sexual behaviour is chosen stems from the observation of the change in sexual behaviour in the AIDS era. In this context, a set of factors like the sex ratio, the extent of urbanisation, the level of income and wealth (depending whether sex is an inferior or superior good), and the changing role of women determine sexual behaviour. The changing role of women, in turn, depends upon things like infant mortality, the value placed on children, the technology of contraception, the existence of labour saving devices in household production, and of

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[11] Incidentally, it might be interesting to point out that the first-encounter theory of sexual orientation has been empirically falsified.

[12] For a complete analysis of the following points, see Posner, 1992.

less physically demanding jobs. To be more specific with respect to sexual orientation, the benefits of the aforementioned personal choice are the procreative, the 'hedonistic', and the sociable ones (where sex is used to reinforce relationships). The costs are those involved with contraception vs. procreation, intolerance towards homosexuals vs. the costs of marriage, and search costs for partnership. Urbanisation is relevant inasmuch as it reduces the search costs, and the costs of concealment for homosexual people.

According to Marxist economics, each individual is a product of the economic and social relationships that she has with other members of the society[13]. This view rejects the assumption that individual preferences are exogenous, and unchanged by market, social, and political life. In our context, this implies that homosexuality, or more precisely a homosexual lifestyle, is a product of the capitalist system, in particular the labour market[14]. The introduction of capital accumulation and wage labour has changed the structure, functions and ideology of the nuclear family, and the meaning of heterosexual relations. The pre-capitalist system was based upon the household economy, which was self-sufficient, independent, interdependent, and patriarchal; there was no social and economic space for a homosexual lifestyle. Capitalism has separated people's personal lives from their work-lives. It has allowed the individual to survive outside the nuclear traditional family by selling his labour.

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[13] On the following points, see Badgett and Williams (1992), D'Emilio (1983), Matthaei (1995).

[14] '...*gay men and lesbians have not always existed. Instead, they are a product of history, and have come into existence in a specific historical era. Their emergence is associated with the relations of capitalism; it has been the historical development of capitalism – more specifically, its free labour system – that has allowed large numbers of men and women in the late twentieth century to call themselves gay, to see themselves as part of a community of similar men and women, and to organise politically on the basis of that identity*.' D'Emilio (1983) p. 141.

If we abandon methodological individualism, we have to recognise that market behaviour affects and is affected by social and individual identities[15]. In the context of this study, it is important to stress the role of communities as that form of organisation, which generates 'social capital'. In general terms social capital is defined as that structure of social relations which enhances productivity (through information exchange, increased self-esteem, enhanced credibility, higher levels of trust, and, consequently, lower enforcement costs for contracts). Social capital is particularly relevant for two reasons: it influences the costs of transactions and creates incentives to separate insiders from outsiders. In the context of sexual orientation and with respect to the costs of transactions, homosexuals find it difficult to access the majority and dominant heterosexual networks (unless, for example, they renounce their 'voice'). Furthermore, social capital defines social identities since it is distributed unevenly across individuals, and determines co-operation among insiders, and discrimination and exploitation of outsiders.

Therefore social capital is a major factor in the theory of sexual orientation discrimination for two reasons. It creates group allegiances and can affect individual productivity, through costs that homosexual have to bear to conceal their sexuality and to access social capital. This explains why it is possible to encounter (indirect) discrimination even if the person is not open with respect to his or her own orientation.[16]

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[15] See Richard Cornwall, quoted in Badgett and Williams (1992).

[16] This point will be analysed more extensively in chapter 2.

131.2 Data on the extent of homosexuality

Considering the preceding discussion on the different concepts of sexual orientation, it seems a futile exercise to try and find a single number that could represent the extent of homosexuality in the British population. However, it is useful to consider some possible figures from different sources to assess whether the sample that will be used in the present study can be considered representative of the population as a whole with respect to sexual orientation. In the case of the United Kingdom it is worth mentioning three studies[17]: Fornan and Chilvers (1989), McQueen et al. (1991), and Wellings et al. (1994). Of these three, the last one is the most relevant, both in terms of its completeness and in the use of similar definitions to the one that will be used in this work. It is based on 'the National Survey of Sexual Attitudes and Lifestyles'; the largest survey to date which uses a national probability sample of approximately 20,000 British people. The main resulting figures are the following: 6.1% of men reported some kind of homosexual experience, 3.6% genital contact with a man, and 3.5% having had at least one homosexual partner. The corresponding figures for women are 3.4%, 1.7%, and 1.7%[18].

Two things should be noticed with respect to the previously mentioned studies. First of all, they mainly refer to the behavioural dimension of sexuality (with

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[17] For an international comparison, see Diamond 1993, and Laumann et al. 1994.

[18] The figures for 'any homosexual attraction' are 5.5% for men and 4.5% for women. It is also important to notice that the figures reported are not related to self-identity as homosexual; in fact, this term was never used in the questionnaire, which simply asked about attraction and experience with men and women. The studies by Forman et al. (1989), and McQueen et al. (1991), are based on samples of men only. In the first one, 1.7% of the sample reported having ever had homosexual intercourse; in the second one, 2.3% of the respondents reported having ever engaged in any sexual experience with a person of his own sex.

some information on sexual desire), and they explicitly avoid any self-identification of the individuals in the sample. There are several reasons why the term homosexual is avoided. The main ones are the following: to try and increase the level of reporting; to focus on behaviour, which is the most important factor with respect to AIDS and STDs, the main focus of this type of study; and to side-step a term, whose meaning is not universally understood.[19] Another important point to notice is that the figures obtained are likely to be an underestimate of the true reality. This is due to the difficulty that people have in reporting a type of behaviour that is socially stigmatised and subject to legal constraints.

The National Child Development Study, the dataset used in this research, allows the use of a behavioural definition of sexual orientation[20]. In particular, it is possible to identify the people that have lived together as a couple with a partner of the same sex for one month or more. The sample that is obtained seems to meet some desirable properties. First of all, a relationship with co-habitation is the most complete type of behaviour; in other words, we do not have simple sexual experiences, but a fuller expression of the individual personality. Secondly, the fact of living together implies some form of stability in the individual behaviour. Finally, again, co-habitation is possibly the most 'public' type of behaviour. This is relevant not only because of the fact that in this situation the individual is more likely to be 'out' about her or his sexuality, with the consequent possibility of direct discrimination. The most important point is that in an economic analysis of sexual

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[19] On this points see Wellings et al. (1994).

[20] This definition is in line with Kinsey's opinion according to whom "…*instead of using these terms* [homosexuals and heterosexuals] *as substantives which stand for persons, or even as adjectives to describe persons, they may better be used to describe the nature of the overt sexual relations.*" (Kinsey et al., 1948, p. 617)

orientation, we are not interested simply in the private sexual behaviour of an individual, but in the economic consequences of the social expression of that orientation. This allows us to extend the analysis to issues such as household economics, social benefits, the division of labour and so on. The problem with our definition is that it puts very strong conditions on the nature of the relationships, which are not met by a considerable percentage of people (8.9% of the total sample has never had such a type of relationship, regardless of its nature).

APPENDIX ONE

TABLE 1.1: Homosexual attraction and experience by age group

	16-24		25-34		35-44		45-59		total	
	M%	W%	M%	W%	M%	W%	M%	W%	M%	W%
Face-to-face interview										
any homosexual attraction	6.6	5.1	5.3	5.7	5.9	5.0	4.1	2.3	5.5	4.5
any homosexual experience	4.6	2.4	4.9	3.2	7.1	3.1	4.2	1.9	5.2	2.7
Self-completion booklet										
-any homosexual exp.	4.3	3.0	5.9	4.0	8.5	4.2	5.7	2.6	6.1	3.4
-any genital contact	2.4	1.4	3.8	1.9	5.1	2.1	3.1	1.3	3.6	1.7
-at least 1 same-sex partner	2.6	1.4	3.6	2.0	4.8	2.1	3.2	1.3	3.5	1.7
-at least 1 same-sex partner in last five years	1.7	1.2	1.9	0.8	1.0	0.5	0.9	0.1	1.4	0.6
-at least 1 same-sex partner in last 2 years	1.3	0.8	1.5	0.6	0.9	0.3	0.8	0.1	1.1	0.4
-at least 1 same-sex partner in the last year	1.2	0.6	1.5	0.6	0.8	0.2	0.7	0.1	1.1	0.4
range of bases	1977-1978	2230-2234	2154-2158	2879-2881	2033-2039	2558-2559	2159-2165	2742-2750	8329-8340	10411 10420

Source: Wellings et al. (1994), table 5.4, p. 187.

CHAPTER TWO: DISCRIMINATION

2.1 Definition and categorisation of discrimination

The concept of discrimination originates from the observation of a persistent difference in the labour market position of groups, whose identifying characteristics seem unrelated to economic variables. In other words, discrimination is not a primitive theoretical concept, but the realisation of an empirical fact of the socio-economic system. That is why the various economic theories not only offer different explanations, but also assume distinct notions of the phenomenon under examination, in accordance to their particular vision of the structure of the economy. Therefore any possible definition of discrimination always refers to a specific conceptual framework. Even the empirical measurements of discrimination tend to use a residual approach, rather than a direct one, so that the differences in labour market outcomes that cannot be explained by the relevant socio-economic variables are imputed to discrimination.

An operational definition of discrimination is unequal treatment in terms and conditions of employment for groups of equally productive workers (Sloane 1985)[21]. To be precise, this concept refers to post-entry discrimination, as opposed to pre-entry discrimination, where the word entry refers to participation in the labour force. Pre-entry discrimination occurs when individuals are confronted with different opportunities in the acquisition of productivity-augmenting or screening investments, such as education, or are faced with different constraints in their occupational choices. This distinction, however, has been criticised. In fact, it is argued that even if

these two types of discrimination represent different processes, they determine the same outcome, i.e. a loss in welfare on behalf of the discriminated group. Besides, if we assume that innate characteristics, such as ability and tastes, are randomly distributed across the population, then any differences in labour market outcomes are ultimately discriminatory. A further point is related to feedback mechanisms. If someone anticipates that she will suffer discrimination, once she has entered the labour market, then her expected returns from investment in human capital will be lower, and she will rationally chose to undertake less schooling and training. This phenomenon is called secondary or indirect discrimination[22].

In any case, it is sometimes useful to classify the several components of an economic phenomenon, especially for the purpose of modelling. For this reason, it is helpful to subdivide labour market discrimination into the following categories:

- employment or occupational discrimination (differences in occupational attainment or types of employment, for a given set of qualifications and tastes);

- income or wage discrimination (differences in pay and non-pecuniary benefits for a given occupation)[23].

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[21] It is evident however that this definition is not completely general, because it assumes that the main independent variable in the determination of the labour market outcome is labour productivity.

[22] D'Amico in particular underlines these relationships between the labour market and the whole socio-economic system: "*The labour market does not stand alone, insulated from the society at large. Rather, these markets are nestled into society, processing and filtering the prevailing customs and political and social arrangements and translating these into particular, tangible economic outcomes. These outcomes, therefore, reflect more than just the organizational and technical characteristics of production and the resource endowments of the individual and society. Market outcomes reflect social relations and feed back on them, and nowhere is the importance of this interaction more pronounced than in the dynamics of discrimination.*" (D'Amico, 1987, p. 313).

[23] See Adnett, 1996.

In the economic literature, greater emphasis is placed on wage discrimination, because it is argued that *'wage differentials are a more fundamental measure of labour market discrimination than are employment differentials between majority and minority groups'* (Cain, 1986, p. 700). In fact, it is likely that occupational discrimination would ultimately result in wage discrimination as well, while the opposite is not necessarily true. However, relying exclusively upon wages as a measure of discrimination may obscure some important mechanisms that operate within the labour market. For example, it can be relevant to see whether or not discrimination leads to segregation, and whether this is present at the level of enterprise, industry, or the type of occupation.

2.2 Theories of discrimination

The following discussion is necessarily a brief overview of the economic theories of discrimination, some of which are of little relevance in the changed legal framework of the current industrial relations. The purpose of this survey is to introduce a few concepts that will be useful to set the issue of sexual orientation discrimination in a theoretical framework. The category of sexual orientation is completely absent in the theoretical literature, and later in this chapter a few qualifications will be required to sketch a possible theory of sexual orientation discrimination which can be used to interpret the empirical results.

A fundamental categorisation of economic theories of discrimination is related to the analytical framework that they use: neo-classical theories refer to the individual as the basic unit of analysis, while structuralist theories consider the labour market at large, its institutional characteristics and the inter-relations of different groups of economic agents.

