Chapter 4

Self-esteem achievement strategies and socio-demographic disparities in the labor market

> This is not to say that men and women freely choose their jobs; certainly discrimination and the existence of sex segregated labor markets limit the choices of both women and men. However, a realistic understanding of the work responses of men and women workers require that di¤erences in gender role socialization be taken into account; to assume that most men and women approach their jobs in the same way would be incongruent with empirical knowledge and common sense. For whatever reasons, men and women often end up in di¤erent types of jobs. Just as important, however, is that men and women respond similarly to jobs providing similar rewards and stresses. Therefore, it can be argued that men and women both pay a price when working in intrinsically unrewarding jobs - most often women workers - or in stressful jobs - most often men workers. Lambert (1991, p. 360)

In the previous chapter, an analysis of the employment relation has been provided which considers working persons with self-esteem concerns. This leads us to emphasize the part employment conditions play in the capacity of a job to arouse an intrinsic motivation. Three types of jobs were distinguished: unful…lling, weakly ful…lling, and strongly ful…lling jobs. We mainly raise the question of the impact of self-esteem motivations on the pro…tability and e¢ciency of the employment relation. The point, in this fourth chapter, is to apply our model to the issue of socio-demographic disparities in the labor market. By these terms, we mean all phenomena re‡ecting di¤erentiated individual experiences in the labor market depending on non-productive features such as gender, skin color, ethnic origin, age... In particular, the point is about gaps in average pay between socio-demographic groups, and their occupational segregation.

Occupational segregation refers to the fact that distinct socio-demographic groups be over-represented in some jobs categories, underrepresented in others. This stylised fact is at the center of the interpretation we propose of socio-demographic disparities. To stand by male/female disparities, what is at stake in this chapter can be derived from the opening quotation: "For whatever reasons, men and women often end up in di¤erent types of jobs." Our point here is to make these reasons explicit. More precisely, we attempt to explain why men (respectively, women) are over-represented (resp. underrepresented) in high-paid jobs. By this way, we provide an explanation to the male/female gap in average pay. Some empirical facts - those mentioned in Akerlof and Kranton (2000) notably - suggest that our argument could be extended to other socio-demographic divides.

This argument lies on the idea that self-esteem achievement strategies di¤er as a function of individuals' socio-demographic belonging. It can contribute to explain: 1) that certain employers favor applicants from speci…c social group; 2) an occupational distribution of working persons segregated by socio-demographic belonging.

The line of argument of this chapter is divided into three steps. The …rst step critically addresses the literature dealing with socio-demographic disparities in the labor market. We argue that the crucial point is less about pure wage discrimination than about a di¤erentiated occupational distribution of various socio-demographic groups. The second step is devoted to applying our model of self-esteem achievement inside or outside work (see chapter 3) to the issue of socio-demographic disparities. We provide an explanation

to the di¤erences likely to occur as regards the occupational distribution of distinct socio-demographic groups which relies on the jobs typology posited in chapter 3. The third step check the would-be predictions of our model against the observations provided in section 1, attempting to show its empirical relevance.

4.1 Socio-demographic disparities in the labor market

Various aspects of socio-demographic disparities in the labor market have often been treated in isolation from each others in theoretical analyses.[1] Yet, empirical studies analysing together these various features[2], most notably, by putting the stress on the relationships between phenomena such as occupational segregation and socio-demographic gaps in average earnings, displayed conclusive evidence.[3] But still, most theoretical literature kept emphasizing on wage discrimination.

Empirical studies dealing with such socio-demographic disparities in the labor market mobilize macro indices. As a result, analysts only rely on crude statistical pictures of these disparities. And hence the central question of this section: what micro phenomena hide behind …gures?

4.1.1 Earnings disparities in the labor market

What do we know about the general pro…le of socio-demographic earnings disparities in the labor market? What are the main theories available?

Statistical knowledge and micro doubts

The more documented cases as regards socio-demographic disparities are gender and black/white di¤erences.

[1] Notable exceptions are the segmented labour market theories of Bergman (1971) and Arrow (1973).
[2] Most notably, by putting the stress on the relationships between phenomena such as occupational segregation and socio-demographic gaps in average earnings.
[3] For a survey, see Gunderson (1989).

Empirical …ndings. Data for 2001 show that, across OECD countries, women still earn, on average, 16% less than men per hour worked.[4] Gender di¤erences in observable characteristics that in‡uence productivity, such as education, potential experience and job tenure, account for little of this gender gap in wages. For the United States, …ndings indicate that in 1980 and 1990, black men were earning, on average, 12 to 15% less than white men (controlling for...).[5]

What micro reality hides behind the …gures? A …rst hypothesis is that socio-demographic gaps in average earnings respond to di¤erences in human capital investment. Assuming that women expect to spend a lower part of their adult lives at work than men, their return to human capital is lower which involves lower investments, and lower earnings. As for ethnic minorities, di¤erences in family background or home and neighborhood environment would lead them to have less human capital on average. In fact, such stories suggest that earnings inequalities only re‡ects pre-labor market disparities. Johnson and Neal (1996) provide a statistical test of this hypothesis. Wondering how much of the racial minorities/whites earnings gap (for the United States) is explained by di¤erences in skills that are formed prior to market entry, they show that an adequate proxy for pre-market skills, the AFQT (Armed Forced Qualifying Test), appears as explaining a large part of racial earnings gaps for currently employed workers.

Human capital theory does not that good as regards the gender gap. For the United States, Blau and Kahn (1997) show that almost 30% of the gap was due to wage di¤erences between men and women with similar measurable human capital. What is more, in OECD countries, women often do better than men as regards education achievement. Another story has been put forward: that of the "family gap". In some countries, mothers earn considerably less than their childless peers when account is taken of the fact that they work fewer hours. This is the case for United States where evidence of a negative e¤ect of children on women's wages has been obtained, even in analyses which control for labor market experience.[6] However, …ndings in the OECD employment outlook (2002)

[4] OECD Employment outlook (2002).
[5] See Darity & Mason [1998].
[6] See Waldfogel (1998).

suggest that, except for a few countries, there is little evidence of an hourly wage penalty attached to motherhood.

Besides, an interesting point is that fatherhood seems to induce higher merit increases compared to male worker with no family responsibilities.[7] Why do mothers su¤er such a "family gap" but not fathers?

As for the human capital explanation of the racial pay gap, Johnson and Neal (1996) do not exclude that expected discrimination in the labor market to be responsible for the poor average performance of black children.[8] Though, the question of socio-demographic di¤erences in average earnings has raised a central hypothesis: that of pay discrimination.

Micro theories of discrimination in the labor market and the socio-demographic gap in average pay

If one can generate wage discrimination, one is bound to directly explain statistical wage socio-demographic disparities in the labor market.

Statistical discrimination. The idea is that employers cannot observe everything they wish to know about job applicants. If they believe - rightly according to Johnson and Neal (1996) - that mean expected productivity (human capital) is statistically lower for blacks (resp. women) than for whites (resp. men)[9] then it is rational from them to use race (resp. gender) as a signal of lower productivity (or higher turnover propensity) and to o¤er a lower pay to women and non-white workers. A self-ful…lling prophecy mechanism is often added, that assumes that the lower opportunities o¤ered to minorities might be harmful as regards their incentives to invest in human capital. This statistical-based behavior of the employers would then lead to the pre-market disparities in human capital mentioned above.

[7] See, Gunderson (1989, p. 52), or more recently, the OECD employment outlook (2002).

[8] See also Heckman (1998, p. 107).

[9] Another assumption in statistical discrimination stream, is that signals of productivity are less precise when uttered by members of the minority group (but that expected productivity is the same across socio-demographic groups). This option has proved to receive less empirical support.

Taste-based theories: the assumption of a prejudiced labor demand. Maybe the most intuitive explanation for wage discrimination against black people or women is the existence of some prejudiced agents on the labor demand's side. The exercise is then to clarify how these prejudices determine observed socio-demographic gaps in average earnings. Altonji and Blank (1999) present a survey of the papers that merge ideas from search models of the labor market with Becker-style[10] models of taste discrimination. These models improve the standard analysis to a threefold extent. First, costly search implies that the whole distribution of prejudicial tastes matters;[11] second, it implies that agents su¤ering from prejudices are at a disadvantage (as regards pay) even when their numbers are small relative to that of non-discriminating labor …rms; third, costly search entails that discrimination is unlikely to be eliminated by the entry of new …rms.

The classic objection: gaps in average pay are long lasting. Evidence suggests that socio-demographic gaps are long lasting.

Since Becker (1971), a central question posed to taste-based theories of discrimination is how the wage gap might sustain itself in a competitive environment[12]: it might be suspected that those theories are unable to generate lasting wage discrimination. Do the analyses surveyed by Altonji and Blank (1999) allow to remove these suspicions? An indication of the relevance of this concern is that in analyses of employer discrimination, prejudiced employers keep earning lower pro…ts than unprejudiced ones.

Several assumptions de…ne the long-run. Among them: that of perfect labor mobility, that of free entry, that of perfect capital mobility. The point of the papers surveyed by Altonji and Blank (1999) is that costly search involves that, even in the long run, labor mobility is imperfect. As regards free entry, it is argued that because of entrepreneurial talent scarcity (even in the long run), prejudiced employers may survive. But the third point remains: capital goes where pro…ts are! Since pro…t di¤erential favors unprejudiced

[10] Becker (1957, 1971).

[11] Not simply the degree of prejudice of the marginal employer of the less favored socio-demographic group.

[12] As Arrow (1998) points it: "If the members of two races, after adjusting for observable di¤erences in human capital and the like, received di¤erent wages [...], an arbitrage possibility would be created which be wiped out by competition."

employers, prejudiced ones will be driven out of the market.

As regards the statistical discrimination mechanism justifying socio-demographic pay gap, Darity and Mason (1998) note that, in the long run, employers are likely to …nd methods of predicting the future performance of potential employees with su¢cient accuracy that there is no need to use additional signal of race or gender. This is all the more plausible that, both minority workers and employers have incentives to improve hiring tests.[13] The discussion is then not closed.

Although micro evidence of pure pay discrimination is lacking,[14,15] this hypothesis was a direct way to give an account of statistical di¤erences between socio-demographic groups. But its compatibility with the long run pressures of markets economy raises doubts. Yet, there is no need of pure wage discrimination to obtain statistical disparities in earnings. Pure wage discrimination certainly exists, but some evidence suggests that it is unlikely to explain the entire observed gaps, nor to be the central micro reality hiding behind them.[16]

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[13] As Cain (1986) stresses, if the worker knows his or her own ability, a low-cost private exchange method minimizing this impediment is to o¤er a trial period of employment to demonstrate their true productivity. As regards gender discrimination linked to di¤erences in work probabilities, Cain shows that it should not generate gap in average earnings.

[14] As François notes

> In contemporary labor markets, discrimination rarely takes the form of women being paid less than men in the same jobs at the same establishments (...) François (1998, p. 4)

Among the scarce sources of micro evidence of pay discrimination, the analysis of court cases - see Darity and Mason (1998).

[15] See also Gunderson for which:

> (...) pay di¤erences for the same narrowly de…ned occupation within the same establishment do not account for much of the (male-female earnings) gap. Gunderson (1989, p. 51)

[16] See François (1998), Blau & Kahn (2000) or the OECD Employment Outlook (2002) for the gender gap. For the racial gap, see the discussion in Holzer (1998).

4.1.2 Hiring discrimination and occupational segregation in the labor market

Major aspects of disparities between social groups in the labor market are hiring discrimination and occupational segregation. The distribution of employment by occupation or sector is still very much gender-segmented.[17] Similar evidence exists that involves racial di¤erences.[18] Furthermore, consistent micro evidence is available about hiring discrimination which endows analysts with precise indications as for the routes through which socio-demographic di¤erentials are realized. Thus, reported facts strongly suggest an indirect way to explain socio-demographic disparities in earning.