Neo-classical theories are based on Becker's pioneer work *The Economics of Discrimination*[24]. The main idea is that individuals are prejudiced or 'have a taste' for discrimination. This taste translates into a monetary offer or demand function for an attribute such as race or gender; in particular, employers, consumers or employees are willing to pay a higher wage or price, or receive a lower wage, in order to associate with people with specific attributes. In this approach discrimination is a continuous and potentially measurable attribute, but the origin of the taste for discrimination[25] and its persistence are not explained. In fact, discriminatory preferences lead to a non-optimising behaviour, so that in the long run competition should segregate the labour force, but reduce wage discrimination[26]. It is quite clear from what was just stated that these theories are mainly concerned with the demand side of the labour market; the supply side can be assumed away by postulating that all workers are equally productive[27] and have the same preferences with respect to work.

Neo-classical theories have been expanded in several directions, mainly to overcome the two problems mentioned above. A first qualification of the theory has to do with market imperfections, which can be related to three different phenomena[28]:

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[24] Arrow's work should also be mentioned in relation to the foundations of neo-classical theories of discrimination. See for example Arrow, 1973.

[25] '*By defining discrimination as an exogenously given 'taste', neo-classical economists have merely traced the economic consequences of discriminatory preferences. This approach ignores the inter-relation between market outcomes and the formulation of individual attitudes, and thus adds little to our understanding of the process of discrimination*' (Wallance and LaMond quoted in Sloane, 1985, p. 144.).

[26] For a discussion on the role of competition see Cain, 1986.

[27] Or better, workers have equal productivity for equal investment in human capital, and the choice of this type of investment is not related in any way to discrimination.

[28] On this point, see Cain 1986, and Darity 1982.

- Product monopoly: in the absence of competition, the forces to reduce discrimination are weaker, and in the case of a regulated monopoly or government monopoly, where a loss of profits does not create the incentive for a 'take-over', discrimination is feasible even in the long run.

- Monopsony in the labour market: if minority workers have a more inelastic supply curve of labour, then the difference between the value of labour's marginal product and the wage rate is greater than for majority workers. A possible explanation for a more steeply sloped supply curve for minority workers is related to search costs: in the presence of discriminatory employers, minority workers have higher search costs, and therefore are less mobile[29].

- Financial markets imperfections: minority workers face borrowing constraints and this uneven access to financial capitals does not allow them to invest as much in human capital[30].

A second qualification of neo-classical theories is related to imperfect information[31]. In a world in which it is costly to assess the workers' productivity, several external attributes like race or gender can be used by employers as a screening device if they believe that certain groups are less productive on average, or have a higher turnover or the like. In this situation, discrimination is not the consequence of exogenous preferences, but of profit-maximising behaviour of risk-averse employers. If the two groups are actually different on average with respect to ability or labour force participation, then this approach, labelled statistical discrimination, leads not to discrimination in the aggregate but only at an individual level. To obtain actual group

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[29] For an analysis of costs of job search for minority workers see Gordon and Morton, 1974.

[30] To be precise, this type of argument is clearly related to pre-entry discrimination.

[31] For a review of this approach see Aigner and Cain, 1977.

discrimination, one has to assume either that the distribution of abilities in the two groups has the same mean but different variances, or that the minority group can convey information about its productivity in a less efficient way. Even if this approach can explain both the origin and the persistence of discrimination, the equilibrium that results is unstable and it is easy to think of possible solutions to overcome the problems just mentioned.

One major drawback of neo-classical theories is that they take socio-economic institutions as given. In the context of discrimination, however, institutions are quite relevant. If we analyse the inter-relations between groups of workers, then an individualist methodological approach is not sufficient: we have to explain how groups' identities are formed, what mechanisms allow one group to discriminate against the other, and how these collusive arrangements can remain stable over time.

One type of theory, which may be placed under this broader structuralist framework[32], is the radical or class-conflict approach. According to radical economists discrimination is the outcome of the interaction of interest groups, where a majority group can benefit from the exploitation of a well-defined minority group. The result of this power process is a segmented labour market, even at the establishment level, so that a less cohesive workforce is less of a challenge for the management[33].

A second theory that focuses on labour market segmentation is the institutionalist one. From this perspective segmentation is not caused by class conflicts, but by technological factors and by the concentration of attitudes and customs in different

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[32] For a general presentation of non-orthodox theories, see Fischer 1987, Marshall 1974, and Sloane 1985.

[33] For a model that illustrates this 'divide and conquer' strategy, see Roemer, 1979.

socio-economic groups[34]. Within this theory it is possible to distinguish two approaches: the first one is based on the concept of dual labour markets, the second one on the idea of internal labour markets. According to the former, the labour market is subdivided into a primary sector, characterised by long job ladders, good working conditions, stable employment and training opportunities, and a secondary sector, with dead-end jobs, poor working conditions, high turnover, and no on-the-job training. Minority workers are crowded into secondary sector and low-paying jobs, and the relative increase in labour supply, further depresses labour productivity and hence wages in that sector. The internal labour market approach[35] points to the fact that large firms are insulated from external labour markets, where the outcome is determined by supply and demand forces. The attributes of minority workers are used as a screening device at the port of entry of the internal labour market, and as a parameter of choice for wage and personnel policies.

The previous concepts have been presented in the literature mainly with respect to personal attributes such as gender and race. In the following discussion, we will see to what extent these ideas can be applied to sexual orientation, and how they need to be modified.

2.3 Sexual Orientation Discrimination

In analysing discrimination with respect to sexual orientation it is useful to consider the problem from the double perspective of the individual and of the economy at large. Concerning the former, the first issue that has to be addressed is the following: sexual orientation is not a visible attribute in the same way as gender and

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[34] For a theory of labour market segmentation, see the survey by Cain, 1976.

[35] The main contribution to this approach is by Doeringer and Piore, 1971.

race are, but requires some form of voluntary disclosure on behalf of the person that possesses it. Three points need to be mentioned with regard to disclosure. First of all, there are other attributes that are not directly observable, such as religion and certain types of disabilities, which nonetheless have been the subject of economic research and attention on behalf of the policy maker. Secondly, as it has already been mentioned in the previous chapter, the sample of homosexuals, which is going to be used in this study, is identified through a strong behavioural assumption: co-habitation with a same sex partner for at least a month. It is therefore quite likely that these people are somehow open about their own sexuality. Thirdly, the visibility of the characterising attribute does not affect the way in which discrimination is measured empirically: discrimination exists if two groups earn a different wage, after we have controlled for a series of productivity variables.

The immediate consequence of the endogeneity in the decision to disclose one's own orientation is that it is quite impossible to separate demand and supply conditions in the labour market, not only for theoretical reasons, but also for 'definitional' ones. Theories of demand-side discrimination were mentioned before. With respect to the supply side, four orders of problems are relevant for our analysis: choices of disclosure of one's sexual identity, secondary discrimination, occupational choices, and job search issues. All these supply-side considerations are linked to labour market discrimination, affect the individual's productivity, and represent a cost for the person involved and society at large.

As far as the choice of disclosure is concerned, it is related to labour market considerations inasmuch as being identified as homosexual may jeopardise career advancements or cause the loss of one's job (and in the UK job discrimination on the

basis of sexual orientation is not illegal[36]). *'LesBiGay workers may face economic and social sanctions if they disclose their sexual orientations to disapproving co-workers or supervisors. In other words, disclosure of sexual orientation is a decision involving a trade-off between disclosure and possible loss of income'* (Badgett, 1996, p. 300). There is some empirical evidence[37] that disclosure is indeed the consequence of a rational choice based on the relative costs and benefits in the labour market, and therefore it is endogenously determined. The costs have already been pointed out as a potential loss in income; the benefits are related to an easier access to social capital. A strategy of 'passing' as heterosexual may interfere with the social interactions of the individual, increase the costs of job search, and reduce his productivity in the workplace[38]. In synthesis, a homosexual may choose to be 'out', and run the risk of facing direct discrimination, or to 'pass' as heterosexual for fear of discrimination and under-invest in social capital (i.e. a case of indirect discrimination).

This problem is also relevant in the context of internal labour markets. People whose distinguishing characteristic is not observable (as is the case with sexual orientation), may not be discriminated against because of that attribute at the 'port of entry' of the internal labour market, as happens in the case of gender and race. However, in the medium to long run it might be very difficult for the worker to

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[36] For some evidence on the extent of the disapproval of homosexual behaviour in the British population see Snape et al. (1995).

[37] For a model and some empirical evidence on 'coming out' as a rational choice, see Badgett 1996.

[38] On the importance of social capital and networking in the labour market in relation to gender discrimination, see for example Bartlett and Miller, 1985. '*The interaction of individual characteristics and organizational gender biases resulted in limited advancement opportunities for women. If motivational and background characteristics do not explain the persistent wage gap, then information differentials need to be explored*' (p. 267).

conceal her private life. For this reason, she faces again the trade-off described before: be 'out' and face possible discrimination, or minimise the risks of being 'outed', for example, by changing jobs more frequently (and a higher turnover obviously reduces the possibilities of climbing the job ladder, and implies the loss of specific training).

Concerning indirect discrimination, it has already been said that it might cause under-investment in social capital. More generally, it can affect all productivity variables, and lead to inefficient choices (either under- or over-investment). For example, in the case of human capital it has been found that '…*men and women in same-sex couples have more education than people in different-sex couples. Gays and lesbians might have chosen to get more education to offset anticipated discrimination or because they found educational settings to be relatively hospitable*' (Klawitter and Flatt, 1998, p. 662)[39].

As far as occupational choice is concerned, homosexuals tend to be over-represented in certain sectors[40], such as the public sector, the non-profit sector, or the arts. In particular, the sectors and occupations chosen offer a more tolerant environment or have specific non-discriminatory policies, or are more secure, or offer better pension and health schemes. Choosing a job in order to avoid future discrimination is a typical example of indirect discrimination. Job security, pensions and the like are related to the following problem: homosexuals often cannot rely upon

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[39] Klawitter and Flatt go on to suggest that '*alternatively, living with a partner may not be as common among gays and lesbians with less education*'.

[40] For evidence on this point see Badgett and King, 1997, Hewitt, 1995, and Whitam and Dizon, 1980.

a family safety net[41], and their unions are not legally recognised[42]. In other words, occupational choices are related to income provision, and the relevant unit of analysis is the one that shares a given set of resources. Therefore it is quite likely that homosexual people are more risk-averse than heterosexual ones, and that they are more concerned with long-term security. This type of occupational choice might affect earnings, if, as seems the case, the jobs with the required characteristics are concentrated in lower-paying sectors[43]. In a sense, we have a dual labour market, where the primary market can be re-defined as the one with better career opportunities and higher pay, but more insecurity, less tolerance, and worse non-wage benefits[44].

From a household perspective, an alternative explanation of the choice of occupation can also be made. *'Lesbians cannot count on having a male earner to*

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[41] Possible explanations of this fact could be the following: they have been rejected by their original family, do not have their own children, and same-sex couples are less stable, possibly because of negative social conditioning.

[42] This implies that most pensions and benefits are non-transferable to same-sex partners. Homosexuals are also discriminated against in the field of health policies because of the prevailing misconceptions on the AIDS epidemic.

[43] Given the low number of homosexuals, it is quite difficult to accept the crowding hypothesis made in relation to gender and race discrimination, i.e. that concentration of a certain group of people in one sector depresses the wage level there.

[44] On the issue of occupational choice, models of sex-role socialization, properly re-paraphrased, seem very interesting (for a review see Fischer, 1987). In particular, Corcoran and Courant, 1985, present a model in which both the workers' utility and the wage offers depend on the jobs characteristics, and on a function that maps these characteristics into a vector of indexes of traditionally approved attributes that the worker occupying that position should hold. These indexes depend both on the social role in which the individual is brought up to see himself, and on the conceptions of certain personal attributes that society has transmitted to the employers.

boost household income. As a result, they may choose to get more education and to devote more time and energy to the labour market than heterosexual women. Lesbian couples are also much less likely than married women to be living with children. (Child-rearing responsibilities cut into time and energy to devote to market work). Gay men, unlike heterosexual men, may share their home with other males and pool two male-sized incomes. Because of this income sharing, and perhaps in anticipation of not serving as a primary household earner, gay men might devote less time and effort to the labour market'. (Klawitter and Flatt, 1998, p. 662).

One last point, which is related to both the supply and demand sides of the labour market, concerns the relationship between job search and unemployment. Due to direct and indirect discrimination, it is likely that the duration of job search is higher for homosexuals than for heterosexuals, i. e. the two groups face a different number of job offers per period. In this case discrimination not only affects wages and occupational type and attainment, but also the employment level[45].

The considerations made so far reflect a static framework; in other words, they take the individual preferences and the structure of the economy as given in a specific point in time. However, issues related to discrimination present a strong dynamism, represented by the inter-play of individual preferences and those of the interest groups and of the policy maker. Equal opportunities legislation follows the change in public opinion and affects the behaviour and preferences of individual agents. Swinton (1975) presents an economic/political model of discrimination where '…*at any point in time, the relative and absolute position of the minority will be determined by three principal factors: the level and structure of opportunity in the*

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[45] A higher unemployment level for minority workers can also be explained by higher search costs and a greater wage dispersion (see Gordon and Morton, 1974).

society, the distribution of resources, and the extent of discrimination'. However, *'individuals have an incentive to enter coalitions to influence the personal allocation of opportunities'* (p. 53). In a dynamic perspective, he concludes, market forces alone will tend to deteriorate the relative position of minority groups, but the likely intervention of socio-political factors will imply undetermined results[46]. An empirical political model of economic discrimination is presented by Borjas (1982), in which the constituency plays a similar role to that of consumers, i. e. constituents are the consumers of the public authority output, which can be intended both as the services offered and as the legislation enacted. Again, if the objective of the public agency is vote-maximisation, then the final outcome depends on the relative strength of interest and political groups[47].

A further point, which is relevant in the field of sexual orientation, concerns the distinction between overt discrimination and institutionalised discrimination[48]: when discrimination is institutionalised, then overt discrimination becomes less relevant in comparison with the overall disadvantages of the minority[49]. Regarding racial discrimination, D'Amico (1987) stresses a point that is quite important in the case of sexual orientation in today's Britain: *'if...as the result of a long history of*

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[46] The activities of interest groups in relation to sexual orientation legislation is evident in the present debate on the equalisation of the age of consent, which is considered as a test case to assess the feasibility of further reform in this area.

[47] For a bargaining model of discrimination, see Marshall, 1974.

[48] On this point see again Marshall, 1974.

[49] In the UK discrimination against homosexuals is to some extent institutionalised, if one considers the following pieces of legislation: unequal age of consent, clause 28, anti-gay criminal laws (gross indecency and privacy laws), and the ban on homosexuals from the armed forces. Furthermore, the lack of consideration of sexual orientation in all the relevant anti-discrimination laws and in partnership laws can also be considered as institutionalised discrimination.

intensely held prejudices, the discrimination-by-race mechanism comes to be subtly and intricately woven into the institutional and cultural fabric of the society, then the intensity of currently held discriminatory tastes may be of little importance as a determinant of the effectiveness of discrimination and, perhaps, may even be completely irrelevant' (p. 311).

The importance of social custom, defined as an act whose utility to the agent performing it in some ways depends on the beliefs or actions of other members of the community, has been acknowledged by Akerlof (1976, 1980). From this perspective it is possible to explain the persistence of discrimination, if non-complying with social rules implies relevant costs, possibly in terms of internal inefficiencies, deteriorated public image and the like.

2.4 Empirical issues

The following analysis will concentrate on the methodological issues involved in the estimation of labour market discrimination.

2.4.1 Earnings functions and measures of discrimination

The operational definition of discrimination, which will be used in this work, refers to a situation in which for given productivity and job conditions two workers are paid a different wage. The first step in the analysis and measurement of discrimination is therefore to formulate a model of wage determination. In long run equilibrium with perfect competition and labour mobility, the wage is a function of the quality of the labour services (i.e. human capital) and the nature of the job (i. e. compensating differentials). Following Filer (1985) total compensation is a function of human capital stocks:

$$TC = g\ (HK)$$

and is determined by wages and by the implicit prices attached to working conditions:

$$TC = h\,(W,\,J)$$

Setting these two equations equal to each other and applying the implicit function theorem we obtain the following hedonic wage equation:

$$W = f\,(J,\,HK)$$

It is not evident what the precise form of this equation could be. Filer estimates both the first and second order (linear and quadratic) approximations, but *'tests of added explanatory power from quadratic terms are not significant and give no reason to believe that the wage equations are not approximately linear'* (p. 431). A better approximation than the linear one, however, is the semilog one, given that data on wages are generally skewed; the log-normal distribution seems to solve this problem quite well, even if it does not predict the relatively numerous occurrences of very high earnings (Berndt, 1991). In the long run, wages can therefore be estimated using the following regression:

$$w = \alpha + \beta J + \gamma HK + u$$

where lower case denotes logs. Attempts to derive equations of this sort using an intertemporal choice problem have been unsuccessful due to the difficulty in finding analytic or closed form solutions (Willis, 1986).

In the short run, and in the presence of market imperfections and barriers to labour mobility, working conditions and human capital are not the only factors affecting wages. The other variables that affect wages are those related to personal characteristics other than productivity, to geographical region, to union membership and the like. The inclusion of dummy variables for characteristics such as race, gender, and sexual orientation would also allow measurement of the extent of discrimination with respect to the particular minority group under examination. This

measure of discrimination, however, is quite poor since it allows only the intercept term to vary and it assumes that the returns to the other characteristics are the same for the different groups. Interactions between membership of a specific group and the other variables, which are not related to discrimination, produce a biased coefficient on the dummy.[50] A possible solution would be to include interaction dummies, represented by the product between the minority dummy and the characteristics whose coefficients are (believed to be) affected by the fact of belonging to the minority group. A more general approach is to estimate separate earnings regressions for the different groups, so that all the coefficients of the control variables are allowed to change. Following Blinder (1973), and Oaxaca (1973), the mean difference in log wages can be decomposed as follows:

$$\overline{w}_M - \overline{w}_m = (a_M - a_m) + (\overline{X}_M - \overline{X}_m)b_M + \overline{X}_m(b_M - b_m)$$

where the *M*-subscript denotes the majority group and the *m*-subscript the minority group, and the *X*s are vector representing the control variables. The first term on the right-hand side represents the effects of differences in the intercepts (U), the second one of differences in the values of the explanatory variables (E), and the third one the effects of differences in estimated coefficients (C). Discrimination is normally attributed to the unexplained proportion (U + C), and is therefore a residual measure. A few points are worth mentioning with respect to this definition. First of all, the value of the intercept term depends on the arbitrary scaling of the *X*-variables, and therefore it is not a correct measure of discrimination (Jones, 1983). Secondly,

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[50] Possible reasons why membership to a specific group could affect the coefficients of the control variables are related to measurement errors in the regressors (e. g. different quality of education for the two groups), and omitted productivity-related characteristics (due to, for example, different degrees of labour force attachment). On these issues see for example Adnett (1996), Berndt (1991), and Johnson (1978).

differences in coefficients can be attributed to discrimination only if all relationships are linear or if the two groups are located on average at the same point of the hedonic wage function (Filer, 1985). Finally, the decomposition shown above, and therefore the measure of discrimination, is non-unique. In fact, one may assume that in the absence of discrimination both groups are paid according to the majority earnings function (as seen above) or according to the minority function.[51]

In the first case, the estimated minority average wage ($\overline{w}^e{}_m$) are given by:

$$\overline{w}^e{}_m = E_M(\overline{X}_m)$$

where E_M is the majority earnings function, and $\overline{X}_m$ a vector of the mean level of the variables related to the minority group. Here the difference between actual mean wages ($\overline{w}_M - \overline{w}_m$), can be decomposed in $\overline{w}_M - \overline{w}^e{}_m$ (attributable to differences in the average values of the independent variables E_1), and $\overline{w}^e{}_m - \overline{w}_m$ (residual difference composed by differences in the intercept U and in the coefficients C_1). In the second case, average majority wages are estimated by:

$$\overline{w}^e{}_M = E_m(\overline{X}_M)$$

and the difference in wages is decomposed in $\overline{w}_M - \overline{w}^e{}_M$ (residual difference equal to U + C_2), and $\overline{w}^e{}_M - \overline{w}_m$ (due to differences in the values of the control variables). The preceding discussion can be illustrated using the following diagram:

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[51] The following analysis is taken from Sloane, 1985.

w_M

E_1

majority

w^e_m

$U + C_2$

$U + C_1$

minority

w^e_M

w_m

E_2

X_m X_M
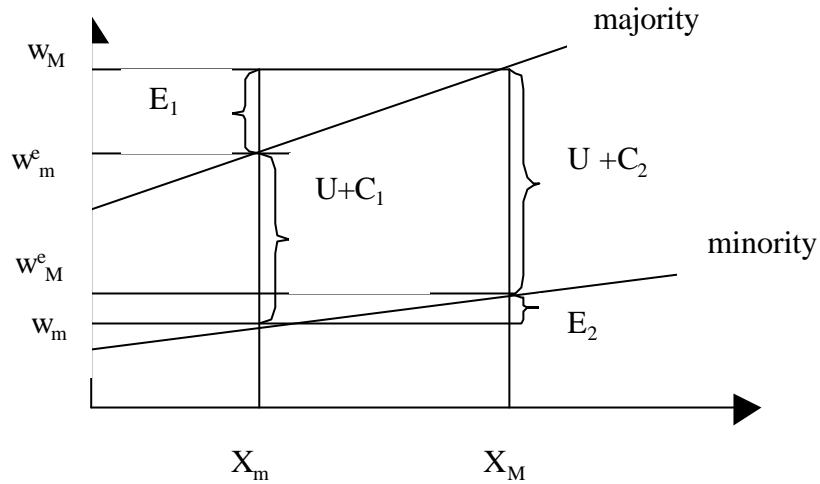
This is a typical index-number problem, and it is clear that different choices of decompositions lead to different measures of discrimination, according to the position and slope of the two earnings functions. If there is discrimination against the minority group but no favouritism for the majority one, it is sensible to believe that the majority group is paid according to the value of its marginal revenue product and therefore its earning function should be used as the benchmark case. Anyway, the two criteria identify the range of the possible extent of discrimination.[52]

If the first type of decomposition is used, then the portion of the wage differential explained by differences in the control variables is:

$$c = (\overline{w}_M - \overline{w}^e_m)/(\overline{w}_M - \overline{w}_m)$$

and therefore discrimination can be measured by $d = 1 - c$. It is clear that this method does not take into account pre-entry discrimination, and the differences in the Xs is entirely attributed to individual preferences and ability.

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[52] For a general analysis of the different methods for estimating the extent of discrimination, according to different assumptions on the earnings function in absence of discrimination, see Oaxaca and Ransom (1994).

The traditional approach outlined above considers exclusively the mean of the earnings functions. More recently certain authors (Dolton and Makepeace, 1985, and Jenkins, 1994) have attempted to compare the whole wage distributions for the two groups under examination, but this method seems to reduce the confidence in the estimates even further.[53]

2.4.2 Choice of variables

Given the residual nature of the measures of discrimination which are normally adopted, a correct specification of the earnings function becomes crucial, in particular with reference to the control variables. First of all, however, it is useful to underline a few issues related to the dependent variable, earnings. The choice of the variable to use to express earnings depends crucially on the unit of analysis, whether it is the household or the individual worker. The former is more appropriate if the objective is to analyse the relative well being of the majority and minority groups, in which case total income is the relevant variable. The latter is to be preferred if the main interest, as in the present work, is in the relative position of the individual worker within the labour market, and in this case the wage rate is the variable to use (Cain, 1986). A second important choice concerns the periodicity of the data used: annual, weekly, or hourly. The use of the hourly wage rate allows control for the time spent working; this is appropriate if the time spent at work is a consequence of a voluntary decision, but it is not so if the agent faces discriminatory constraints on the amount of work he or she can supply.[54] The use of hourly wage presents another

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[53] On this point, see Dex and Sloane 1988.

[54] On this point Cain (1986, p.753) suggests that the wage rate should be preferred in the analysis of gender discrimination, where the amount of work supplied by women depends on optimising choices

problem: most surveys, including the NCDS, report the total annual earnings and the amount of time worked. This last figure can be reported with great imprecision for obvious reasons so that the calculation of an hourly wage rate is subject to considerable measurement error. Finally, the wage rate is a poor indicator of total compensation, given the presence of non-wage benefits. Since these benefits do not vary linearly with respect to the worker's characteristics, measures of discrimination based solely on wage rates are quite inaccurate.