Both a documented micro reality and a statistical fact

We successively tackle the evidence on hiring discrimination and occupational segregation. Hiring discrimination occurs when two individuals with similar productive characteristics do not have an equal chance of getting a job.

Direct evidence of hiring discrimination. Audit studies[19] con…rm that hiring discrimination is widespread: for a large class of jobs, with similar résumés (regarding productivity-relevant characteristics), both women and blacks experience a lower chance to be hired than white men. Bertrand and Mullainathan (2003) conduct a global study of racial discrimination in hiring. Manipulating the perception of race (in otherwise similar résumés) by using distinctively ethnic names, they show that "callback" rates are signi…cantly lower for distinctively black-named applicants. Neumark (1996) studies sex discrimination in restaurant hiring. He …nds that in high-price restaurants (where waitpersons' earnings are higher), job applications from women had an estimated probability of receiving a job o¤er signi…cantly lower than those from men. Other …ndings indicate

[17] See Treiman and Hartman (1981, p. 33), Johnson and Solon (1986) and an extensive discussion and survey in Gunderson (1989).

[18] See Gittelman and Howell (1995).

[19] For some elements as regards the principle and methodology of audit studies see Riach and Rich (2002).

that hiring discrimination depends on the type of jobs under consideration.[20]

The two latter studies bring rich and detailed insights as regards hiring discrimination and resulting occupational distribution of socio-demographic groups.[21] In the remaining, we will refer to them when discussing the adequacy of various models to micro evidence.

Occupational segregation: both horizontal and vertical. Occupational segregation is said to be horizontal when it involves a segregated distribution of socio-demographic groups between jobs that correspond to a given standard of earnings. It is said to be vertical when jobs under consideration di¤er with respect to earnings standards.

Further statistical evidence about occupational segregation. According to Gunderson (1989), di¤erences in the occupational distribution of males and females account for a substantial portion of the overall earnings gap.[22]

Descriptive statistics. Let us start with some evidence gathered in the OECD employment outlook for 2001 about gender di¤erences in occupation. Women are over-represented in clerical occupations, sales jobs and the life-science/health and teaching professions, whereas they remain under-represented in managerial and top administrative occupations, as well as in manual and production jobs. The large majority of both women and men are concentrated in a small number of occupations that tend to be either female- or male-dominated. For the United States, the following table displays the occupational distribution of black and white workers (of each gender) by job category as well as mean hourly earnings for each job category.[23]

[20] See Petit (2003).

[21] Although catering industry may look a bit particular (as well as the occupation of waitperson), we view Neumark's …ndings as very informative as one looks at discrimination and segregation in some details.

[22] See Treiman and Hartman (1981, p. 33).

[23] See the glossary in the appendix of the current chapter..

Job category	Black male	Black female	White female	White male	Mean hourly earnings
O¢cials and managers	6.0%*	4.4%	9.4%	16.4%	$31.16
Professionals	6.3%	10.2%	21.0%	17.5%	$27.18
Technicians	4.6%	5.8%	6.3%	6.6%	$19.89
Sales workers	9.6%	13.2%	14.8%	11.0%	$14.50
O¢ce and clerical workers	7.6%	25.6%	24.1%	5.0%	$13.41
Craft workers	9.4%	1.9%	2.1%	13.6%	$18.20
Operatives	23.1%	9.6%	6.2%	16.0%	$12.94
Laborers	14.9%	6.7%	4.2%	7.0%	$10.98
Service workers	18.5%	22.7%	11.9%	6.9%	$10.32

Sources: The U.S. Equal Employment Opportunity Commission,

2002 EE0-1 and Aggregate Report and National Compensation Survey, 2002.

Available online: http://www.eeoc.gov/stats/jobpat/2002/us.html and www.bls.gov/ncs/home.html.

* Reading: 6% of black male workers belong to the class O¢cials and managers.

This table o¤ers a clear view on dissimilarities in the distribution of the di¤erent socio-demographic groups between industries. Furthermore, a look at mean hourly earnings for each job category, brings a …rst enlightenment as regards vertical occupational segregation: the black/white di¤erence in distribution is particularly striking in top earning standards.

Empirical analysis. Some studies actually document the link between occupational distribution and the racial gap in average earnings. Cunningham and Zalokar (1992) analyze the determinants of black women economic progress for the period 1940-1980. Curbing the explanatory impact of human capital theories, they …nd little evidence that convergence in the characteristics of black and white women (increasing similar education, for example) is responsible for black women's increased relative wage and occupational status and conclude that black women's improved economic status after 1940 was largely due to decreases in racial discrimination by occupation and industry. Gittleman and Howell (1995) study the e¤ects by race and gender of changes in the structure and

quality of jobs in the United States between 1973 and 1990. The relative concentration of blacks in low quality (and poorly-paid) jobs is clear.

Yet, neither these studies nor the above …gures can be interpreted as micro evidence of vertical segregation (each category contains too many di¤erent jobs). What can we learn from micro studies?

Micro evidence of vertical occupational segregation. As regards the wider question of disparities in the labor market, a crucial contribution of Neumark (1996) is to document, through a micro empirical study, evidence of vertical occupational segregation by gender.[24] In a single industry (catering), he distinguishes two statuses: waitperson in high-price restaurants, waitperson in low price restaurants. The interesting thing is that vertical occupational segregation arises, with a majority of men working in high-price restaurants (which pay well), and a majority of women working in low-price restaurants (which pay poorly). Neumark mentions studies which conduct a comparable test for racial discrimination: it turns out that discrimination against blacks exists in high-price restaurants.[25] Studying racial discrimination in the United States urban labor market between 1910 and 1950, Sundstrom (1994) emphasizes the role of norms against white subservience to blacks played in determining the racial composition of occupations.

This empirical documentation of hiring discrimination and vertical occupational segregation makes an indirect analysis of statistical wage disparities looking particularly promising. The idea is that the most signi…cant channel to explain average earnings disparities lies in vertical occupational segregation rather than in pure wage discrimination. As François puts it

> [discrimination] is manifest in men having better access to higher paying jobs within an occupation type, even when traditional labor market charac-

[24] Neumark (1996) provides the following useful clari…cation as regards the various forms the link between occupational segregation and wage disparities can take. Existing gaps in wage can be broken into across occupation components and within-occupation components. The gap that remains within occupations may re‡ect pure pay discrimination between employees of di¤erent socio-demographic groups working alongside one another. It may also re‡ect segregation across high- and low-wage …rms, or segregation across jobs within occupations and perhaps also within …rms.

[25] but to a lower extent than for women.

teristics are controlled for. François (1998, p. 4).

This position seems consistent with the long lasting nature of earnings disparities: as Cunningham and Zalokar (1992) suggest, vertical occupational segregation is not a recent trend, nor hiring discrimination - see, for the United States, the examples of racial preference in help wanted advertisements published in some 60's newspapers gathered by Darity and Mason (1998).

Available explanations of occupational segregation

Occupational segregation can arise for many reasons, involving or not hiring discrimination.

Explanations involving hiring discrimination. The …ndings above suggest that hiring discrimination may be involved in occupational segregation: it might result from more severe employer discrimination in some occupations than in others.

We can come again to taste-based theories of discrimination at this stage. Indeed, even though they are not very well suited to predict lasting gaps in average earnings, they support sustainable lasting segregation - blacks (women) being absent from industries for which labor demand is prejudiced. Yet, there is no obvious way to explain the distribution of prejudice among industries. The customer discrimination perspective suggests that labor demand should be more discriminatory for sales occupations: the table above does not carry unequivocal support to such a prediction. Assuming a situation where unprejudiced employers are numerous enough to hire all black (female) workers,[26] the employer discrimination perspective does not make any particular prediction as for the industries that are more likely to exhibit segregated work force. Thereby, those theories can predict horizontal occupational segregation but hardly where it should arise.[27] The story involving prejudiced co-workers[28] is of particular interest as regards vertical

[26] Which allows that all workers be paid their marginal productivity.

[27] The competition exposure criterion (more likely discrimination occurence in less competitive markets) is actually one when accounting for wage discrimination. When only occupational segregation is involved, competition exposure is of no help.

[28] Arrow (1998) shows that, in the standard model, assumption of employee discriminatory taste may lead to an explanation of segregation within industries but not segregation by occupation.

occupational segregation. It brings an explanation to a "glass ceiling" impeding women's (resp. blacks') occupational advancement by assuming that men (resp. whites) do not accept to receive orders from women (resp. blacks[29]).

Although statistical discrimination may explain that di¤erent agents with similar productive traits do not have the same chance of obtaining a job, it is not clear how it could explain the occupational distribution of socio-demographic groups. It may be argued that the skills required by some industries are more easily observed than those required by others but it leaves us with little indication as to where one should expect hiring discrimination to occur as a consequence of statistical discrimination. Vertical occupational segregation could result from the fact that, for instance, managerial or administrative skills are less easy to observe than more technical ones. This would be another channel to explain the "glass ceiling" phenomenon.

But vertical occupational segregation does not necessarily involve hierarchical aspects as Neumark (1996) shows. Besides, what do previous micro empirical studies tell us about available explanations? Bertrand and Mullainathan (2003) use their …ndings to test the plausibility of alternative explanations (mostly, taste-based and statistical discrimination theories). Some of their results raise doubts about customer and co-worker discrimination: they do not …nd any hardening of discrimination among jobs that explicitly require "communication skills" and those for which one expects either customer or co-worker contacts to be higher. As regards statistical discrimination, authors suggest that, if employers tend to use race to proxy for unobservable skills, résumés enhancement should reduce discrimination: they obtain a lower return to credentials for African Americans![30] The main explanation to Neumark (1996) …ndings is customer discrimination[31]: high-price restaurant managers discriminate against women because clientele prefers waiters

[29] Cf Sundstrom's (1994) conclusions mentioned above.

[30] This argument seems invalidating only as regards models assuming that the precision of human capital signals vary whether they are sent by black or white applicants and that employers are risk adverse. But we saw that evidence exist of higher average human capital among whites than among blacks. Furthermore, Bertrand and Mullainathan's (2003) result can be regarded as an interesting …nding as far as self-ful…lling prophecy mechanisms are considered. Indeed, it suggests that the return to human capital is actually lower for members of the minority group: they have a lower incentive to invest in human capital which is consistent with the pre-market disparities story displayed above.

[31] Employment discrimination is ruled out because the proportion males among the waitsta¤ is not positively related to whether hiring decision are made by male owners and managers.

to waitresses.[32] However, it remains unclear why high-price restaurants customers should be more prejudiced against women than low-price restaurants customers.

Previous explanations can predict horizontal occupational segregation.[33] But they do not say where it is the most likely to occur. Regarding vertical occupational segregation, few insights are available that do not invoke hierarchical aspects. Even though some theories provide valuable insights,[34] we saw that vertical occupational segregation could arise without involving hierarchical aspects.

Explanations that **do not** involve hiring discrimination One can explain occupational segregation without mobilizing hiring discrimination.

Human capital. A …rst possibility is that group di¤erences in pre-labor market human capital investment and in non-labor market activities may lead to di¤erences in comparative advantages across occupations. This can both account for horizontal and vertical occupational segregation. As for vertical occupational segregation, human capital theories seem particularly well suited to enlighten di¤erences between blacks and whites, a bit less as regards gender di¤erences. This trail brings us back to what is argued above as for earnings gaps, and seems relevant mostly to the analysis of black workers exclusion from high status occupations. Yet, the nature of the gender and racial di¤ering comparative advantage across occupations remains unspeci…ed.

Preferences. Altonji and Blank (1999, p.3176) mention another possible explanation: that members of di¤erent groups select into di¤erent occupations, notably because social norms regarding appropriate occupations may di¤er between groups. What is more, preferences for the characteristics of occupations may di¤er between groups, particularly men and women. This is consistent with facts: di¤erences in preferences for certain types of jobs account for a substantial portion of the earnings gap.[35] But, again,

[32] Consistent - according to Neumark (1996) - with customer discrimination is the evidence that the proportion male among the waitsta¤ is signi…cantly positively related to the proportion male among the clientele.