As far as the choice of the explanatory variables is concerned, a general criterion suggested by Cain (1986) is that the control variables should not be determined by the process of discrimination under analysis. If the *X*-variables reflect discrimination then the estimate that we obtain understates the level of discrimination. Blinder (1973) is careful to distinguish between independent variables which are endogenous and exogenous with respect to labour market discrimination. His model of microeconomic wage determination is the following:

$$\log W = f(Ed, Occ, J, M, V, T, Z) + u_1$$

$$Ed = g(Occ, V, B, Z) + u_2$$

$$Occ = h(Ed, J, V, B, Z) + u_3$$

$$J = k(Occ, V, M, B, Z) + u_4$$

$$M = l(Ed, Occ, V, B, Z) + u_5$$

$$V = m(Ed, Occ, J, B, Z) + u_6$$

$$T = n(Ed, Occ, J, M, V, Z) + u_7$$

where the variables are defined as follows: *W* is the hourly wage, *Ed* education, *Occ* occupation, *J* vocational training, *M* union membership, *V* veteran status, *T* job

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between market and household production. In the case of race discrimination, however, where black people may be forced into unemployment because of discrimination, then income should be preferred.

tenure, *B* family background, *Z* exogenous variables (age, health, residence, local labour market conditions). He considers all variables to be endogenous with the exception of *B* and *Z*. The above equations should then be estimated as a simultaneous system, but this is impossible since *B* is the only variable omitted from the wage equation, which is then underidentified. His solution is to estimate by ordinary least squares two types of equations. The first one is a reduced form wage equation of the type:

$$\log W = F(B, Z) + v_1$$

which is the correct one if one wishes to consider only the *'ultimate causes' of wage differentials rather then the mechanisms through which these causes operate.* To be able to estimate a structural equation like the first one in the system above, we need to assume that all the error terms in the following equations are uncorrelated with u_1, so that the system becomes block recursive, and OLS estimator is the BLUE of the wage equation. *Very roughly speaking, the structural estimates can be thought of as the conditional expectation of (the log of) the wage, given the individual's present socioeconomic condition; and the reduced form can be thought of as the conditional expectation of (the log of) the wage, given the circumstances of his birth.*[55]

In relation to the endogeneity problem, a few remarks on specific commonly used variables are necessary. Occupation, industry and class of worker are some of the most controversial variables, since they are quite likely to reflect labour market discrimination. Using them as control variables ignores occupational barriers as sources of discrimination. Furthermore, occupational choice itself might reflect adaptation to expected future discrimination. For this reason Oaxaca (1973) estimates two sets of equations: the first one does not include occupation, industry, and class of

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[55] Words in italic are quoted from Blinder, 1973, p. 442.

worker as independent variables and is labelled 'personal characteristics wage regressions', while the all-inclusive equations are labelled 'full-scale wage regressions'. On the other hand, industry and occupation variables might be considered essential as a proxy for the pleasantness of work. *'In the absence of other variables which indicate job characteristics, if men do less pleasant work than women on average there will be a confusion of compensating differentials with discrimination, resulting in an overstatement of the latter if these variables are excluded'* (Greenhalgh, 1980, p. 754). The consideration of compensating differentials, however, must take into account the following problem: occupational and industry discriminatory barriers may preclude the minority group from choosing the preferred combination of pleasantness of job and wage rate. *'...Men and women may be forced into jobs other than those they would voluntarily choose. If such a mechanism denies women access to 'disagreeable' but high-wage jobs even though they would like to enter such jobs, differences in levels of working conditions would represent a result of discrimination'* (Filer, 1985, p. 432). According to this line of argument, therefore, the inclusion of variables to proxy for compensating differentials may lead to an underestimation of the extent of discrimination.

The previous discussion leads to the consideration of those variables that are used as a proxy for supply effects. In other words, once a wage differential has been detected, it can be attributed to discrimination only after we have controlled for supply effects. The majority and minority groups may have different preferences, attitudes, family role specialisation and the like, which leads to different labour market outcomes even in the absence of discrimination. Several studies have attempted to control for these supply-side factors[56]; however it is difficult to establish

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[56] Among the others, see Daymont and Andresani (1984), Dolton and Makepeace (1987), Filer (1983).

whether they are exogenous to the process of discrimination or whether they represent some form of secondary discrimination. Furthermore, from a legal point of view, workers should not be paid *'differently for the same work on account of supply (taste) differences'* (Dex and Sloane, 1988, p.7). Litigation cases involving discrimination issues can only be resolved using factual evidence and not subjective inference on the presumed preferences of the individuals.

2.4.3 Further issues on the estimation of discrimination

1. <u>Omitted variable bias</u>. In the context of discrimination, the omission of relevant variables will affect the decomposition of the wage gap, and consequently the measures of discrimination. The direction in which this bias operates, however, cannot be established *a priori*. As Sloane (1985, p. 123) points out, *'if the omitted variables are positively correlated with the included variables the true level of discrimination will be underestimated. … However, this will be counterbalanced to an unspecified degree if the average values of the omitted variables are higher for the majority than for the minority group'*. Generally, however, it is believed that omitted variables bias leads to an over-estimation of the extent of discrimination.[57]

2. <u>Sample selection</u>. The wage equation is estimated only for the people that participate in the labour market; however, individuals facing the most discrimination are more likely to be excluded from the labour market. A selection

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[57] For a discussion and possible solution to this problem see Hashimoto and Kochin (1980). In particular, they suggest grouping the observations in a way which seems to be independent from measurement errors (they use "state of residence at age 16"). Battalio et al. (1978) analyse this problem in an experimental context.

bias is present if the variables that determine whether the individual is in the sample of people working or not (the independent variables in the participation equation) are correlated with the unmeasured variables that affect wages. In this case the expectation of the error term in the wage equation conditional on the sample selection rule is nonzero, and the ordinary least squares estimates of the coefficients of the wage regression are biased and inconsistent. This problem can be dealt with using Heckman two-step and maximum likelihood estimates; this procedure requires, however, the formulation of a probit model of participation in the labour market, and this is often no easy task.[58] In the case of female labour force participation, for example, probit models include variables such as marriage and number of children. But in the case of sexual orientation it is difficult to think of variables of this sort.

To alleviate some of the aforementioned problems some authors have proposed a different method to measure discrimination, known as reverse regression. It consists in holding the wage rate constant and in having each productivity proxy as a dependent variable. In presence of discrimination, the minority group will have higher mean values for the dependent variables for any given wage level. This method measures discrimination directly and not as a residual, but it has several drawbacks, including simultaneity and multicollinearity, which have led to a general preference for the forward regression technique.[59]

To conclude the previous discussion it is worth stressing the fact that any statistical measurement of discrimination should be interpreted with caution. Only a

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[58] On the sample selection problem, see Dolton and Makepeace (1986).

[59] For a review of the issues related to reverse regressions see Berndt (1991), Dex and Sloane (1988), Sloane (1985). For a more complete presentation of this approach see Kamalich and Polachek (1982); and for a critical analysis see Blau and Kahn (1985), and Goldberger (1984).

deeper knowledge of the institutional characteristics of the labour market, and indeed of society at large, can give us a better understanding of the processes through which discrimination operates.

CHAPTER THREE: DESCRIPTIVE STATISTICS

3.1 The National Child Development Study

The data set that will be used in this research is the National Child Development Study (NCDS). This is a continuing longitudinal study, which is targeting everyone that was born in Great Britain in the week 3-9 March 1958.[60] The members of this birth cohort were traced after their birth in five subsequent follow-ups: in 1965 (at the age of 7), in 1969 (at the age of 11), in 1974 (at the age of 16), in 1981 (at the age of 23), and in 1991 (at the age of 33). In sweeps 1 to 3 the target sample was augmented to include the immigrants born in the relevant week, but this operation was not attempted in the final two.

This data set was chosen because it represents one of the most significant studies of the British population in terms of the amount of information it conveys. In particular it clearly identifies people with a history of same-sex partnerships, and it records all the relevant data. This research will use mainly the fifth follow-up, which represents the period of greater stability for the cohort members: '…*the early 30s is a time when most people have completed their education and settled into some kind of occupation. Most will be financially self-sufficient and will rent or own their own*

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[60] The principal investigator is the City University Social Statistics Research Unit; the data collectors are the Social and Community Planning Research, NOP Market Research Limited, and Research Surveys of Great Britain. The study is sponsored by the Economic and Social Research Council, the Departments of Health, Social Security, Employment Training Agency, Employment, Education and Science, the Environment, the Transport and Road Research Laboratory, the Health and Safety Executive, and the United States National Institute for Child Health and Development.

home. The majority will have formed partnerships and started families.' [61] A cross-section study should be interpreted with reference to long-run or equilibrium conditions: considerations related to the business or political cycles cannot easily be inferred from this type of study. Most of the information that will be used in the present work is obtained or derived from the two self-completion questionnaires 'Your life since 1974' (cohort members' event history) and from the cohort members' interviews.[62]

All longitudinal studies, such as the NCDS, present the problem of attrition, i.e. the reduction of the sample with the passing of time due to unavoidable causes (such as emigration or death) or avoidable ones (such as untraced addresses). Another possible source of bias, present in all surveys, is the refusal of the sample-members to answer the questionnaires. The numerical extent of these two problems is illustrated in tables 3.1 and 3.2. Given these issues it is important to assess the representativeness of the sample with respect to the original population (people born in the week 3-9 March 1958). This is achieved through comparisons with earlier follow-ups. For selected variables, a percentage bias is calculated in the following way:

$$\{[(\text{NCDS5 achieved \%}) - (\text{Target \%})] / (\text{Target \%})\} * 100$$

where the target % is that of the original target sample excluding unavoidable losses. In general, percentage bias does not seem to be considerable, except for those cases where the presence in the target sample is small. '*Losses were greatest for the ethnic minority and immigrants groups [...]. They also suggest an under-representation of:*

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[61] *NCDS sweep 5 User guide* p. 4.

[62] The relevant data for this study was obtained from the Economic and Social Research Council Data Archive at the University of Essex and from the Social Statistics Research Unit at City University, London. For a general statistical description of the population in the NCDS5, see Ferri (1993).

low-achievement groups (e.g. those with low test scores); those with low aspirations (e.g. those who did not intend to stay on at school, or to engage in post-school study); those who are 'handicapped'; those with origins in the lower social classes; and those brought-up under poorer housing conditions'.[63]

Another point that needs to be considered is the following: the population under study, the members of the already mentioned cohort, is a sample of the total British population. In other words, we have to assess two different levels of representativeness: as we already mentioned, we need to check whether the respondents are a random sample of the chosen population, and whether that population can be considered as a random sample of the overall national population. To tackle this second set of problems, the data obtained from the NCDS is compared with those of other similar surveys. This has been done with reference to the 1991 'General Household Survey', and the 1991 'New Earnings Survey'. Again, the results are quite encouraging, and *'in a number of areas (economic status, marital status, gross weekly pay, tenure, and ethnicity) the characteristics of the achieved NCDS5 sample appeared to be broadly similar to those revealed by other surveys for people of similar age'.*[64] Levels of statistical significance are not reported in the NCDS User Guide, because given the sample size these tests are too sensitive to very small differences.

In the context of this study, the main variable of interest is that related to the inferred sexual orientation of the cohort members, its construction, and its statistical significance. All these points are dealt with in the following paragraph, where the

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[63] *NCDS sweep 5 User guide* p. 28. Also, see the User guide, table 9a, for a summary of the percentage biases for given variables.

[64] Ibid. p. 29. See table 9b, in the *NCDS User Guide*, for a full set of results.

relevant classification of the cohort members is presented. In the subsequent paragraphs the different groups are described according to the economic variables of interest.

3.2 Sexual orientation

The NCDS does not contain explicit information regarding the sexual orientation of the cohort members. Therefore the sexual orientation is inferred through the partnership history of the individual. In the relevant question of the cohort member interview at the beginning of section C, partners are defined as *'any people you may have lived with as a couple, for one month or more, whether or not you were actually married'*. 8.9% of the respondents declare never to have lived as a couple with anyone. The questionnaire goes on to ask in question C3a: "was partner the same sex as respondent?" In this study individuals are considered homo/bisexual (lesbian, gay, or bisexual, LGB for short) if they have had one or more same sex partner, as defined above, after the age of 16 and amongst the first eight. A complete quantitative description of this classification is given in table 3.3.[65]

The sample of LGB people that we obtain may suffer from three selection problems. First of all, it is possible to argue that LGB people are more represented, proportionally, in the group of those who did not participate in the NCDS survey. One possible reason may be due to the fact that the NCDS questionnaires abound in questions related to family issues (partnerships, marriage, children, and so on). LGB people may dislike disclosure of their personal life, or simply they may feel less interested and motivated in participating in this type of survey. Secondly, LGB cohort

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[65] All the data elaboration in this research has been done using SPSS 8.0. For a good introduction to the use of this software see Norušis (1998).

members were more likely not to answer, or to do so incorrectly, in order to conceal a type of behaviour that is not unanimously accepted by society at large. Finally the sample selection problem is linked to the definition of partners. LGB people may find it more difficult to enter into stable relationships, and even more so to actually live together with their partner. This is why they may be over-represented in the category of people that have never had a partner.

There is no simple solution to this problem, and trying to model the probability of participating in the survey, of answering correctly, or of living with a partner is quite an impossible task. A possible way out, at least for the last problem, is to re-define the two groups of interest. For simplicity we will continue to refer to homo/heterosexual people. However, to be more precise, we should keep in mind that the two groups that we are actually comparing are composed by people that have lived together for more than a month with a partner of the same or opposite sex respectively. The figures that are reported in table 3.3 are comparable to those in table 1.1, even if, as we might expect given the two selection problems just mentioned, the percentage of LGB people in our sample is smaller.

3.3 Gross Hourly Wages and Employment Status

The dependant variable in our model is gross hourly wages; this variable is calculated for part-time and full-time employees. The information that we obtain from the 'Cohort member interview' is the following: gross pay before deductions including overtime, how long a period this pay covers (one week, fortnight, four weeks, calendar month, year), and how many hours a week the cohort member usually works for this pay, excluding meal breaks, but including paid overtime. Given this information, gross hourly wages are immediately calculable. However, for a

considerable number of observations, the wage rate obtained in this way does not seem sensible. For this reason, the data has been cleaned following in part the work of P. Paci of the SSRU. Overtime work constitutes another important issue. Since it is included both in the recording of total income and of hours worked, it is taken into consideration in our measure, which, however, represents only a crude average of the hourly wage rate.[66] A final word of caution is necessary: the data obtained represents money wages and does not include other forms of benefits. For this reason it is an incomplete measure of total compensation.

Table 3.4 reports the number of valid and missing observations that we have for the six groups of people under examination. Only the proportion of people whose status is that of employees constitutes the total sample that is relevant in the calculation of gross hourly wages. The sample is reduced even further by a number of missing observations.

Table 3.5 reports the relevant statistics related to the gross hourly wage rate for the six groups. Three observations strike immediately. First of all, we can detect a reverse remuneration pattern for men and women. In the former case, heterosexual men enjoy the highest wage rate, followed by gay men and finally by men with no partner ever. In the case of women, those without any former partnership have the highest wage rate, followed by lesbians and then by women with past or present male partners. This observation, which will be commented on extensively later in this study, justifies the construction of separate models for men and women. Secondly, the standard deviation of gross hourly wages is smaller for LGB people. This is due

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[66] A more precise measure of the gross hourly wage rate could be possible using the information given in the CM interview, but no derived series has been yet elaborated, and this task has not been attempted in this study.

mainly to the small size of the sample. However, it may also follow from their occupational choice strategies. Again, this will become more clear as the analysis progresses. Thirdly, as expected, the distribution of the wage rate is skewed for all six groups. This suggests the use of a logarithmic transformation of this variable in the regression model.

The wage rate is one indicator of the relative position of individuals that are working. However, to assess the presence of discrimination in the labour market, we also need to look at the employment rate. Table 3.6 clearly shows that the unemployment rate for LGB people is higher than both the total average and the rate of the corresponding heterosexual group (in the case of gay men the unemployment rate is more than twice the total average). Furthermore, amongst those that at the time of the survey were not unemployed, the percentage of LGB that had been unemployed for a month or more is higher than that of heterosexual people. In the case of men the figures are respectively 29.1% and 23.9%, and in the case of women 28.0% and 20.6%. Even the number of these unemployment spells is higher for LGB people. Gay men had been unemployed more than once in 45.5% of the cases against 32.6% in the cases of heterosexual men; and the corresponding figures for women are 40% and 29.1% respectively. It is also worth noting that, from a statistical point of view, this difference in employment rates is a cause of concern because it may be a further source of sample selection.

One important aspect of discrimination is related to internal labour markets. In the case of unobservable characteristics such as sexual orientation, it might be easy to conceal certain aspects of one's private life at the recruitment stage. However this becomes more difficult as time passes and has two possible outcomes. The individual might invest less in firm specific social capital to keep his or her privacy, or he/she

decides to be open about his or her sexual orientation. In both cases a possible consequence might be a limitation in the possibilities of career advancement. Table 3.7 shows whether an individual has been promoted to a higher grade or position while working for the current or most recent employer and how many times this happened. The data suggests two opposite outcomes for men and women. In the case of men, the same percentage of gay and heterosexual men received a promotion, but the second group seems to benefit from a larger number of promotions. In the case of women, lesbians seem to have a better career advancement, at least with respect to the number of promotions.

3.4 Control variables

According to human capital theory, people invest in education to enhance their productivity and enjoy higher wages later in their working lives. Measuring education is a difficult task, since many factors should be accounted for, including those related to the quality of the education received. In this research, we follow the common convention of using the highest qualification achieved as a proxy for the level of education. The cohort member interview reports the list of all the qualifications obtained at any time grouped in 33 categories. In this study, this classification has been simplified, grouping all the professional qualifications in the six National Vocational Qualifications categories and merging them with the equivalent academic qualifications in the following manner:

CSE 2-5/equiv NVQ1	CSE (grade 2-5), Royal Society of Arts Awards (RSA) stage 1, Technical or Business Qualifications HGV, PSV, and similar.
O Level/equiv. NVQ2	CSE (grade 1), GCE O Level (passes or grades A-C), GCSE (grades A-C), Scottish O Grade (passes or grade A-C), Scottish Standard Grade (grades 1-3), RSA (stage 2-3), City and Guilds and Regional Examining Board Certificates (operative, craft/intermediate/ordinary/part I, CGIA, other), JIB/NJC. or other Craft/technician certificate
A Level/equiv. NVQ3	GCE A Level; Scottish Higher Grade; Scottish Certificate of Sixth Year Studies; City and Guilds (advanced or final, part II or III); ONC/OND (or SNC/SND); TEC, BEC, BTEC (or SCOTEC, SCOTBEC, SCOTVEC) National or General Certificate or Diploma
Higher qual. NVQ4	City and Guild FTC; HNC/HND (or SHNC/SHND); TEC, BEC, BTEC (or SCOTEC, SCOTBEC, SCOTVEC) Higher or Higher National Certificate or Diploma; Full or part of a professional qualification; Nursing qualification; Polytechnic, University or CNAA Diploma or Certificate (including Dip. HE and Teacher training College Certificate)
Degree/higher NVQ5,6	University or CNAA first Degree, Post-graduate Diploma, or Higher Degree.

Figures on highest educational qualification achieved are reported in table 3.8; no strong pattern can be easily detected.

Another factor which influences productivity is on-the-job training, which is usually considered to be a function of years of experience and years of experience squared (to account for decreasing marginal returns). This study follows the convention to proxy experience with potential experience, which is defined as age minus age at the end of continuing education. This measure is less reliable for women because of intermittent labour force participation due to child bearing and rearing. A further variable that will be used in the regression model in the following chapter

concerns the participation of the cohort member in 'any training courses designed to help [him or her] develop skills that [he or she] might use in a job'.[67]

The desirability to include certain variables to proxy compensating differentials was already discussed in chapter two. These variables are those related to the occupation, industry and sector where the cohort member works. Given their controversial role, models will be estimated with and without them. In the case of occupations, the 1991 RGs social class categories were used. For the industrial sector, the 1980 Standard Industrial Classification was adopted; the 1980 version was preferred to the 1991 one because it presents fewer categories and this is helpful given the small sample used[68]. Sectors have been defined according to the type of ownership, whether private or public.

Other variables that influence the wage rate and that will be included in the regressions are the following: membership in a union or staff association, region of residence, size of the firm/organisation in terms of number of employees, workers' ethnic groups.[69]

A summary of the relevant statistics concerning the variables mentioned above is presented in tables 3.9 and 3.10. The percentages are calculated in relation to each classification of individuals. For each variable, the totality of valid observations is considered and not just related to employees. This allows one to better describe the sample of LGB people, which otherwise would be too restricted. However, the

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[67] More precise information on training courses could be derived from the NCDS, but it could not be used in our model due to the scarcity of valid observations.

[68] For a complete description of this classification see Central Statistical Office (1981).

[69] It is not the purpose of this study to explain the role of all the variables mentioned. Different models of the labour market, including bargaining and search models, models of imperfect competition and models of discrimination explain this role.

general patterns shown below, do not change substantially if we were only to consider employees, who are the main focus of this study. Variables related to the jobs held by the individuals refer to the current or most recent job (if the person did not have one at the time of the survey). The sample of LGB people is too small to make strong inferences, nevertheless a few observations are possible.

Given that all individuals belong to the same cohort, potential experience does not differ greatly between groups. Participation in work related courses is highest for LGB people. Concerning region of residence, the biggest difference in percentage terms regards the London area, where there is the highest proportion of LGB people, possibly due to the cosmopolitan and tolerant environment. No strong pattern emerges in relation to firm size; however, the biggest percentage of gays and lesbians works in medium and small size firms respectively. Occupational strategies are difficult to identify, given the broad categories adopted, but managerial and technical positions within the service sector seem to attract the highest percentage of LGB people. Furthermore, in relation to the other groups, they tend to have a stronger presence in the government and charitable sectors.

APPENDIX THREE

TABLE 3.1: NCDS5 Tracing rates

Survey Element and Status	n	%
TARGET SAMPLE (all known Cohort Members, less known deaths)	**16,455**	**100**
TRACING OF COHORT MEMBERS PRIOR TO SURVEY		
Traced but not issued to field	**789**	**5**
- Emigration	228	1
- Refusal	480	3
- Deaths	81	<1
Issued to field	**15,666**	**95**
- Traced before fieldwork (address confirmed)	12,219	74
- Untraced before fieldwork ('gone away', etc.)	3,447	21
TRACING OF COHORT MEMBERS DURING FIELDWORK		
Names and addresses of CMs issued to field	**15,666**	**100**
-untraced (after interviewer tracing)	2,225	14
- traced by interviewer during fieldwork	13,441	68

Source: National Child Development Study, Sweep 5, User Guide, table 4.

TABLE 3.2: NCDS5 Survey Response

COHORT MEMBER INTERVIEWS	n	%
CMs traced by interviewers during fieldwork	13,441	100
- <u>Traced but not interviewed</u>	<u>2,078</u>	<u>15</u>
Emigration	261	2
Refusal	1,338	10
Deaths	31	0
Address confirmed but no interview	448	3
- <u>Traced and interviewed</u>	<u>11,363</u>[a]	<u>85</u>

a This number becomes 11,407, due to the inclusion of 'Supplementary' and 'Emigrant' postal surveys.
Source: National Child Development Study, Sweep 5, User Guide, table 7.

TABLE 3.3: Sex and Sexual Orientation of Cohort Members

	Frequency	Percent	Valid percent
MEN	**5,559**	**48.7**	**49.1**
Gay, Bisexual (G/B)	89	0.8	0.8
Heterosexual	4851	42.5	42.8
No partner ever	619	5.4	5.5
WOMEN	**5,767**	**50.6**	**50.9**
Lesbian, Bisexual (L/B)	80	0.7	0.7
Heterosexual	5,290	46.4	46.7
No partner ever	397	3.5	3.5
TOTAL VALID	**11,326**	**99.3**	**100**
MISSING	**81**	**0.7**	
TOTAL	**11407**	**100**	

TABLE 3.4: Valid and missing values for gross hourly wages

	G/B M	H M	M no P	L/B W	H W	W no P[1]
Number of employees	**68**	**3655**	**416**	**46**	**3167**	**313**
Valid observations	63	3236	376	38	2692	284
Missing values	5	419	40	8	475	29

1. The abbreviations that will also be used in the following tables stand for the following: G/B M. (gay or bisexual men), H. M. (heterosexual men), M. no P. (men without partners ever), L/B W. (lesbian or bisexual women), H. W. (heterosexual women).