[33] Although their empirical relevance remains questionable.

[34] We will come again on the "glass ceiling" argument below.

[35] See Gunderson (1989, p. 52).

the very nature of these di¤ering preferences are not speci…ed.

What is behind? As for gender di¤erences, Corcoran and Courant (1985) provide some assumptions about how sex role socialization might a¤ect labor market outcomes. They mention four ways through which socialization might a¤ect occupational behavior. Among them two human capital arguments: that socialization may lead women to be more fearful or more anxious, or less con…dent than men are; that sex role socialization may directly a¤ect workers' skills and personality traits. But they also mention two "taste" explanations: that children may internalize traditional notions of sex roles, accept these cultural sex stereotypes as fact, and eventually choose occupations that conform to these stereotypes; that sex role socialization may a¤ect the values men an women attach to di¤erent activities so that workers of both sexes tend to value "sex appropriate" activities. In fact, comparable arguments could be invoked as regards racial di¤erences as suggested in Akerlof and Kranton (2000).

In line with these latter suggestions, McCrate (1988) focuses on the central role of endogenous preferences in the understanding of gender di¤erence. Our approach follows a similar inspiration. It is an attempt to consistently connect the phenomena addressed above.

4.2 Self-esteem achievement through work and socio-demographic disparities

The model we have introduced in chapter 3 can shed a new light on the previous discussion. In this section, taking the need for self-esteem as a motivation for a working person's behavior, we analyse its consequences on two issues: occupational segregation, and the earning disparities between socio-demographic groups.

In the previous chapter, we have emphasized the role of e¤ort and wage prescriptions (parameters γ_e and γ_w) in the de…nition of the workplace identity. Yet, other factors condition an individual's decision to achieve self-esteem through work. To express the idea in Akerlof and Kranton's terms, this decision may depend on the distance from a

worker's personal traits to the ideal attributes de…ning the workplace identity. Exhibiting particular non-productive traits may make the holding of the workplace identity more or less easy (comfortable). As a consequence, when choosing to arouse the workplace identity, the principal will target the agents who exhibit traits that most easily …t into the workplace identity:[36] a seeming hiring discrimination will occur on this criterion.

In the perspective of our model which puts forward the role of motivation, we will refer to the socio-demographic di¤erences in hiring experiences as selective hiring (on socio-demographic criteria) rather than hiring discrimination. Indeed, from the economist's point of view, hiring discrimination occurs when two individuals with similar productive features do not have an equal chance to get a job as a result of di¤ering socio-demographic belonging. Our approach suggests that such belonging can a¤ect the productive features of workers: employer's preference for some socio-demographic group over another is not, stricto sensu, discriminatory. We will thus refer to it as selective hiring (understood, on socio-demographic criteria).

We have presented in chapter 3 how agents' concerns about self-esteem could a¤ect the pro…tability and e¢ciency of the employment relation. Because job characteristics matter, the option for the principal to arouse the workplace identity may or not lead to some gains in the pro…tability of e¤ort (compared with the standard case). This allows us to de…ne the conditions for a selective hiring: these conditions involve in particular the level of demands of the job under consideration. This is a …rst step towards a full and intuitive characterization of the set of jobs for which hiring might be selective. Once this characterization is available, it becomes possible to draw some conclusions about the earnings disparity between social groups. As far as jobs whose e¤ort is observable are considered, we show that the share of selective jobs is likely to be an increasing function of the wage standard under consideration. We then investigate the impact of moral hazard over previous results. While the set of jobs for which e¤ort is induced obviously shrinks, one observes a stronger propensity from the principal to arouse the workplace identity. This has appreciable implications over the set of selective jobs as well as over the properties of the model regarding socio-demographic earning disparities. The relation

[36] Those whose characteristics are the closest to ideal attributes de…ning the workplace identity.

between the proportion of selective jobs and the wage standard under consideration is no longer necessarily monotonic: under some circumstances, selective hiring may be less likely in better paid jobs.

Akerlof and Kranton (2000) have already tackled the problem of occupational segregation stressing on gender association with di¤erent types of work. This approach focuses on identity externality: a woman performing a "man's job" provokes anxiety in her male co-workers.[37] In the remaining, we do not assume this kind of externality, and develop arguments that go beyond gender association with di¤erent jobs. The discussion in section 1 should allow to appreciate the coming analysis usefulness. Our point is to provide an alternative (or complementary) explanation to phenomena which challenge the dominant theories: employment discrimination and unequal earnings between socio-demographic groups. We have shown that mainstream theories of discrimination do not do well in explaining lasting earnings disparities in the labor market. As Arrow (1998) states, if, as involved by most taste-based theories of discrimination, prejudiced employers make lower pro…ts, competition should drive them out of the market. As regards statistical discrimination, it is often argued that, in the absence of real gaps in productivity between socio-demographic groups, recourse to such observables as race or sex in hiring decisions should disappear.[38] In our model, employers fully observes workers' productivity, and selective hiring goes with gains in pro…tability (therefore, our explanation should be competition-proof). Furthermore, our model of selective hiring leads to a special kind of occupational segregation which provides a potential explanation to observed socio-demographic disparities in average earnings. Hence, it is consistent with the central evidence[39] that pervasive di¤erences in occupational patterns are primarily responsible for persistent di¤erences in earnings.

[37] See our account of this argument in chapter 2.
[38] See Cain (1986).
[39] See Blau and Kahn (2000), Holzer (1998).

4.2.1 Di¤erentiated socialization, stereotypes and self-esteem achievement strategies

The basis of our argument is the assumption that, in average, women (resp. black workers) less spontaneously hold the workplace identity than men (resp. white workers); in other words, that men (resp. white workers) have a stronger propensity to achieve self-esteem through work than women (resp. black workers). In the perspective of our model, this results from a di¤erence between workers' preferences depending on their gender, their belonging to such and such "racial" minority. In this section, we report the empirical elements at the basis of this view and indicate how it can be grafted on the model developed in the previous chapter.

Empirical backgrounds

In what follows, we favor gender di¤erences - see Akerlof and Kranton (2000) for some evidence as regards black/white di¤ering relationship to work.

Relationship to work depending on gender. Susan Lambert (1991) empirically explores the male/female di¤erences as regards relationship to work. The starting question is: why men and women maintain comparable levels of job satisfaction even though women's jobs are less gratifying in terms of both intrinsic and extrinsic rewards? More generally, the point is to examine the correlates of men and women job satisfaction within: employment conditions (job characteristics, exposure to stress, labor hours...), individual characteristics of working persons (gender, education, age...).

A …rst aspect of Lambert's contribution is to con…rm what was previously known: women appear to place a higher value than men on social relationships in the workplace, while men place greater importance on career-related job features[40] such as pay,

[40] This can be related to what the literature on earnings gap reports. Gunderson notes that

> While women have similar levels of education to men, the type of education women acquire is often not as oriented toward gaining skills that are rewarded in the labor market. Gunderson (1989, p. 52).

advancement, and autonomy. These results direct Lambert's answers to previous questions. Indeed, she shows that by taking the opportunities for social satisfaction provided by ones job and the stress resulting from given employment conditions into account, male workers' jobs are not more rewarding than those of female. Controlling for the impact of employment conditions, men and women have similar levels of work satisfaction and implication. If the jobs hold by women are, in the average, less pecuniary rewarding, they are less stressful[41] and provide more social satisfaction. Results suggest thus, that the less stressing and more favorable to social relations employment conditions of women represent a compensation for their lower ex- and intrinsic rewards. This is a compensating di¤erentials argument; the interesting point is that male and female preferences look that di¤erentiated.

The role of family responsibility. Family responsibilities are likely to a¤ect the work satisfaction and involvement of working persons as well as their capacity to develop an intrinsic motivation.[42] Pleck (1977)[43] has proposed that the boundaries between work and family are asymmetrically permeable for men and women. He argues that men allow the demands of work to intrude more into family life than vice versa, whereas women permit the demands of family life to intrude more into work life. Thus, it may be that di¤erences in the e¤ects of family responsibilities and roles can help explain the di¤erences in men's and women's job involvement and intrinsic motivation. Besides, women relationship to their job appears more a¤ected by being a mother of young children than it is the case for men (see section 1). Interviews of working mothers lead Crouter to note that

> Women with young children (12 and younger) are "at risk" for perceiving the impacts of family upon work as generally negative, primarily because their

[41] Lambert observes

> Men are more likely to be both inundated with, and more sensitive to, con‡icting and overwhelming job tasks, resulting in greater psychological involvement in work at the cost of reduced job satisfaction. Lambert (1991, p.360)

[42] For a list of references on this issue, see Lambert (1991).

[43] Pleck, J. (1977). "The work-family role system." Social Problems, 24, pp. 417-427.

> family responsibilities at times result in their being absent, tardy, inattentive, ine¢cient, or unable to accept new responsibilities at work. Crouter (1984, p. 436)[44]

Results of Lambert (1991) partially contest Pleck's (1977) view: being mother of young children does not a¤ect signi…cantly work satisfaction, implication or intrinsic motivation. Yet, Lambert does not fully reject Pleck hypothesis. Her position is rather that women choose jobs which allow them to better cope with their family responsibilities. These jobs are actually often characterized by routine work and little promotion opportunities.

The lead favored by Lambert as regards men and women diverging relationship to their jobs is clearly expressed in the next assessment:

> Men may expect jobs to help them perform their breadwinning roles, while women may expect jobs not to interfere with their caregiving roles. Consequently, men and women may place higher value on those job characteristics which help them ful…l these di¤erent roles, leading them to maintain employment in jobs with very di¤erent characteristics. If so, then di¤erences in expectations and values are likely to a¤ect men's and women's work responses through their selection of jobs [...]. Lambert (1991, p. 360)

Working women relationship to their job is also a¤ected by negative stereotypes in the work world.

The role of stereotypes. The accounts collected by Dubar (1992) lead him to highlight the role of stereotypes as regards gender-di¤ering relationship to employment. The strength of these stereotypes lies in that they are carried by women themselves as well as men. As Lopez observes:

> [...] negative stereotypes about women in the work world are held by women themselves. They do not view themselves as endowed with the qualities essential for achievement at work - Broverman, Broverman, Clarkson,

[44] Crouter, A. (1984). "Spillover from family to work: the neglected side of the work-family interface." Human Relations, 37, pp. 425-442.

> Rosenkrantz, and Vogel (1972)[45], O'Leary (1974)[46] - nor do they expect to be as competent as do men on a variety of tasks - Crandall (1969)[47], Feather and Simon (1973)[48], Rychlak and Lerner (1965)[49]. Several explanations have been advanced for these …ndings, including female socialization processes, differential counselling for males and females, absence of role models, "fear of success," limited self-con…dence, low achievement motivation, and role con‡ict - Ahrons (1976)[50], Donahue and Costar (1977)[51], Hall (1972, 1976)[52], Horner (1972)[53], Lenny (1977)[54], MacCoby and Jacklin (1974)[55]. Lopez (1982, p. 337)

These stereotypes a¤ect the capacity of women to achieve self-esteem through work.

We now insert these phenomena in the model provided in chapter 3.

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[45] Broverman, I. K., D. M. Broverman, F. E. Clarkson, P. S. Rosenkrantz, and S. R. Vogel (1972). "Sex-role stereotypes: a current appraisal." Journal of Social Issues, 28, pp. 59-78.

[46] O'Leary, V. E. (1974). "Some attitudinal barriers to occupational aspirations in women." Psychological Bulletin, 81, pp. 809-826.

[47] Crandall, V. C. (1969). "Sex di¤erences in expectancy of intellectual and academic reinforcement." In C. P. Smith (ed.), Achievement-related motives in children. New York: Russell Sage, pp. 78-105.

[48] Feather, N. T., and J. G. Simon (1973). "Fear of success and causal attribution for outcome." Journal of Personality, 41, pp. 525-542.

[49] Rychlak, J. F., and J. J. Lerner (1965). "An expectancy interpretation of manifest anxiety." Journal of Personality and Social Psychology, 2, pp. 667-684.

[50] Ahrons, C. R. (1976). "Counselors' perceptions of career images of women." Journal of Vocational Behavior, 8, pp. 197-207.

[51] Donahue, T. J., and J. W. Costar (1977). "Counselor discrimination against young women in career selection." Journal of Counseling Psychology, 24, pp. 481-486.

[52] Hall, D. T. (1972). "A model of coping with role con‡ict: the role of behavior of college educated women." Administrative Science Quarterly, 17, pp. 471-486.

Hall, D. T. (1976). Career in organizations, Santa Monica, Cal.: Goodyear.

[53] Horner, M.S. (1972). "Toward understanding of achievement-related con‡icts in women." Journal of Social Issues, 28, pp. 157-176.

[54] Lenny, I. (1977). "Women's self-con…dence in achievement settings." Psychological Bulletin, 84, pp. 1-13.

[55] MacCoby, E. E., and C. N. Jacklin (1974). The psychology of sex di¤erences. Stanford, Cal.: Stanford University Press.

Socio-demographic traits and employment relation in the presence of self-esteem concerns

We consider again the analysis introduced in chapter 3: the single difference lies in the fact that agents are now characterized by an exogenous parameter $\theta \in \{0,1\}$, for instance, their gender or the color of their skin. This parameter influence an agent's global utility as follows

$$U_c(w,e;\theta) = u_c(w) - \psi(e) + I_c(e;\theta)$$

that is, through self-esteem concerns.

In addition to the prescriptions introduced in chapter 3, the definition of the identity A involves an ideal attribute. Beyond the aspects[56] already mentioned, an agent holding the identity A extracts self-esteem from the appropriateness of his trait θ to the ideal attribute defining A, that we fix to 1. This entails[57]

$$u_c(w) + I_c(e;\theta) = \begin{cases} w + \phi - \gamma_w(w_A - w) - \gamma_e(1-e) - \gamma_\theta(1-\theta) & \text{if } c = A \\ w + I_B & \text{if } c = B \end{cases}$$

and then

$$I_A(e;\theta) = \phi - \gamma_w w_A - \gamma_e(1-e) - \gamma_\theta(1-\theta)$$

which still involves a perfect substitutability between the various ways to fit into the workplace identity.

As regards the timing of the contracting game, we assume that the trait θ is observed by the principal before she offers a contract. Hence, the timing is the following: 0) the agent and the principal learn the agent's trait $\theta \in \{0,1\}$; 1) the principal offers a contract;

[56] An agent considering himself as an A extracts his self-esteem from: (a) his non-wage gratification opportunities $\phi \in \mathbb{R}^+$, (b) the fact of complying his effort e to the prescription defining category A (that we also fix to 1), (c) the appropriateness of his wage to the exogenous standard w_A prevailing among A agents.

[57] Note that it would have been equivalent to assume $I_B(\theta) = I_B + \gamma_\theta(1-\theta)$ i.e. that identity B have mobilized an ideal attribute $\theta = 0$.

2) the agent accepts or refuses the contract, chooses his identity, and exerts an e¤ort or not; 3) the outcome q is realized; 4) the contract is executed.

Contracts use all available information. Hence, with moral hazard, contracts are functions $w(q, \theta)$ linking an agent with trait θ's compensation to the random output q.

Principal's problem is little changed. With moral hazard, assuming that it is a best choice for the principal to induce e¤ort $e = 1$, with obvious writings, her problem is written as

$$\max_{\mathbf{w}} \pi_1 (S(\overline{q}) - \overline{w}) + (1 - \pi_1) \left[S\left(\underline{q}\right) - \underline{w} \right]$$

subject to

$$\begin{cases} EU_A(\mathbf{w}, 1; \theta) \geq EU_A(\mathbf{w}, 0; \theta) & (IC_A) \\ EU_A(\mathbf{w}, 1; \theta) \geq EU_B(\mathbf{w}, 0; \theta) & \left[IC_{A/B} \right] \\ EU_A(\mathbf{w}, 1; \theta) \geq I_B & (PC_A) \end{cases}$$

OR

$$\begin{cases} EU_B(\mathbf{w}, 1; \theta) \geq EU_B(\mathbf{w}, 0; \theta) & (IC_B) \\ EU_B(\mathbf{w}, 1; \theta) \geq EU_A(\mathbf{w}, 0; \theta) & \left[IC_{B/A} \right] \\ EU_B(\mathbf{w}, 1; \theta) \geq I_B & (PC_B) \end{cases}$$

AND

$$\mathbf{w} \geq \mathbf{0} \quad (LL)$$

All the results obtained in chapter 3 still hold. One just needs to take into account that ΔI, the relative attraction of outside-work includes a new argument: the trait θ. Indeed,

$$\Delta I(\phi; \theta) = I_B - I_A(0; \theta) = I_B - \phi + \gamma_w w_A + \gamma_e + \gamma_\theta (1 - \theta) > 0$$

In the previous chapter we have shown that beyond technologies, non-wage characteristics of jobs and employees' self-esteem motivations interplay in determining the employment relation pro…tability. This results from the potential stimulation of an intrinsic motivation. What if some agents are less sensitive than others to this stimulation?

4.2.2 Motivation-based pro…tability and selective hiring under complete information

Exhibiting individual traits close to the ideal attributes de…ning a proclaimed identity makes easier self-esteem achievement. In terms of work motivation, as Lambert puts it

> The level of intrinsic motivation experienced by a particular worker depends to some extent on the …t between the worker and the job. Some workers are more prone to respond positively to potentially motivating jobs - Hackman and Oldman (1976, 1980)[58], Lawler, Hackman, and Kaufman (1973)[59]. Lambert (1991, p. 343)

The pro…tability of the employment relation can depend on some characteristics of the agent as summarized in θ.[60] In what follows, raising the question of seeming discriminatory hiring, we move gradually from the analysis of some particular employment relation to a model of labor market functioning that stresses job characteristics. We come to matters of earning disparities between socio-demographic groups through occupational segregation.

Suitability of agents to the workplace identity, and selective hiring

Here, it is assumed: that a principal faces a pool of agents only di¤erentiated from each other by their trait θ 2 f0, 1g - ($I_B, w_A, °$) is common to all the agents in the labour pool; that there is no shortage of workers of any trait. Technology (¼, **q**, S(.)) is …xed so that we can focus on the role of job characteristics (ϕ, ψ) over selective hiring.

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[58] Hackman, J. R., and G. Oldham (1976). "Motivation through the design of work: test of a theory." Organization Behavior and Human Performance, 16, pp. 250-279.
Hackman, J. R., and G. Oldham (1980). Work Redesign, Addison-Wesley, Reading, Mass.

[59] Lawler, E., J. R. Hackman, and S. Kaufman (1973). "E¤ects of job redesign: a …eld experiment." Journal of Applied Social Psychology, 3, pp. 49-62.

[60] Some individuals are better suited to the workplace identity than others (or, conversely, better suited to the out-of-the-workplace identity). As we have already stated: psycho-sociological analyses reveal that, for instance, being a woman, an old worker, having a depreciated quali…cation, etc. (within the framework of our model, having a θ = 0) predisposes to the out-of-the-workplace identity (identity B).

Because some individuals feel better suited to the out-of-the-workplace identity than to the workplace identity, they may be pushed aside by the principal: it all depends on the type of the available job. The next implication states conditions, for some particular job, that make it prejudicial to exhibit trait $\theta = 0$. It also stresses the role of the level of demands of jobs. Note that $¢I(\phi;1) < ¢I(\phi;0)$.

Implication 4 The relative ease with which agents hold identity A or B may or not, according to the job characteristics and technology, involve a selective hiring. More precisely,

² if $¢I(\phi;1) \geq \gamma_w ¢\pi ¢S + \gamma_e$ or $¢I(\phi;0) \leq 0$ then no socio-demographic selection occurs whatever $\psi > 0$;

² if $\gamma_w ¢\pi ¢S + \gamma_e > ¢I(\phi;1)$ and $¢I(\phi;0) > 0$: (i) hiring is selective for low and/or medium degrees of demands ψ; (ii) hiring stops being selective as level of demands ψ becomes high.

Hence, workers whose $\theta = 0$ may be crowded out by those whose $\theta = 1$ despite any apparent di¤erences in terms of productivity. Some possible corresponding situations are depicted in …gure 4-1.

Implication 4 provides a characterization of jobs for which hiring is selective. The underlying argument is simple: it states that, according to job characteristics, agents exhibiting traits $\theta = 0$ or $\theta = 1$ can be perfect substitutes or not. Selection only occurs if it is not the case and it has nothing to do with employer's tastes as regards individual traits.

Non-discrimination, and motivation-based gains in the pro…tability of e¤ort. Let us stress an important property of our model which …gure 4-1 illustrates. Selective hiring may be a requirement for the highest motivation-based gain in pro…tability.

Implication 5 (i) for $¢I(\phi;0) \geq \gamma_e$, the highest motivation-based gain in pro…tability requires a selective hiring; (ii) for $\gamma_e > ¢I(\phi;0) > 0$, the highest motivation-based gain in pro…tability may require hiring to be selective or not, depending on the job's level of demands; (iii) for $0 \geq ¢I(\phi;0)$, the highest motivation-based gain in pro…tability does not involve selective hiring.

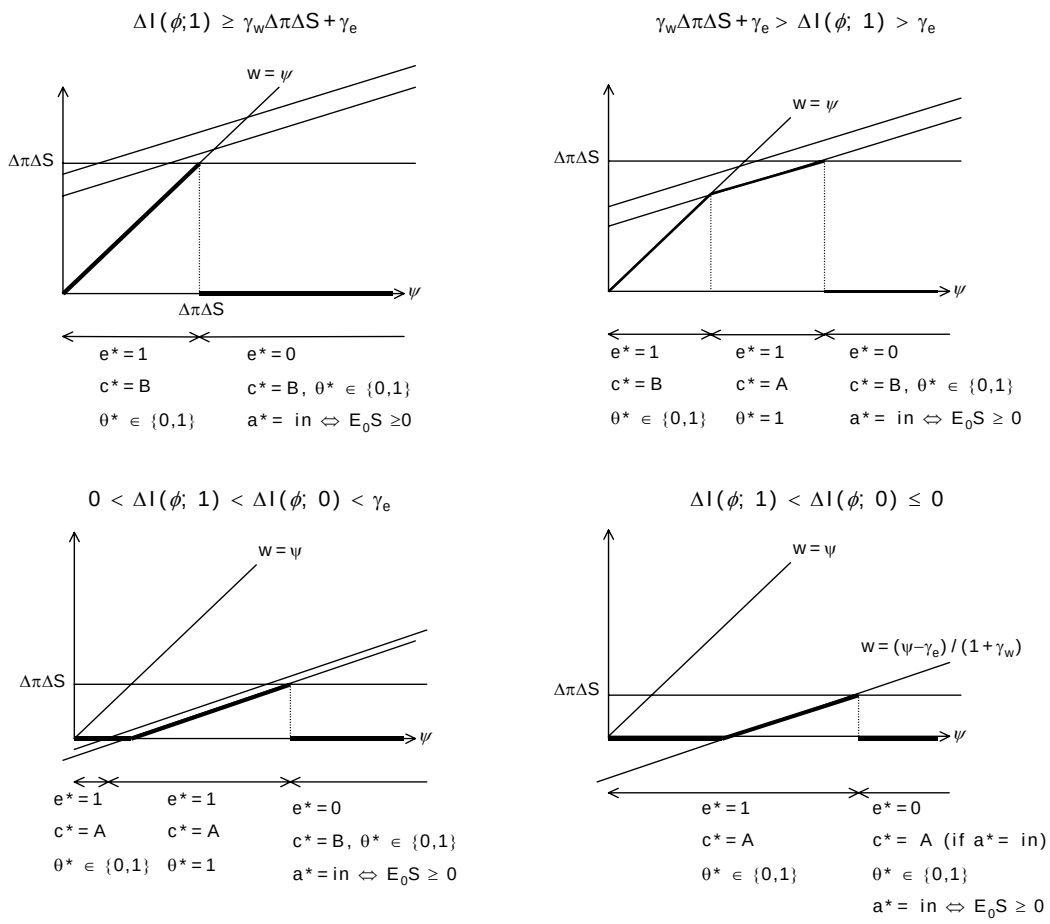


Figure 4-1: Conditions for hiring to be selective (the role of ψ).