TABLE 3.5: Gross Hourly Wage Statistics

			Statistic
Gross Hourly Wages	Gay Men	Mean	7.64
		5% Trimmed Mean	7.47
		Median	6.84
		Std. Deviation	2.98
		Minimum	2.86
		Maximum	15.77
		Skewness	0.85
		Kurtosis	0.24
	Heterosexual Men	Mean	7.88
		5% Trimmed Mean	7.53
		Median	7.18
		Std. Deviation	3.91
		Minimum	2.05
		Maximum	69.23
		Skewness	3.69
		Kurtosis	34.13
	Men, no partner ever	Mean	6.88
		5% Trimmed Mean	6.52
		Median	5.94
		Std. Deviation	3.45
		Minimum	2.25
		Maximum	27.24
		Skeweness	1.85
		Kurtosis	5.46
	Lesbians	Mean	6.28
		5% Trimmed Mean	6.08
		Median	5.55
		Std. Deviation	2.77
		Minimum	2.27
		Maximum	15.18
		Skeweness	1.16
		Kurtosis	1.68
	Heterosexual women	Mean	5.58
		5% Trimmed Mean	5.33
		Median	4.82
		Std. Deviation	2.86
		Minimum	2.01
		Maximum	30.45
		Skeweness	1.77
		Kurtosis	6.19
	Women, no partner ever	Mean	6.49
		5% Trimmed Mean	6.28
		Median	5.87
		Std. Deviation	2.90
		Minimum	2.14
		Maximum	18.75
		Skeweness	1.10
		Kurtosis	1.66

TABLE 3.6: Cohort members' current labour market status

Current status	G/B M.	H. M.	M no P	L/B W.	H. W.	W no P	Total
Full-time paid employee	76.4%	74.6%	66.6%	36.3%	29.5%	71.5%	52.7%
Part-time paid employee	---	0.8%	0.6%	21.3%	30.4%	7.3%	15.0%
Full-time self employed	10.1%	16.2%	12.3%	2.5%	3.5%	3.5%	9.5%
Part-time self-employed	1.1%	0.3%	0.3%	2.5%	3.4%	1.0%	1.8%
Unemployed	9.0%	5.1%	12.6%	5.0%	1.9%	4.0%	4.0%
Full-time education	---	0.4%	0.3%	2.5%	0.9%	0.3%	0.6%
Temporarily sick- disabled	1.1%	0.4%	0.5%	---	0.2%	0.8%	0.3%
Permanently sick-disabl.	2.2%	1.2%	5.7%	1.3%	0.6%	4.0%	1.3%
Home/family care	---	0.5%	0.2%	27.5%	29.1%	6.0%	14.2%
Other	---	0.6%	1.0%	1.3%	0.5%	1.5%	0.6%
Total count of respondents	89	4846	619	80	5285	397	11316

TABLE 3.7: Promotions

	G/B M.	H. M.	M no P	L/B W.	H. W.	W no P	Total
Number and percent of CMs	38	1944	205	26	1397	153	3763
promoted to a higher grade	50%	50.7%	41.4%	37.7%	31.2%	43.7%	40.5%
Total count of respondents	76	3832	495	69	4480	350	9302
Number of promotions							
One	50.0%	43.5%	49.8%	50.0%	55.4%	51.6%	48.7%
Two	26.3%	23.3%	25.6%	15.4%	23.1%	19.6%	23.2%
Three	10.5%	14.6%	11.8%	15.4%	10.8%	13.1%	13.0%
Four or more	13.2%	18.5%	12.8%	19.2%	10.6%	15.7%	15.1%
Total count of respondents	38	1932	203	26	1393	153	3745

TABLE 3.8: Highest Educational Qualifications

		G/B M	H. M.	M. no P.	L/B W	H. W.	W. no P	Total
No qual.	count	7	508	103	11	706	73	1408
	percent	8%	10.8%	16.9%	14.1%	13.6%	18.6%	12.7%
NVQ1	count	12	499	86	10	729	33	1369
	percent	13.6%	10.6%	14.1%	12.8%	14%	8.4%	12.3%
NVQ2	count	28	1474	160	28	2000	96	3786
	percent	31.8%	31.2%	26.2%	35.9%	38.5%	24.5%	34.1%
NVQ3	count	14	888	98	6	512	45	1563
	percent	15.9%	18.8%	16.1%	7.7%	9.8%	11.5%	14.1%
NVQ4	count	13	704	62	8	704	76	1567
	percent	14.8%	14.9%	10.2%	10.3%	13.5%	19.4%	14.1%
NVQ5,6	count	14	652	101	15	547	69	1398
	percent	15.9%	13.8%	16.6%	19.2%	10.5%	17.6%	12.6%
Total count		88	4725	610	78	5198	392	11091

TABLE 3.9: Potential Experience, Training, Region, Size of Firm/Organisation.

		G/B M.	H. M.	M no P	L/B W.	H. W.	W no P	Total
Potential experience	Mean	15.63	15.64	15.35	15.34	15.58	14.90	15.56
	St. Deviation	1.9	3.49	2.09	1.90	1.80	2.16	1.87
Training	Yes	66.3%	56.4%	45.7%	46.3%	38.7%	48.2%	46.8%
	No	33.7%	44.6%	54.3%	53.8%	61.3%	51.8%	53.2%
	Total count	89	4836	619	80	5285	394	11303
Ethnic group	White	98.9%	97.4%	98.4%	94.8%	97.9%	97.7%	97.7%
	Black	1.1%	0.9%	0.5%	3.9%	1.0%	0.6%	1.0%
	Asian	---	1.2%	0.2%	1.3%	0.7%	1.0%	0.9%
	Other	---	0.5%	0.9%	---	0.4%	0.7%	0.4%
	Total count	89	4828	613	78	5273	395	11276
Region								
1. North		16.9%	27.0%	22.9%	23.8%	27.0%	23.9%	26.6%
2. Midlands and East Anglia		22.5%	20.3%	20.6%	20.0%	19.1%	16.3%	19.6%
3. South West		3.4%	8.7%	8.6%	5.0%	9.1%	5.6%	8.7%
4. South East		24.7%	24.0%	23.8%	21.3%	23.9%	21.1%	23.8%
5. London		19.1%	5.9%	9.7%	17.5%	6.5%	10.9%	6.8%
6. Wales		7.9%	5.5%	4.7%	8.8%	5.2%	8.7%	5.5%
7. Scotland		5.6%	8.5%	9.7%	3.8%	9.2%	13.5%	9.0%
Total count of respondents		89	4833	617	80	5258	393	11270
Size of firm/organisation								
1. 1-10 people		14.3%	13.1%	11.7%	32.4%	23.8%	14.2%	13.3%
2. 11-25 people		13.0%	13.1%	15.1%	14.7%	17.8%	13.9%	15.5%
3. 26-99 people		33.8%	24.4%	24.9%	14.7%	21.5%	24.9%	23.0%
4. 100-499 people		15.6%	26.7%	26.2%	22.1%	19.5%	26.9%	23.1%
5. 500+ people		23.4%	22.8%	22.1%	16.2%	17.5%	20.2%	20.1%
Total count of respondents		77	3802	489	68	4377	346	9159

TABLE 3.10: Occupation, Industry, Sector, and Union Membership.

	G/B M	H. M.	M no P	L/B W.	H. W.	W no P	Total
Occupation							
1. Professional	4.9%	7.4%	7.5%	4.2%	2.4%	5.9%	5.0%
2. Managerial/tech	46.9%	32.5%	29.2%	31.0%	29.1%	41.2%	31.1%
3. Skilled non-manual	7.4%	10.5%	13.1%	32.4%	37.1%	28.6%	23.7%
4. Skilled manual	28.4%	34.1%	27.2%	9.9%	7.3%	6.7%	20.3%
5. Partly skilled	9.9%	12.3%	17.4%	18.3%	18.4%	14.0%	15.5%
6. Unskilled	2.5%	3.2%	5.7%	4.2%	5.7%	3.6%	4.5%
Total count of respondents	81	4588	559	71	4838	357	10494
Industry SIC 1980							
1. Agriculture, forestry, fishing.	1.9%	1.6%	3.0%	---	0.6%	---	1.1%
2. Energy and water supply industries.	5.7%	4.0%	2.2%	---	1.2%	1.3%	2.5%
3. Extraction/manufacture of metals	---	4.2%	3.5%	3.4%	1.4%	2.7%	2.7%
4. Metal goods, engineering and vehicle industries.	9.4%	13.2%	14.6%	5.1%	3.5%	5.3%	8.3%
5. Other manufacturing industries.	5.7%	9.3%	10.2%	6.8%	7.2%	4.9%	8.1%
6. Construction.	3.8%	9.3%	7.5%	3.4%	1.3%	2.2%	5.0%
7. Distribution, hotels, catering, repairs.	17.0%	12.4%	13.7%	10.2%	22.7%	15.5%	17.5%
8. Transport and communication.	9.4%	11.6%	7.5%	3.4%	4.4%	2.2%	7.5%
9. Banking, finance, insurance, busin. services	17.0%	14.1%	10.8%	15.3%	14.5%	14.2%	7.5%
10. Other services	30.2%	20.3%	27.0%	52.5%	43.3%	51.8%	14.2%
Total Count of Respondents	53	2935	371	59	3368	226	7012
Sector							
1. Private firm or company.	66.2%	70.2%	67.4%	55.1%	58.0%	52.7%	63.4%
2. Nationalised industry/ public corporation.	10.4%	8.7%	6.1%	7.2%	5.0%	5.5%	6.7%
3. Local Authority/ Local Educational Authority.	9.1%	9.6%	10.9%	18.8%	16.6%	19.0%	13.5%
4. Health Authority/ Hosp.	1.3%	2.3%	4.0%	7.2%	9.6%	12.1%	6.3%
5. Central Government/ Civil Service	6.5%	5.7%	8.1%	4.3%	5.3%	3.5%	5.6%
6. Charity or Trust	3.9%	0.7%	1.6%	1.4%	2.5%	2.9%	1.7%
Total Count of Respondents	75	3724	485	65	4347	332	9028
Member of **union** or staff association	56	3128	421	60	4080	251	7996
	62.9%	64.8%	68.7%	75%	77.5%	63.7%	71.0%
Total count of respondents	89	4824	613	80	5266	394	11266

CHAPTER 4: SEXUAL ORIENTATION DISCRIMINATION

4.1 Methodological issues

In chapter two the empirical issues related to the detection and measurement of discrimination were described and three different ways to quantify discrimination were outlined. All of them are based on a wage regression, but they differ on the way the minority group is taken into account. One possible solution is to introduce a dummy variable for the minority group under examination, in this case homosexuals. This approach has been criticised because it allows only the intercept term to shift and not the coefficients. For this reason, a second alternative is to introduce interaction dummies if it is believed that certain characteristics have a different shadow price for the two groups. The most general approach is to run two separate regressions for the two groups and to calculate the expected wage of the minority group using the coefficients of the majority group's wage equation.

All three methods have been attempted, but only the first one led to some satisfactory result. First of all, two sets of wage regressions have been estimated for men and women. This was necessary because, as we saw in chapter 3, homosexuality seems to have different labour market consequences for men and women. A dummy for homo/bisexuality was introduced in each regression. [70] Then interaction dummies were constructed and added to the model. This attempt did not increase the explanatory power of the model, and the interaction dummies themselves resulted in having very small and insignificant coefficients. On a theoretical point of view, note 50 already mentioned some possible reasons why membership to a specific group

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[70] Once more, in this study homosexuals are those who have, or had, same-sex partners.

could affect the coefficients of the control variables. These are measurement in the regressors and omitted productivity-related characteristics. An example of the former concerns a situation in which the two groups have access to schooling of different qualities, so that the highest qualification obtained does not measure adequately the relative level of education that the individuals possess. It is difficult to think of situations of this type in the context of sexual orientation. The second explanation is relevant, for example, in the case of different labour force attachment. This case could be relevant for women: it is likely that, in general, lesbians have less family commitments and therefore are more attached to the labour market. According to the results presented in table 3.6, this seems to be the case in our sample. For this reason interaction dummies were constructed using the lesbian dummy and the part-time and potential experience dummies, but the conclusions were not modified significantly.

The very small number of observations makes it difficult to estimate separate regression for gays and lesbians. Several different specifications of the model were attempted. Grouping the dummies within each category according to their coefficients and significance drastically reduced the number of independent variables. In the case of gays, this made it possible to attempt and pursue this methodology. The conclusions however were not robust to different model specifications and therefore not very useful.[71]

The variables used in the regression model have already been described in chapter 3. As far as the choice of controls is concerned, the most problematic aspect is represented by the inclusion of variables related to industry, occupation and sector.

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[71] Supposedly, similar difficulties must have emerged in the only two econometric studies that have been attempted so far on sexual orientation discrimination. Both Badgett (1995) and Klawitter and Flatt (1998) in fact use the dummy variable approach.

This point has been discussed in chapter two, where it was suggested that the independent variables should be exogenous to the process of discrimination. The statistics presented in the last chapter, with respect to the unemployment rate and number of promotions, suggest that LGB people may indeed face employment and occupational barriers; in this case the inclusion of industry, occupation and sector dummies would not be appropriate. In any case, following Oaxaca (1973), two sets of regressions were estimated for men and women, with and without the controversial variables just mentioned. The two models are labelled full-scale and reduced wage regressions.