This latter implication highlights that, contrary to what holds for taste-based theories of discrimination, there could be an incompatibility between improving the pro…tability of e¤ort, and avoiding selective hiring. As a consequence, when …ghting seeming hiring discrimination, one should have in mind possible consequences in terms of pro…tability. In particular, quota policies are bound to be:

² ine¤ective as one seeks to reduce socio-demographic disparities (if …rms are allowed to hire agents whose $\theta = 0$ in the type of job they want);

² source of loss in pro…tability (if the policy maker imposes the hiring of some agents whose $\theta = 0$ in jobs that are neither unful…lling to $\theta = 1$ nor strongly ful…lling to $\theta = 0$).

We now turn to the analysis of some possible consequences of self-esteem concerns over the labor market as a whole.

Self-esteem concerns and selective hiring in the labor market

While agents (labor suppliers) are still assumed to be only di¤erentiated from each other by θ, we comprehend labor demand as segmented according to the characteristics of available jobs. For each technology $(¼, \mathbf{q}, S(.))$ and characteristics (ψ, ϕ), we assume there is a unique available job: employers are monopsonists on each segment of the labor market.[61] On this basis, it is trivial that when only the agent participation is required (e = 0) the hiring is not selective: indeed, in that case $E_0 w_0^{¤}(1) = E_0 w_0^{¤}(0) = 0$. We consider cases in which e¤ort is induced in the next proposition.

Proposition 4 Consider a job for which it is pro…table for the principal to induce e¤ort e = 1. Then, hiring is selective if and only if this job is either weakly ful…lling to agents whose θ = 1 or strongly ful…lling to them but not to those whose θ = 0.

Proof. We show the contra-positive statement i.e. that no selection occurs if and only if the job is either strongly ful…lling to agents whose θ = 0 or unful…lling to those whose θ = 1. Consider a job for which no selection occurs. It must be the case that the principal makes an equal pro…t when hiring a θ = 1 or a θ = 0. This is true when $E_1 w_1(0) = E_1 w_1(1)$, that is, when the job in question is strongly ful…lling or unful…lling both to an θ = 1 and to an θ = 0. Take a job which is strongly ful…lling (respectively unful…lling) both to an θ = 1 and to an θ = 0. Then $E_1 w_1(0) = E_1 w_1(1) = \frac{\psi \, i \, \gamma_e}{1+\gamma_w}$ (respectively $E_1 w_1(0) = E_1 w_1(1) = \psi$) so that the principal makes an equal pro…t when hiring an θ = 1 or an θ = 0 and hiring is not selective. ■

This proposition tells us that the way workers view a given job conditions their chance of being hired. Indeed, on this perception depends their capacity to develop intrinsic motivation to e¤ort: that is what employers care about! These comments lead to …gure 4-2 which displays, for a given technology $(¼, \mathbf{q}, S(.))$, the set of jobs for which hiring is

[61] Beyond matters of simplicity, this assumption is made to neutralize the impact of competition over the distribution of workers between available jobs. Supporting the relevance of such an hypothesis, see Bhaskar, Manning, and To (2002).

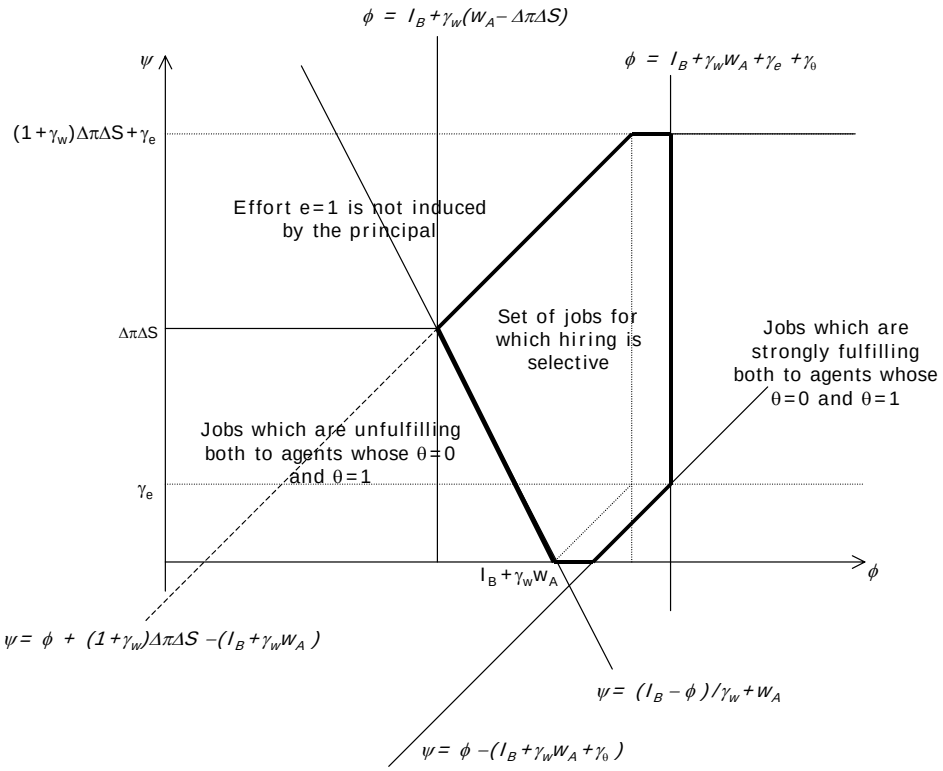


Figure 4-2: Jobs characteristics and selective hiring.

selective in the space $(\phi, \psi) \in \mathbb{R}^2_+$.[62]

Each point in this space represents a particular job, described as a couple (non-wage grati…cation opportunities, level of demands). Our model suggests that all the jobs are not equally likely to give rise to motivation-based selection. Selective hiring should be scarce for jobs such as, for instance, cashier or menial bank clerk: tasks are such that, whatever $\theta \in \{0, 1\}$, intrinsic motivation hardly balances the need for extrinsic rewards. These cases correspond to the bottom left area of …gure 4-2. By contrast, reporters, doctors or soldiers often view their occupation as missions to be completed rather than just as a way of earning a living. They generally enjoy wide autonomy

[62] This …gure assumes $I_B + \gamma_w (w_A - \Delta\pi\Delta S) > 0$ and $\gamma_h < \gamma_e < \Delta\pi\Delta S$. The latter assumption about parameters is not crucial as the shape of the discrimination set is considered. As for the …rst, the opposite would have implied a vertical cut in the discrimination set: since it does not dramatically a¤ect the content of our analysis, we do not consider this case graphically.

and give their job a particular importance in their personal fulfilment. According to our model, motivation-based selection should not arise in this kind of job because of the strong intrinsic motivation that comes with them: so strong that it does not really matter to exhibit trait $\theta = 0$ or $\theta = 1$. These cases echo the area to the right of the figure. All other situations between the last two sets of cases refer to jobs that are either weakly fulfilling to agents whose $\theta = 0$ or to those whose $\theta = 1$. For these jobs, extrinsic and intrinsic motivations compete and θ makes a difference to the principal: she targets agents who should develop the strongest intrinsic motivation.

So far, we have mostly adopted the principal's perspective, stressing the profitability of effort. What has our model to say about earnings within each socio-demographic group?

The potential gap in average earnings

Here, we question the impact of the occupational segregation to which our analysis leads on the average earnings of socio-demographic groups whose $\theta = 0$ and $\theta = 1$. In the absence of any assumption about the distribution of jobs in the space (ϕ, ψ) we cannot address the question of earnings differences nor make any prediction. Nevertheless, we would like to put forward some properties our model exhibits. To do this we introduce a measure of potential share of selective jobs.

The potential share of selective jobs. Let $\lambda(E_1 w) \in [0,1]$ denote the potential share of selective jobs among those of wage standard $E_1 w > 0$. This share is "potential" to the extent that it is built upon the assumption that jobs are uniformly distributed over a closed subset $\left[0, \hat{\phi}\right] \times \left[0, \hat{\psi}\right]$ of $\mathbb{R}^2_+$ with $\hat{\phi} > I_B + \gamma_w w_A + \gamma_e + \gamma_\theta$ and $\hat{\psi} > (1 + \gamma_w)\,¢\,\pi\,¢\,S + \gamma_e$, so that all possible situations are encompassed. These strong assumptions respond to our will to display the structural implications of our model regarding earnings disparities between socio-demographic groups.

Proposition 5 Consider the set of jobs whose monitoring is costless. Then

- λ is increasing in $E_1 w$;
- $0 < \lambda(E_1 w) \leq \min\left\{\lambda(¢\,\pi\,¢\,S), \lambda\left(\frac{I_B}{\gamma_w} + w_A\right)\right\}$.

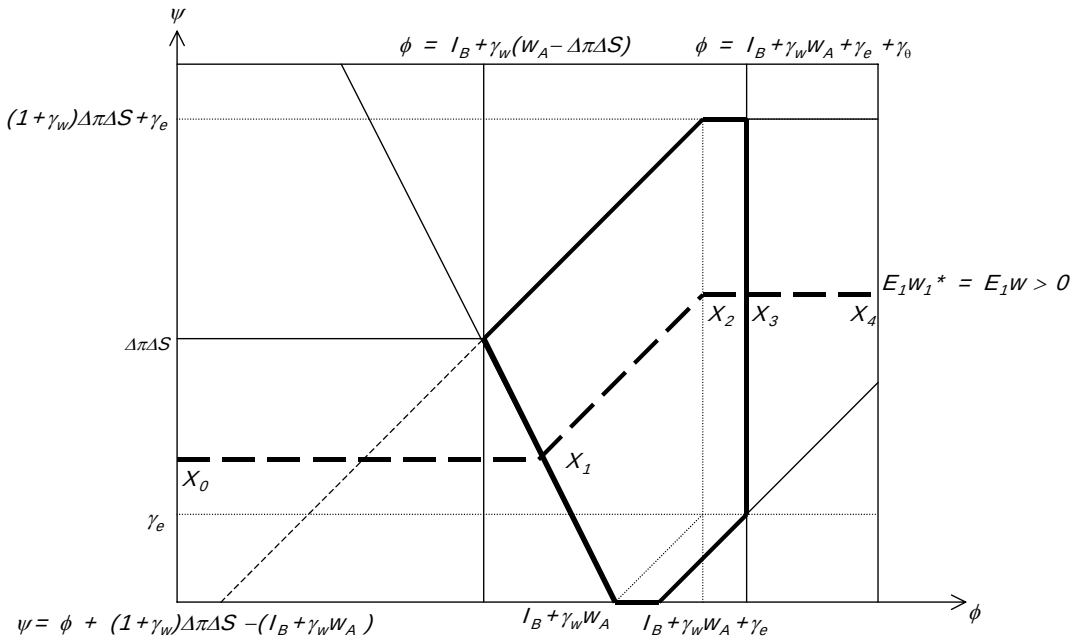


Figure 4-3: Iso-pay curve and the set of jobs for which hiring is selective.

Proof. On the next …gure, we draw the iso-pay curve corresponding to $E_1 w_1^{\alpha} = E_1 w$ (the bold dotted broken line).