Another problem that was encountered in relation to control variables is represented by the considerable number of missing values for each such variable.[72] The consequence of this problem is the reduction of the sample size. Besides, when different specifications of the model are used, the sample size is modified. This problem can be tackled in the case of dummy variables in the following way. A missing value dummy for each control is computed; this new variable takes the value of 1 if the value of the control is missing and 0 otherwise. The missing values of the control variables are then set equal to zero and both the missing value dummies and the modified control variables are included in the regression. If the missing value dummy is significant, it means that those who do not report that information earn a different hourly wage to those who do.[73]

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[72] This problem was still present even if for most variables (like region, occupation, industry and sex) the revised data elaborated by the SSRU Cohort Studies Centre was used.

[73] This procedure was taken from Hughes (1998).

4.2 Models' description

We will start to examine the two models that are estimated for the male sample and that are described in tables 4.1 to 4.5. The first point to be checked regards the possible multicollinearity among the independent variables.[74] Collinearity implies that one variable is (almost) a linear combination of the other independent variables so that the estimate of the coefficient is unstable and computations are numerically inaccurate.[75] For this reason tolerance statistics were computed for each variable. SPSS computes this statistics, which ranges from 0 to 1, in the following way:

$$\text{tolerance} = 1 - R_i^2$$

R_i^2 is the squared multiple correlation of that variable with the other independent variables. In other words, for each independent variable, the tolerance is the proportion of variability that is not explained by its linear relationships with the other independent variables. In models 1 and 2 this statistics is never below 0.2 (except of course for the case of potential experience and potential experience squared) and it is usually well above that value. Furthermore, the normality assumption cannot be rejected on the basis of normality tests on residuals.[76]

According to the overall F statistics, in both cases we can reject the null hypothesis that all population coefficients are 0. The R^2 statistics are good in both cases relative to this type of models, i. e. wage regressions. Most of the variables included in the models are highly significant and the signs of the coefficients are

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[74] For a complete description of the way the following results are computed see the SPSS® Base 8.0 application guide

[75] In particular coefficients may have the wrong sign, the estimate of the coefficients are very sensitive to changes in data values, and the F and t statistics may lead to contradictory results.

[76] For a visual analysis see figures 4.1 and 4.2.

those that we would expect from economic theory.[77] In particular they are positive for participation in training courses and potential experience, negative for potential experience squared to indicate decreasing marginal returns, and negative for the part-time dummy. Union membership presents a less usual result: it is significant only in the second model with a negative sign. Concerning the educational dummies, they are all highly significant with positive signs; it also appears that returns to education increase with the qualification obtained, together with the significance level.[78] Regional dummies are highly significant and positive for people living in the London area and in the South East. Dummies representing the size of the firm or organisation enter with a negative sign, since they indicate people working in small-medium sized enterprises. The most significant industry dummies are those related to the energy and financial sectors, with the expected positive sign. Occupational dummies are again highly significant and have a positive sign given that the reference category is partly/non-skilled workers. The dummy for public and charitable sector workers is significant and negative. Most of the missing value dummies are not significant.

Concerning the variable of interest in this study, the gay/bisexual dummy is negative in both models and significant at a 10% confidence level in the second one. The residual difference in mean hourly wages that cannot be explained by the control variables and that can be interpreted as discrimination amounts to 7-8%.[79]

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[77] The dummy for the ethnic group was omitted since the population is almost entirely white and the coefficient resulted close to 0 and insignificant.

[78] In this study the use of proxies for ability levels was not attempted. For an examination of this issue using the NCDS dataset, see Dearden (1998).

[79] It was already mentioned that attempts to estimate a separate regression for gays was not successful. Most of the coefficients were insignificant, but most importantly there were severe departures from normality, which made test procedures invalid

Tables 4.6 to 4.8 illustrate the model that was estimated for the female sample.[80] Comparing this model with the previous two, a few observations are possible. The R^2 is higher. The dummy for union membership is now positive and significant, as is the one for public and charitable sector workers. Returns to education are less significant, and the coefficients of the industry dummies are positive and mainly significant. Concerning the dummy of interest, the one related to lesbian and bisexual women, it is small and positive, but non-significant.

A similar model to the reduced wage regression number two was estimated for women as well. The results are not reported, because they do not add any new insights. The only point of interest is that the coefficient on the lesbian/bisexual dummy becomes very close to 0 (-0.0006) and even less significant (t = -0.012).

4.3 Conclusion

The results that we have obtained are somehow similar to the ones presented in the two studies by Badgett (1995), and Klawitter and Flatt (1998), using two North-American datasets, the General Social Survey and the U.S. 1990 Census. In the first one the coefficients for the LGB dummy are negative and not significant for women, negative and significant for men.[81] In the second one, the coefficients are significant for both men and women but negative for the formers and positive for the latters.[82]

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[80] This model too was tested for non-collinearity and normality.

[81] In particular she derives three estimates for women and two for men according to different definitions of homosexuality. These are respectively: -0.35 (absolute value of t statistics = 1.1), -0.32 (1.1), -0.12 (0.3), -0.28 (2.3), and –0.31 (2.6).

[82] These are –0.301 (SE 0.041) for men and 0.164 (SE 0.048) for women.

In the previous chapter we have seen that mean gross hourly wages are lower for gays than for heterosexual men, and higher for lesbians than for heterosexual women. After we have controlled for factors that affect the wage rate and that are related to workers' productivity and compensating differentials, we see that for men this difference persists and is significant at least in one specification of the model. Given the residual nature of this difference it is difficult to give it a definite interpretation; to understand it, we need to look at the institutional arrangements of the labour market and at the structure of the British society. This last type of consideration, however, can only reinforce the opinion that at least some of the wage differential is due to discrimination. In the case of women, it is possible to argue that the difference in gross hourly wages that we observed in the third chapter has been explained by the control variables that we have introduced in the model of wage determination.

APPENDIX FOUR

TABLE 4.1: Model 1

Model 1	FULL-SCALE WAGE REGRESSION			
Dependent variable: natural logarithm of gross hourly wages				
Sample: Male Employees		N = 2788		
R square: 0.427	Adjusted R square: 0.418		Std. error of the estimate: 0.316	
ANOVA	**Sum of Squares**	**df**	**Mean square**	**F**
Regression	204.569	41	4.989	49.918
Residual	274.473	2746	0.099	
Total	479.042	2787		

TABLE 4.2: Model 2

Model 2	REDUCED WAGE REGRESSION			
Dependent variable: natural logarithm of gross hourly wages				
Sample: Male Employees N = 2788		Excluded variables: industry, occupation, sector		
R square: 0.358	Adjusted R square: 0.352		Std. error of the estimate: 0.334	
ANOVA	**Sum of Squares**	**df**	**Mean square**	**F**
Regression	171.438	24	7.143	64.163
Residual	307.604	2763	0.111	
Total	479.042	2787		

TABLE 4.3: Variables' statistics

Variables[1]	Mean[2]	Std. Dev.	Variables	Mean	Std. Dev
ln gross hourly wage	1.9824	0.415	region 1	0.26	0.44
gay/bisex.	0.019	0.14	region 2	0.34	0.47
NVQ1	0.094	0.29	region 3	0.24	0.44
NVQ2	0.29	0.46	region 4	0.05	0.22
NVQ3	0.19	0.39	industry 1	0.007	0.08
NVQ4	0.17	0.37	industry 2	0.03	0.17
NVQ5	0.16	0.36	industry 3	0.03	0.17
union	0.45	0.50	industry 4	0.10	0.30
part-time	0.007	0.088	industry 5	0.07	0.26
training	0.64	0.48	industry 6	0.04	0.21
pot. experience	15.54	1.9	industry 7	0.08	0.28
pot. experience sq.	245.19	52.82	industry 8	0.08	0.27
size1	0.11	0.318	industry 9	0.10	0.30
size2	0.11	0.323	occupation 1	0.07	0.26
size3	0.25	0.432	occupation 2	0.34	0.48
size4	0.28	0.449	occupation 3	0.11	0.31
public sector	0.27	0.446	occupation 4	0.29	0.45

1. For a more complete description of the variable names, see table 4.4.
2. Since most of the variables are dummies, the mean values refer to the valid percentage.

TABLE 4.4: Model 1 Coefficients

Variables	Coefficient	Std. Error	t	Sig.
Constant	0.569	0.310	1.836	0.066
Gay/Bisexual dummy	-0.070	0.044	-1.592	0.112
Union membership	0.018	0.014	1.297	0.195
Participation in training courses	0.074	0.014	5.373	0.000
Potential experience	0.186	0.046	4.077	0.000
Potential experience squared	-0.074	0.002	-4.516	0.000
Part-time dummy	-0.161	0.068	-2.359	0.018
Highest qualification dummies				
1. NVQ1	0.059	0.029	2.017	0.044
2. NVQ2	0.147	0.025	5.907	0.000
3. NVQ3	0.149	0.027	5.411	0.000
4. NVQ4	0.235	0.029	8.125	0.000
5. NVQ5,6	0.287	0.035	8.229	0.000
('no qualifications' is not dummied)				
Regional dummies				
1. North	-0.044	0.026	-1.68	0.093
2. Midlands, E. Anglia, S. West, Wales	-0.024	0.024	-1.00	0.317
3. South East	0.143	0.027	5.353	0.000
4. London	0.151	0.036	4.245	0.000
(Scotland is not dummied)				
Firm size dummies				
1. 1-10 people	-0.263	0.023	-11.348	0.000
2. 11-25 people	-0.122	0.022	-5.481	0.000
3. 26-99 people	-0.121	0.018	-6.751	0.000
4. 100-499 people	-0.030	0.017	-1.749	0.080
('500+ people' is not dummied)				
Industry dummies				
1. Agriculture, forestry, fishing	-0.178	0.077	-2.316	0.021
2. Energy and water supply industries	0.193	0.040	4.857	0.000
3. Extraction/manufacture of metals	0.033	0.040	0.837	0.403
4. Metal goods, engineering, vehicle industr.	0.032	0.029	1.117	0.264
5. Other manufacturing industries	0.030	0.031	0.972	0.331
6. Construction	0.085	0.035	2.458	0.014
7. Distribution, hotels, catering, repairs.	-0.019	0.030	-0.624	0.533
8. Transport and communication	-0.037	0.029	-1.305	0.192
9. Banking, finance, insurance, business serv.	0.200	0.028	7.165	0.000
('Other services' is not dummied)				
Public sector dummy	-0.036	0.017	-2.095	0.036
Occupational dummies				
1. Professional	0.234	0.032	7.349	0.000
2. Managerial/tech.	0.280	0.023	11.955	0.000
3. Skilled non-manual	0.196	0.027	7.217	0.000
4. Skilled manual	0.089	0.021	4.268	0.000
('Partly and non-skilled' is not dummied)				
Missing value dummies				
m union	0.032	0.097	0.334	0.739
m training	-0.059	0.121	-0.486	0.627
m region	0.072	0.103	0.696	0.487
m highest qualification	0.111	0.047	2.379	0.017
m size	-0.185	0.072	-2.555	0.011
m occupation	0.191	0.032	5.873	0.000
m sector	-0.016	0.037	-0.423	0.672
m industry	0.024	0.23	1.006	0.315

TABLE 4.5: Model 2 Coefficients

Variables	Coefficient	Std. Error	t	Sig.
Constant	0.136	0.321	0.424	0.671
<u>Gay/Bisexual dummy</u>	<u>-0.08</u>	<u>0.046</u>	<u>-1.734</u>	<u>0.083</u>
Union membership	-0.03	0.014	-2.287	0.022
Participation in training courses	0.108	0.014	7.654	0.000
Potential experience	0.282	0.047	5.973	0.000
Potential experience squared	-0.011	0.002	-6.647	0.000
Part-time dummy	-0.211	0.072	-2.947	0.003
Highest qualification dummies				
1. NVQ1	0.075	0.031	2.432	0.015
2. NVQ2	0.195	0.026	7.626	0.000
3. NVQ3	0.228	0.028	8.192	0.000
4. NVQ4	0.348	0.029	12.006	0.000
5. NVQ5,6	0.403	0.035	11.519	0.000
('no qualifications' is not dummied)				
Regional dummies				
1. North	-0.03	0.024	-1.248	0.212
2. Midlands, E. Anglia, S. West, Wales	-0.013	0.024	-0.556	0.578
3. South East	0.177	0.025	7.111	0.000
4. London	0.178	0.035	5.078	0.000
(Scotland is not dummied)				
Firm size dummies				
1. 1-10 people	-0.273	0.024	-11.412	0.000
2. 11-25 people	-0.112	0.023	-4.817	0.000
3. 26-99 people	-0.121	0.019	-6.521	0.000
4. 100-499 people	-0.037	0.018	-2.076	0.038
('500+ people' is not dummied)				
Missing value dummies				
m union	-0.0368	0.101	-0.363	0.716
m training	-0.0247	0.127	-0.194	0.846
m region	0.0958	0.108	0.884	0.377
m highest qualification	0.119	0.049	2.415	0.016
m size	-0.221	0.076	-2.911	0.004