For $0 < E_1 w \cdot \¢ \pi \¢ S$, our measure of potential selection is simply

$$\lambda = \frac{X_1X_2 + X_2X_3}{X_0X_1 + X_1X_2 + X_2X_3 + X_3X_4}$$

Hence, for $0 < E_1 w \cdot \¢ \pi \¢ S$, the potential share of selective jobs is written

$$\lambda(E_1 w) = \begin{cases} \frac{(\gamma_w E_1 w + \gamma_e)\sqrt{2+\gamma_\theta}}{(\gamma_w E_1 w + \gamma_e)\left(\sqrt{2}-1\right)+\hat{\phi}} & \text{if } E_1 w \cdot \frac{I_B}{\gamma_w} + w_A \\ \frac{(I_B + \gamma_w w_A + \gamma_e)\sqrt{2+\gamma_\theta}}{(I_B + \gamma_w w_A + \gamma_e)\left(\sqrt{2}-1\right)+\hat{\phi}} & \text{if } E_1 w > \frac{I_B}{\gamma_w} + w_A \end{cases}$$

which involves the previous result. ■

Earnings disparity. The latter proposition states that the higher the wage standard under consideration, the more (potentially) likely it is that a (randomly drawn) job will

involve selective hiring between θ = 0 and θ = 1. Hence, our model leads to a possible explanation of the gap in average earnings between socio-demographic groups that the evidence displays.[63] The argument would be the following: the proportion of agents whose θ = 1 should be higher in well paid jobs than in poorly paid ones - at least under the assumption that there are (at least) as many θ = 0 and θ = 1 in the two remaining sets of jobs. As a consequence, when comparing the average earnings between socio-demographic groups, it is likely that it will be higher among θ = 1 than among θ = 0. This corresponds to the fact that the set of selective jobs includes more demanding jobs than the set of jobs which are unful…lling both to θ = 0 and θ = 1.

Comparative statics. Let us start with the analysis of a set of jobs with common expected added surplus ¢π¢S. For ¢π¢$S < \frac{I_B}{\gamma_w} + w_A$, all other things being equal, an increase in ¢π¢S implies an extended salary range with λ higher in the top earnings: it is bound to widen the gap in average earnings between socio-demographic groups. Once ¢π¢S is over $\frac{I_B}{\gamma_w} + w_A$, while still extending the salary range, the e¤ects in terms of unequal average pay of a rise in ¢π¢S are no longer ampli…ed by an increased λ for top earnings. Hence, $\frac{I_B}{\gamma_w} + w_A$ should be comprehended as a boundary limiting the increase of the weight of agents whose trait is θ = 1 in top earnings when computing average pay by socio-demographic groups.

What if I_B or/and w_A rise? As one considers jobs whose technologies were such that, initially, ¢π¢$S < \frac{I_B}{\gamma_w} + w_A$, neither the salary range nor the weight of θ = 1 in top earnings are a¤ected. Such is not the case when considering jobs whose associated initial expected added surplus was below $\frac{I_B}{\gamma_w} + w_A$. Then, for any given $E_1 w$ initially higher than $\frac{I_B}{\gamma_w} + w_A$, λ is increased: the weight of θ = 1 among well-paid jobs is increased. Hence, on the whole economy scale, the potential gap in pay between socio-demographic groups is widened by a rise in I_B or w_A.

Therefore, our argument is based on the relative concentration of well paid jobs in the set of selective jobs. Notice that it does not involve any competitive mechanisms: by designing a measure of "potential selection" we focus on a force that is inherent in our

[63] See the discussion below.

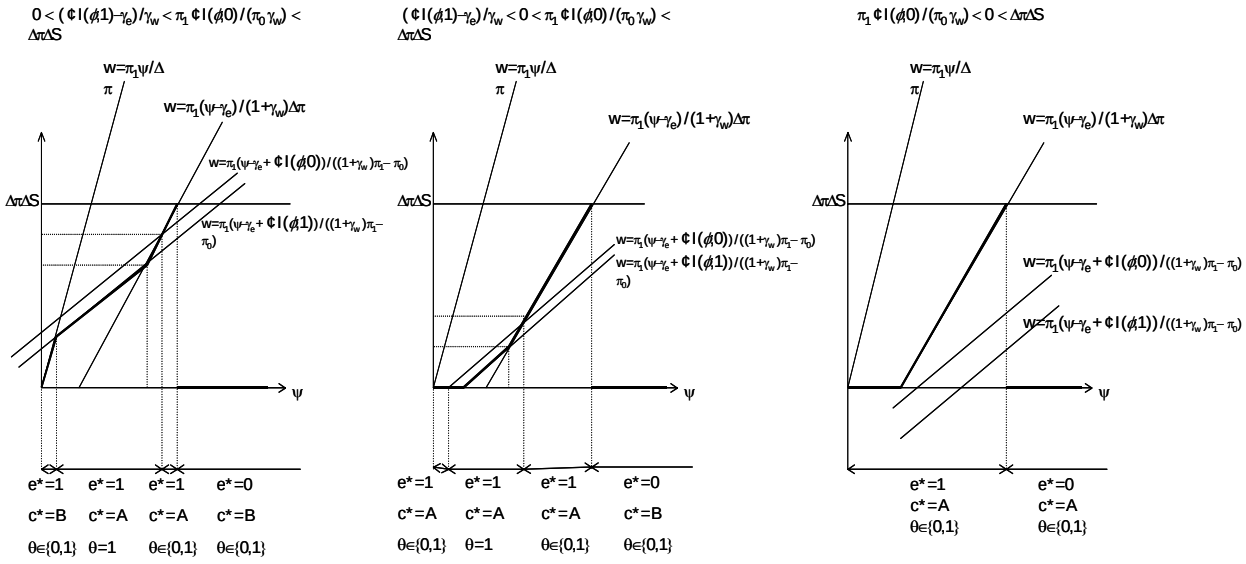


Figure 4-4: Some new con…gurations of selective hiring when e¤ort is not observable.

model (involving agents' preferences). Besides, this mechanism may not operate since e¤ective selective hiring eventually depends on assumptions over the actual distribution of jobs in the space (ϕ, ψ).

4.2.3 Pro…tability, and selective hiring with moral hazard

How does moral hazard a¤ect the model's implications as regards socio-demographic disparities in the labor market?

Some qualitative di¤erences to the case of complete information

With …gure 5-2, we illustrate the role of θ directly in the case $\frac{\pi_1}{\pi_0}\frac{\psi}{\gamma_w} < ¢\pi ¢S$.[64] The next three graphs reveal that conditions over $¢I(\phi;0)$ and $¢I(\phi;1)$ such that hiring is selective for some values of ψ are exactly what we obtained under complete information.

But still, these graphs also complement the four con…gurations previously analysed.

[64] For $\frac{\pi_1}{\pi_0}\frac{\psi}{\gamma_w}$, $¢\pi ¢S$ graphical analysis only quantitatively di¤ers from the corresponding under complete information.

Let us …rst focus on what remains unchanged. As we were saying, implication 4 (condition of selective hiring for some ψ) and proposition 4 are still relevant for jobs whose monitoring is not cost-e¤ective. This directly derives from the fact that moral hazard does not a¤ect agents' self-esteem concerns. Besides, the content of the implication 5 stressing the possible incompatibility between non-selection and pro…tability remains una¤ected with moral hazard.

The di¤erences come from the fact that, for large enough ψ, the principal can no longer content herself with binding the crossed incentive constraint $\left[IC_{A/B}\right]$: she meets the standard incentive constraint. In other words, as the level of demands increases, the job turns from weakly ful…lling into a strongly ful…lling one. The intuition follows. By considering more demanding jobs, we consider higher wage standards. We eventually exceed the wage threshold w_A which makes an agent feel a due holder of the workplace identity (social status concern). Added to the assumption that means of …tting with identity A are perfect substitutes, it involves a relative weakening of the e¤ort prescription. In other words, reaching higher wage standards blunts the intrinsic motivation linked to the workplace identity, from which results the necessary strengthening of the extrinsic motivation to e¤ort (increased pace of pay rising with level of demands).

As far as our model properties are concerned, as the left and middle …gures show, selective hiring may disappear although the principal keeps implementing action $(in, 1, A)$, as the level of demands is increased. Indeed, as we noted above, the level of demands ψ enters the condition that changes a weakly ful…lling job into a strongly ful…lling one: once the level of demands is high enough so that the job is strongly ful…lling for agents whose $\theta = 0$, hiring is no longer selective. As far as hiring selection is considered, this new mechanism leads to properties that depart from what we obtained for jobs whose monitoring is costless.

The set of jobs for which hiring is selective.

In …gure 4-5, as we did under complete information, we depict the set of jobs for which hiring is selective in the space (ϕ, ψ). The dotted polygon depicts the corresponding set when e¤ort is observable.

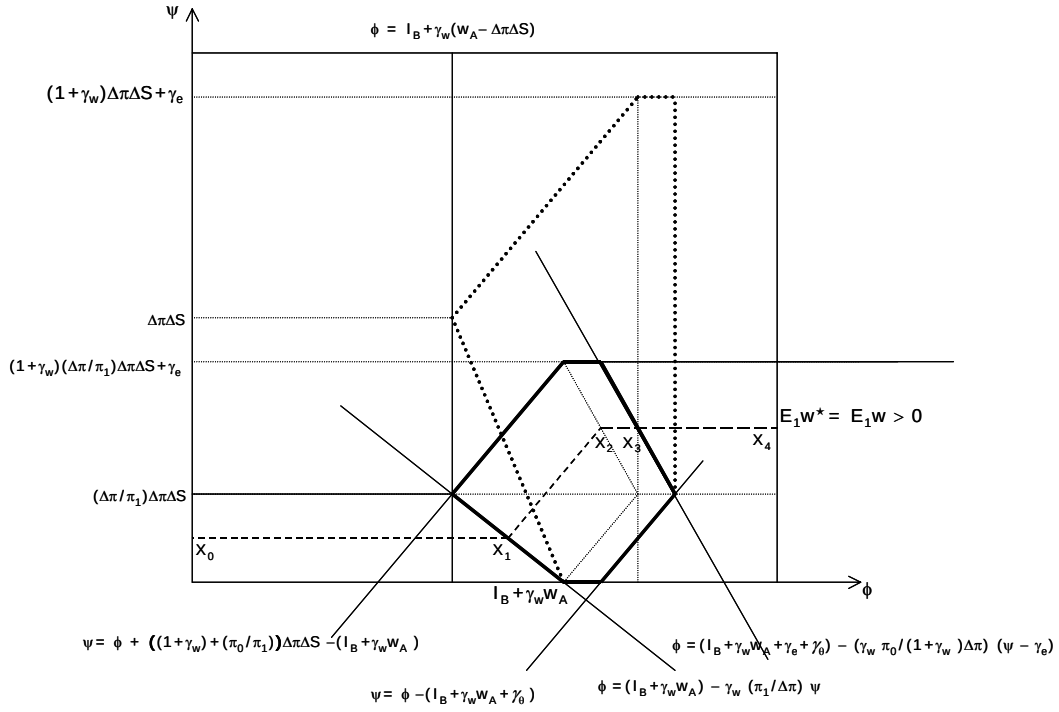


Figure 4-5: Job characteristics and hiring selection with moral hazard.

This …gure both illustrates the shrinking of the set of jobs for which e¤ort $e = 1$ is induced (the standard loss in e¢ciency), and the distortion of the set of jobs for which hiring is selective resulting from moral hazard. As for the latter, two facts are illustrated: some jobs that were unful…lling under complete information become weakly ful…lling to $\theta = 1$ (and enter the set of jobs for which hiring is selective) with moral hazard; some jobs that were weakly ful…lling under complete information become strongly ful…lling (in particular to agents whose $\theta = 0$) with moral hazard (and then exit the set of jobs for which hiring is selective). The intuition for the …rst fact is that of proposition 5: for a given level of demands, the rent conceded by the principal to the agent involves higher pay; thus, when e¤ort is induced, compensation is closer to w_A, and the workplace identity is aroused for lower non-wage grati…cation opportunities with moral hazard. As for the second fact, it echoes the same logic, to which is added the renewed need for extrinsic motivations as the workplace identity becomes more comfortable (high scope, and adequate pay).

Let us examine the consequences of moral hazard upon the potential gap in average earnings.

Moral hazard, and the **potential** gap in average earnings

Let $\lambda^{MH}(E_1 w) \in [0,1]$ denote the potential[65] share of selective jobs among those of wage standard $E_1 w$ which involve moral hazard (monitoring is not cost e¤ective).

Proposition 4 Consider the set of jobs whose monitoring is not cost e¤ective. Then,

- All other things being equal, $\lambda^{MH} < \lambda$;[66]
- λ^{MH} is: strictly increasing in $E_1 w$ over $\left(0, \frac{I_B}{\gamma_w} + w_A\right)$; strictly decreasing in $E_1 w$ over $\left(\frac{I_B}{\gamma_w} + w_A, +\infty\right)$.

[65] The word "potential" involving the same set of restrictions as above.

[66] Furthermore, $\lim_{\frac{\pi_1}{\pi_0} \to +\infty} \lambda^{MH}\left(E_1 w; \frac{\pi_1}{\pi_0}\right) = \lambda(E_1 w)$.

Proof. For $0 < E_1 w \cdot ¢\pi¢S$, the potential share of selective jobs is written:

$$\lambda^{MH}\left(E_1 w; \frac{\pi_1}{\pi_0}\right) = \begin{cases} \dfrac{\gamma_w \left(1 - \frac{\pi_0}{\pi_1}\right) E_1 w + \gamma_e}{\gamma_w \left(1 - \frac{\pi_0}{\pi_1}\right) E_1 w + \gamma_e \left(\sqrt{2} - 1\right) + \hat{\phi}} \sqrt{2} + \gamma_\theta & \text{if } E_1 w \cdot \frac{I_B}{\gamma_w} + w_A \\ \dfrac{I_B + \gamma_w w_A + \gamma_e - \gamma_w \frac{\pi_0}{\pi_1} E_1 w}{I_B + \gamma_w w_A + \gamma_e - \gamma_w \frac{\pi_0}{\pi_1} E_1 w \left(\sqrt{2} - 1\right) + \hat{\phi}} \sqrt{2} + \gamma_\theta & \text{if } E_1 w > \frac{I_B}{\gamma_w} + w_A \end{cases}$$

which involves our claim. ■

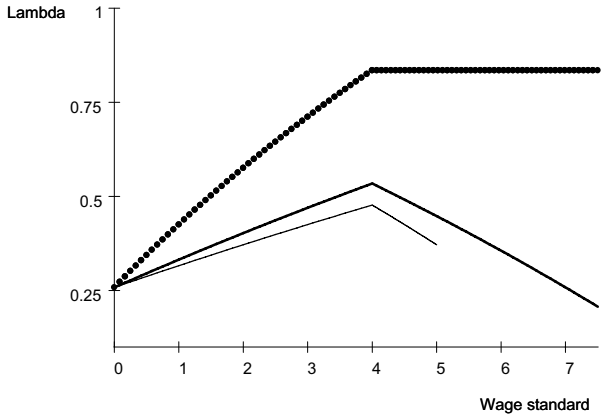
Let us comment on the …rst item of the latter proposition. It states that, all other things being equal (in particular for a given expected transfer $E_1 w$), the potential share of selective jobs is lower with moral hazard than under complete information about e¤ort. Indeed, with moral hazard, $E_1 w$ comprehends a (strictly positive) limited liability rent, which is not the case under complete information. Thus, a given $E_1 w > 0$ corresponds to less demanding jobs with moral hazard than under complete information. But selection is all the more likely when more demanding jobs are considered so that $\lambda^{MH} < \lambda$.

Earnings disparity. As regards the class of jobs whose technology is such that $¢\pi¢S \cdot \frac{I_B}{\gamma_w} + w_A$, λ^{MH} is strictly increasing in $E_1 w$ which reinforces what we obtained under complete information: higher wages correspond to more demanding jobs; the latter are more likely to require the arousing of intrinsic motivation which feeds selective hiring. For $\frac{I_B}{\gamma_w} + w_A < ¢\pi¢S$, λ^{MH} rises in $E_1 w$ up to $\frac{I_B}{\gamma_w} + w_A$, it is then strictly decreasing in $E_1 w$. This results from the expansion of the class of jobs that are strongly ful…lling both to $\theta = 0$ and $\theta = 1$ as $E_1 w$ rise: for a given ϕ, jobs which were weakly ful…lling to $\theta = 0$ for low levels of $E_1 w$ (of ψ) become strongly ful…lling for higher levels of $E_1 w$ (of ψ). Therefore, as we consider the class of well-paid jobs for which e¤ort brings high expected bene…ts, the potential share of selective jobs may decrease. This implies that the over-representation of $\theta = 1$ in the better-paid jobs should be reduced, curbing unequal average earnings between groups. Hence, it is not within this class of jobs that we should witness the widest gap between socio-demographic groups.

Comparative statics. As for technological aspects, it is desirable to distinguish the stochastic productivity of e¤ort $¢\pi$, from the non-stochastic productivity of e¤ort $¢S$.

Indeed, contrary to what prevailed under complete information, the consequences of a change in the productivity of e¤ort are not the same, whether it involves a change in ¢π or in ¢S. The consequences of a change in the latter are broadly similar to those of a change in ¢π¢S under complete information: mainly a change in the extension of the salary range. With moral hazard, to the extent that a change in ¢π is also a change in $\frac{\pi_1}{\pi_0}$, it results in di¤erent e¤ects. Previous expressions of λ^{MH} imply that, whatever $E_1 w$ 2 [0, ¢π¢S], whatever the relative worth of ¢π¢S and $\frac{I_B}{\gamma_w}$ + w_A, a gain in π_1 (given π_0) increases λ^{MH}. Yet, this is not the only consequence of an increase in ¢π.

The next …gure depicts a numerical illustration.[67] We draw the potential share of selective jobs for two technologies: the bold curve corresponds to a stochastic productivity of e¤ort which is higher than that corresponding to the thin curve. The dotted curve represents the same measure under complete information.



Potential share of selective jobs for two technologies under complete information or with moral hazard.

Figures are such that ¢π¢$S > \frac{I_B}{\gamma_w}$ + w_A. As mentioned above, we see that λ^{MH} is higher for all wage standards below the initial ¢π¢S, which suggests a widened average pay gap between θ = 0 and θ = 1. The ambiguity comes from the fact that the extended salary range goes with lower potential selection in top earnings.

[67] Self-esteem concerns are $(I_B, w_A, °) = \left(\frac{3}{2}, 1, \frac{1}{2}, \frac{1}{2}, \frac{1}{4}\right)$¢¢, the non-stochastic productivity of e¤ort ¢S = 30, and the technological shock consists in a move from $\pi = \left(\frac{1}{2}, \frac{2}{3}\right)$¢ to $\left(\frac{1}{2}, \frac{3}{4}\right)$¢. We further take $\hat{\phi} = \frac{7}{2}$.

We now provide a discussion of previous results, relating them both to available theories and to available evidence about disparities in the labor market as considered in section 1.

4.3 A motivation-based theory of selective hiring which generates statistical earnings disparities

Which part can our model play in the discussion of section 1? To what extent does it account for facts? This section aims at pursuing the discussion opened in section 1 using the insights introduced in section 2.

4.3.1 A model of seeming hiring discrimination

Let us begin with a summary of our argument regarding selective hiring. In our analysis, agents decide whether achieving self-esteem through their job or through other activities outside their working life. In the former case, they develop an intrinsic motivation to e¤ort at work. Certain individual characteristics curb this choice since the comfortable holding of the workplace identity requires to …t in some ideal attributes. According to …eld studies, ideal attributes when one holds the workplace identity are to be a white middle age male with a considered-as-proper initial education, deprived of strong commitments outside one's working life. As a consequence, all other things equal, agents exhibiting characteristics which match the previous portrait should choose the workplace identity (and hence, develop intrinsic motivation to e¤ort) for lower wage amounts than others. If the description of the o¤ered job makes it pro…table for the employer to arouse the workplace identity - that is, when the propensity of the employee to hold the workplace identity makes a di¤erence, employers will hire the former …rst (at the expense of the latter) which looks like hiring discrimination. Jobs description makes those jobs either strongly ful…lling, weakly ful…lling or unful…lling to an individual of a given socio-demographic group.

How well does our explanation account for evidence about socio-demographic dispar-

ities in the labor market?

4.3.2 The interpretation of micro evidence

Let us use our model to interpret micro evidence.

Interpreting the results of audit studies

From the perspective of our model, the basic interpretation of Bertrand and Mullainathan (2003)'s …ndings (see section 1) would be the following: being black moves an individual's characteristics aside from the ideal attributes associated to the workplace identity. Assuming a particular concentration of jobs whose description makes them at most (resp. at least) weakly ful…lling to a black (resp. to a white), whites are expected to develop a stronger intrinsic motivation so that it is rational from employers to favor their applications. Moreover, extrapolating our model, the following explanation to the lower return to credentials for blacks (see above) can be suggested. Bertrand and Mullainathan mention their concern that résumés enhancement could have a reverse e¤ect since it could lead the job applicant to be perceived as over-quali…ed.[68] Employers usually have a mixed look at overquali…cation: on the one hand, it signals higher "material" ability, on the other hand, hiring over-quali…ed individuals involves a risk of low motivation at work (and, presumably, of high turnover propensity). Hence, this balance is more likely to be disrupted with blacks, whose intrinsic motivation in weakly ful…lling jobs is presumed to be lower. Our approach also raises a question which is not addressed by Bertrand and Mullainathan as regards potential weaknesses of their experiment. What if black-sounding names are interpreted by employers as re‡ecting community attachment (within our model's framework, a presumption that blacks' outside option as regards self-esteem is higher than whites'): in our identity perspective, this would increase reservation utility, and justify the fact that whites are favored.[69]

[68] See the sections devoted to the building of a bank of résumés or the one adressing the potential confounds.

[69] The role of attachment to ethnic origins in the determining of performance in the labor market is already emphasized by Akerlof & Kranton (2000, p.738).

Our interpretation of Neumark's conclusions would involve that catering occupations do not comprehend the same job description whether one considers low-price restaurants or high-price ones. Working as a waitperson in the latter brings wider scope but is likely to be more demanding than in low-price restaurants to the extent that the quality of the meal service is then crucial (higher price often responds to higher demands as for service quality): catering jobs in luxury restaurants are presumed to be at least weakly ful…lling to a man but at most weakly ful…lling to a woman. The stronger propensity of men to develop intrinsic motivation as waiters in establishments where service is more formal encourages managers to give them an advantage over women.

A further point deserves attention. Neumark evokes a Newsweek article discussing his study, in which one restaurant owner explained the lack of waitresses in his upscale restaurant as "a question of us seeing an endless number of male applicants and few female applicants" (Newsweek April 10, 1995). If true, this could be consistent with our explanation. Indeed, for the o¤ered contract (which targets men) women are not willing to exert the required level of e¤ort: they do not apply because the contract is not satisfying to them. A comparable fact is observed by Bertrand and Mullainathan (2003). They …nd that federal contractors, who are thought to be more severely constrained by a¢rmative action laws,[70] are not less selective than other …rms; neither do larger employers who explicitly state that they are an "Equal Opportunity Employer" in their ads. This suggests that, statistically, there is few malevolent recruiters i.e. practices do not look arbitrary: no matter how …rms care about equity, when o¤ered jobs are at least weakly ful…lling to white applicants, their ability to develop an intrinsic motivation makes their hiring economically justi…ed.

Further micro interpretations

Childless women are proved to work in higher-pay occupations than mothers of the same age.[71] Assume that some well paid jobs which are weakly ful…lling to women remain to be …lled but that there is a shortage of men exhibiting the ideal attributes associated to

[70] Leonards [1990] (see Holzer [1998]) indicates that federal contractors are indeed more likely to hire blacks than non-contractors due to federal a¢rmative action regulations.