FIGURE 4.1: Model 1 Residuals and Normal Curve

Model 1

Dependent var.: ln gross hourly wages

Std. Dev = .99
Mean = 0.00
N = 2788.00

Regression Standardized Residual
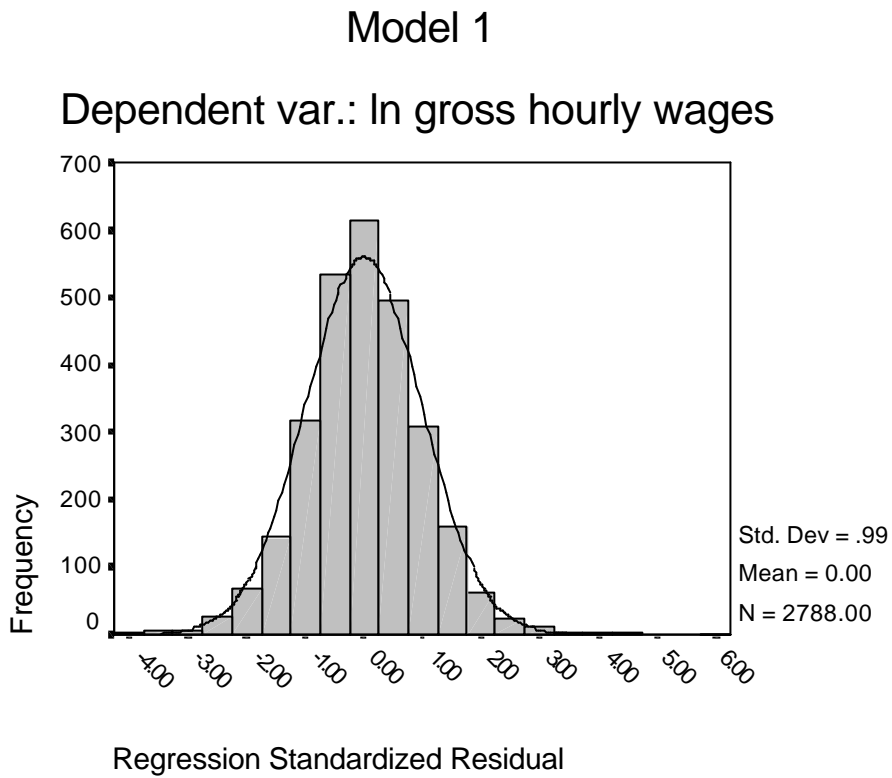
FIGURE 4.2: Model 2 Residuals and Normal Curve

Model 2

Dependent Var.: ln gross horly wages

Std. Dev = 1.00
Mean = 0.00
N = 2788.00

Regression Standardized Residual
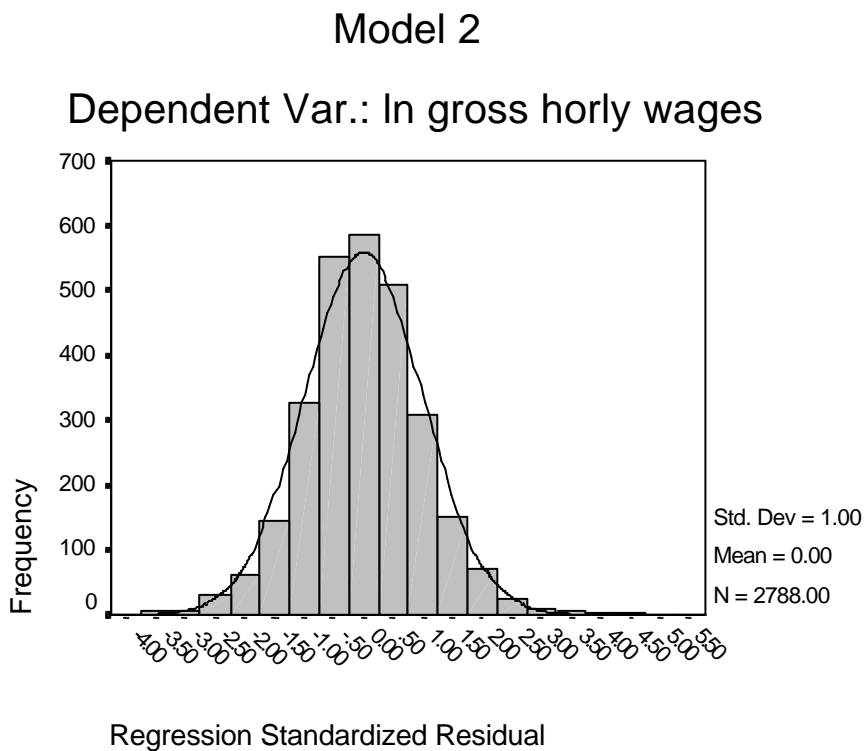
TABLE 4.6: Model 3

Model 3	FULL-SCALE WAGE REGRESSION			
Dependent variable: natural logarithm of gross hourly wages				
Sample: Female Employees		N = 2421		
R square: 0.627	Adjusted R square: 0.620		Std. error of the estimate: 0.281	
ANOVA	**Sum of Squares**	**df**	**Mean square**	**F**
Regression	315.807	41	7.703	97.379
Residual	188.178	2379	0.079	
Total	503.985	2420		

TABLE 4.7: Variables' statistics

Variables	Mean	Std. Dev.	Variables	Mean	Std. Dev
ln gross hourly wage	1.6139	0.4564	region 1	0.27	0.44
les/bisex.	0.013	0.34	region 2	0.34	0.47
NVQ1	0.13	0.49	region 3	0.21	0.41
NVQ2	0.38	0.29	region 4	0.06	0.23
NVQ3	0.09	0.36	industry 1	0.003	0.06
NVQ4	0.16	0.33	industry 2	0.008	0.09
NVQ5	0.12	0.12	industry 3	0.006	0.07
union	0.37	0.48	industry 4	0.02	0.14
part-time	0.48	0.50	industry 5	0.04	0.21
training	0.50	0.50	industry 6	0.008	0.09
pot. experience	15.52	1.86	industry 7	0.15	0.35
pot. experience sq.	244.28	51.75	industry 8	0.04	0.18
size1	0.198	0.39	industry 9	0.11	0.31
size2	0.187	0.39	occupation 1	0.021	0.15
size3	0.225	0.41	occupation 2	0.32	0.47
size4	0.187	0.39	occupation 3	0.37	0.48
public sector	0.42	0.49	occupation 4	0.05	0.23

TABLE 4.8: Model 3 Coefficients

Variables	Coefficient	Std. Error	t	Sig.
Constant	1.102	0.338	3.261	0.001
Lesbian/Bisexual dummy	0.021	0.050	0.404	0.686
Union membership	0.076	0.014	5.520	0.000
Participation in training courses	0.121	0.013	9.034	0.000
Potential experience	0.068	0.049	1.397	0.163
Potential experience squared	-0.004	0.002	-2.058	0.040
Part-time dummy	-0.134	0.013	-10.287	0.000
Highest qualification dummies				
1. NVQ1	0.002	0.025	0.008	0.994
2. NVQ2	0.021	0.022	0.977	0.329
3. NVQ3	0.057	0.030	1.919	0.055
4. NVQ4	0.197	0.029	6.872	0.000
5. NVQ5,6	0.222	0.036	6.169	0.000
('no qualifications' is not dummied)				
Regional dummies				
1. North	-0.005	0.025	-0.194	0.846
2. Midlands, E. Anglia, S. West, Wales	0.068	0.023	0.294	0.769
3. South East	0.096	0.026	3.708	0.000
4. London	0.247	0.032	7.665	0.000
(Scotland is not dummied)				
Firm size dummies				
1. 1-10 people	-0.149	0.020	-7.421	0.000
2. 11-25 people	-0.082	0.020	-4.207	0.000
3. 26-99 people	-0.068	0.019	-3.685	0.000
4. 100-499 people	-0.027	0.019	-1.396	0.163
('500+ people' is not dummied)				
Industry dummies				
1. Agriculture, forestry, fishing	0.015	0.095	0.161	0.872
2. Energy and water supply industries	0.081	0.064	1.268	0.205
3. Extraction/manufacture of metals	0.237	0.075	3.172	0.002
4. Metal goods, engineering, vehicle industr.	0.113	0.042	2.669	0.008
5. Other manufacturing industries	0.102	0.031	3.339	0.001
6. Construction	0.126	0.063	1.991	0.047
7. Distribution, hotels, catering, repairs.	0.040	0.021	-1.953	0.051
8. Transport and communication	0.186	0.033	5.617	0.000
9. Banking, finance, insurance, business serv.	0.208	0.023	9.178	0.000
('Other services' is not dummied)				
Public sector dummy	0.072	0.016	4.580	0.000
Occupational dummies				
1. Professional	0.438	0.046	9.466	0.000
2. Managerial/tech.	0.334	0.021	16.085	0.000
3. Skilled non-manual	0.160	0.018	9.119	0.000
4. Skilled manual	0.077	0.028	2.771	0.006
('Partly and non-skilled' is not dummied)				
Missing value dummies				
m union	0.039	0.082	0.478	0.633
m training	0.150	0.283	-0.528	0.597
m region	0.026	0.074	0.348	0.728
m highest qualification	-0.046	0.047	-0.997	0.319
m size	-0.010	0.048	-0.219	0.827
m occupation	0.235	0.038	6.175	0.000
m sector	0.007	0.033	0.202	0.840
m industry	0.045	0.018	2.467	0.014

CONCLUSION

This study represents a first attempt to analyse sexual orientation discrimination in the UK labour market. This task seems quite important since this issue has come to the attention of the policy-maker, but not much is known in terms of the real importance of this problem. However any attempt to tackle this problem, including this research, can only reach tentative conclusions. This is due to the scarcity of data on this topic. The NCDS appeared to be the only source of information that could be used to make some inference on the labour market condition of homosexual people. Fortunately it seems that the UK Census 2001 will be able to provide more precise information on same sex partners.

The statistical and econometric evidence that we have reported seems to suggest that, at least for gays, discrimination is indeed present. Discrimination does not manifest itself solely in wage differentials, but also in different employment rates and opportunities of career advancement. Furthermore, we have to remember that aggregate studies, like this one, tend to 'average out' the real extent of the problem for individual homosexuals.

It is difficult to give a theoretical explanation of the mechanisms in which discrimination operates. In this work it has been attempted to present possible arguments. The first one is related to indirect discrimination. LGB people may adopt certain occupational strategies to avoid future discrimination, and these choices may have negative consequences on personal income. For example we have seen that LGB people tend to be over-represented in the public and charitable sector, which enters with a negative sign in the male wage equation. Another possible consequence of indirect discrimination is under-investment in social capital to conceal one's sexual orientation or to over-invest in education in order to enter the labour market with

some sort of compensating advantage and to benefit longer from the more tolerant educational settings.[83] As far as direct discrimination is concerned, we have seen that, since sexual orientation is not an observable characteristic, it might not be detected at the port of entry into a firm. However, it does affect the individual position within internal labour markets, increasing job mobility (higher number of unemployment spells for homosexual people) and reducing career advancements.

The last point regards institutional discrimination. Since same-sex partnerships are not legally recognised, homosexual people do not have the possibility to form their own family. This, especially in the case of women, permits a greater attachment to the labour market. However, families also represent strong safety nets for individual workers and this possibility of 'income-insurance' is not open to homosexuals. As a result they might be more risk averse within the labour market and decide to trade-off some income in exchange of greater job security and better benefits. The main point here is that even if LGB people may not end up being worse off than heterosexual people, the final outcome is not efficient, because LGB people are not free to choose the preferred family/job arrangements.

This last point is very relevant in relation to the apparent 'advantage' of lesbians in the labour market in contrast to heterosexual women. We have seen that different endowments in productivity-enhancing characteristics and certain occupational choices determine a higher mean hourly wage for lesbians. This however is not necessarily the preferred outcome for them since they might have implemented certain strategies to compensate for a limitation in their choices.

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[83] With respect to social capital we have not reported any data, because the number of observations is quite small indeed and so any conclusion would not be based on any strong evidence. However it seems that the homosexual people in our sample participate less in a number of social organisations.

It seems quite desirable that the British Parliament, following the advancements in international law, introduces anti-discrimination laws for LGB people. However, equal opportunity policies must not limit themselves to anti-discrimination rules. As is the case for gender discrimination, as long as LGB people face different opportunities and incentives in their lives as a whole, complete equality in the labour market will be difficult to accomplish.

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