[71] OECD Employment outlook (2002, p.108).

the workplace identity. Employers start looking at other applications. Having children (particularly preschoolers) feeds the presumption of high self-esteem achievement opportunities outside the workplace that is of high reservation utility. Inducing e¤ort from a childless woman is then presumed to be cheaper so that they are favored. This would not have been the case for a job that would have been unful…lling or strongly ful…lling to both mothers and childless women.

Let us turn to the interpretation of available statistical evidence.

4.3.3 Accounting for statistical realities

We cannot talk of predictions as regards the aggregate implications we derive from our model: the assumptions we made about the structure of the labor market are far too particular. It prevents us from giving a precise account of how a …nite number of workers from the minority or majority socio-demographic groups should be distributed among jobs under competitive pressures. However, by isolating the role of an identity trade-o¤, we believe that our model brings interesting explanatory arguments as regards statistical facts.

Socio-demographic gaps in average earnings

From the building of the set of selective jobs within the space of jobs, described by a pair (scope, degree of demand), we give some potential consequences of the particular occupational segregation we obtained, in terms of unequal earnings between socio-demographic groups. The gap in average earnings (favorable to agents who …t in) may be a consequence of the fact that the potential share of selective jobs is increasing in expected pay: hiring discrimination is more likely in the class of well-paid jobs than in the class of poorly paid ones. Why is it so? Because pay is increasing in the degree of demand, and the more demanding a job, the stronger the incentives for the employers to arouse an intrinsic motivation (i.e. the workplace identity): it is precisely on that ground that discrimination takes place in our analysis. All things considered, our explanation of earnings disparities (as a macro statistical fact) is very simple: female and black individuals earn less than white males because they are relatively more concentrated in less demanding

occupations. Evidence regarding this presumed trend are analyzed in what follows.

Let us look at the question of gender earnings gap in more detail using further existing evidence.

Gender composition of occupations and earnings

Two widely documented facts are con…rmed by Macpherson and Hirsch (1995) as regards the relation between the share of women within an occupation and earnings: (1) both women and men earn less as the proportion of female workers in their occupation increases; (2) the negative impact of the female proportion in an occupation on wages is stronger for men than for women.

We believe our model provides interesting suggestions as regards the understanding of these facts. Yet, it requires to renounce to interpret them as evidence that the female proportion in an occupation is a determinant of the average wage in this occupation. Let us display the interpretation our perspective would support. Consider the fact (1). The average wage in a given occupation decreases with the degree of demand. The lower this degree, the less likely the employer will arouse the workplace identity. If she does not, that is, if the job under consideration is unful…lling to a man, no discrimination occurs. Hence, the female proportion in such an occupation is likely to be high (since most male workers should be concentrated in discriminating jobs) although there could also be some men. Since there is no pure pay discrimination, both men and women receive low wages, which is consistent with the fact (1). Let us turn to the fact (2). Assume further that the out-of-the-workplace self-esteem of men is lower than that of women (potentially because they have fewer opportunities to develop self-esteem at home, for instance through family activities). Then, the reservation utility is lower for men than for women and men are paid less.[72]

[72] Indeed, the participation constraint is then binding for both men and women but men's reservation utility is assumed lower.

Gaps in average earnings due to motivation-based occupational segregation: how lasting are they?

To be long lasting, discrimination should increase pro…ts or non-discrimination should be costly. This is precisely the case in our model. We obtain an unambiguous increase in pro…ts associated to discrimination when it takes place.[73] Moreover, our argument for this result seems more cross-occupational than existing alternatives allowing higher pro…t to discriminating employers,[74] which is consistent with Mullainathan and Bertrand (2003)'s …ndings showing that the amount of discrimination is uniform across occupations and industries. What matters from our motivation-based perspective is the job description (whether or not this description feeds an incentive for the employer to arouse the workplace identity). selective jobs are likely to be uniformly distributed across industries and we see no reason supporting the assumption that they should disappear in the long run.

The relation between occupational exclusion and ful…lment in the workplace

In the absence of any shortage of workers from the majority group, our model suggests that jobs which are at most (resp. at least) weakly ful…lling to members of the minority group (resp. of the majority group) should be held by members of the majority group (in any case, those workers should be given the priority).

As a consequence and more concretely, women should be distributed either in jobs which are strongly ful…lling or unful…lling to them. This suggests a non-monotonic pro…le as one looks at a possible relation between occupational exclusion and ful…lment in the workplace. It is interesting to look at the table illustrating occupational segregation with such an idea in mind. The relative higher concentration of white women both in the Professional job category (presumed to comprehend more ful…lling jobs) and in the

[73] That is, for jobs which are at most weakly ful…lling to members of the minority group but at least weakly ful…lling to members of the majority group.

[74] We saw, for instance, that the customer's taste for discrimination hypothesis does obviously not work well in the absence of face-to-face contacts between employees and customers possessing the "taste for discrimination". For other theories of discrimination resisting to competitive pressure, see Darity & Mason (1998).

Service job category (presumed to comprehend more unful…lling jobs) could be viewed as a potential manifestation of the non-monotonic pro…le our model displays. Things look less convincing as for black workers, who primary concentrate in blue-collar jobs.

4.3.4 Further evidence consistent with our modelling: jobs description, and the distribution of socio-demographic groups

It is noteworthy that in our model, the occurring of discrimination is not independent from technological or organizational aspects (there is no arbitrary behavior from employers): the description of jobs under consideration determines how likely hiring discrimination is and, consequently, occupational segregation should re‡ect di¤erences in jobs' description.

Our explanation to racial/gender wage disparities in the labor market lies on the idea that white males are relatively more represented in more demanding jobs. As for the role of scope, it is argued that little discrimination should occur in unful…lling jobs (low scope). Do facts tell us anything about these hypotheses?

Socio-demographic distribution among jobs of varying scope

Lucas (1974) analyses the distribution of job characteristics by race and by gender. Among job characteristics, there are two dummy variables that we believe could be related to scope: repetitive and speci…c instruction. The …rst variable takes value 1 if the job under consideration involves repetitive or short cycle operations carried out according to set procedures or sequences. We believe repetitiveness can be adversely related to scope. Indeed, the more repetitive his task, the more precise the expectation as about its outcomes, the lower the worker 's scope. Speci…c instruction takes value 1 if the incumbent is asked to do things only under speci…c instruction, allowing little or no room for independent action or judgement in working out problems. Lucas …nds that: blacks do perform more repetitive jobs on average than do whites; that they are more subject to speci…c instruction than white workers. Besides, a greater proportion of blacks than of whites holds jobs at the bottom of the hierarchy, involving only taking instructions.

Although, we view as erroneous the interpretation of the ranking of a job within a hierarchy as a measure of the scope it o¤ers to its incumbent, it looks reasonable to deem that jobs at the bottom of the hierarchy are unlikely to be of wide scope. Since, arousing intrinsic motivation to e¤ort for such jobs would be too costly (they are bound to be unful…lling), no discrimination should occur: black workers aiming for these jobs obtain them without di¢culties. As regards gender di¤erences, Lucas …nds that women are more subject to speci…c instructions than men but not that their job is more repetitive.

Holzer (1998) reports …ndings which we view as indirect evidence of the role of scope in discrimination occurrence. He shows that small establishments hire less blacks than large ones. An interesting point is that this arises although large establishments employ more highly skilled workers: indeed, it makes human capital arguments irrelevant. Holzer shows that commonly called upon explanations do little to help account for the observed di¤erences in racial hiring outcomes across establishment size categories. Our explanation for such a …nding would be the following. Assume that mean scope is wider among jobs in small establishments than among those in large ones (labor division is expected to be stronger in the latter). Then, jobs are more likely to be at least weakly ful…lling to white workers in small establishments which induce employers to try arousing the workplace identity: this makes discrimination against blacks more likely. Furthermore, the assumption that scope could be a substitute to earnings is consistent with the fact that small establishments pay their employees lower wages than large ones.

Socio-demographic distribution among jobs of varying degree of demand

The more demanding a job, the stronger the incentive for the employers to try arousing intrinsic motivations and thus the more likely hiring discrimination. Hence, white male workers should be relatively more concentrated in demanding jobs than female or black workers. There is no consensual measurement of degree of demand, and one could be doubtful as regards the interest of an analysis invoking such a variable. As the disutility associated with a job is considered, proxies could be pure physical strenuousness, tasks complexity, training requirements, time ‡exibility requirements, exposure to stress... etc., and the adequacy of our perspective to explain the available evidence obviously di¤ers

according to the proxy one favors. Let us, nevertheless, mention some empirical results that we view as related to our problem.

Lucas (1974) …nds that: black males average most jobs involving di¢cult working conditions,[75] and white females much of the lowest frequencies of di¢cult working conditions; blacks, both male and female, clearly average many more jobs requiring physical exercise.[76] Furthermore, Lucas observes that being black and being female both act against a worker in the probabilities of having jobs requiring lengthier speci…c vocational preparation[77]: almost half of the black women are in jobs which require less than 30 days of experience to acquire the skills necessary to perform the task; by contrast, 40% of white men are in jobs requiring more than two years of speci…c vocational preparation.[78] As regards racial di¤erences in the distribution of job characteristics, previous …ndings carry ambiguities: if the degree of demand is reduced to its physical aspects, black employees seem to be in more demanding jobs than their white counterpart and the latter suggestion from our model looks invalidated. But non-physical aspects are bound to be at least as important and previous …ndings suggest that white workers carry out more complex and exacting tasks. Furthermore, the incumbency of high-graded jobs suppose more responsibilities which involves stress. All that makes the invalidation of is suggested by our model as regards racial occupational disparities not so de…nitive. Besides, when considering the test of our results for gender disparities, there is evidence supporting our view much more boldly.

Indeed, focusing on gender di¤erences, Gupta (1993) obtains …ndings that are consistent with those of Lucas (1974). A job attribute index is constructed by Gupta using a data set measuring variables such as strength requirements, degree of stress, degree of repetition in work... etc. The higher this index the less "demanding" (in our words) the corresponding job. Gupta …nds that: females have signi…cantly greater values for job

[75] Working conditions are de…ned with regards to: heat, wet, noise, hazards, fumes.

[76] These results obviously capture di¤erences in human capital: the less human capital the more likely the exposure to di¢cult working conditions and repetitive tasks. However, we think they also re‡ect di¤erent choice as regards self-esteem achievement strategies.

[77] The speci…c vocational preparation indicates the time necessary to learn the techniques, acquire the information, and develop the facility needed for average performance.

[78] Can we not think the access to SVP could be discriminatory? We are con…dent that the "speci…c to a job" 's nature of SVP makes it unlikely that discrimination be at stake in SVP engagement.

attribute index; the most male-dominated occupation (crafts/labor) has the lowest value of the attribute index; workers in the "female occupation"[79] have the highest value for the index. Both results are consistent with our model.

The OECD employment outlook for 2002 displays …ndings (mainly involving white collar jobs) suggesting that occupational segregation by gender results in an under-utilisation of women's cognitive skills.[80] Authors look at the job content for women compared to that for men with respect to the extent of utilisation of their skills on the job and of individual perceptions about the complexity of their work tasks. This leads to the following …ndings: in spite of educational attainment levels that are similar for women and men (or even in favor of women), women engage in writing and reading at work less frequently and/or with less variety than men in all the countries examined; fewer women than men declare that they are carrying out complex tasks in their jobs; more women than men, however, feel that the demands imposed on them by their jobs are too low relative to their skills and, conversely, fewer women than men think they are too high; the skill requirements of many men's jobs are higher than women's.

Let us come again on the relationship between our approach and the main alternative theories.

4.3.5 Some added value to other micro theories?

Taste-based theories of discrimination

Perhaps, one of the most convincing contribution of taste-based theories of discrimination is the explanation it provides to the "glass ceiling" phenomenon: women (or blacks) fail to progress in hierarchy because white men hardly accept to be supervised by them. Nevertheless, high-graded jobs do not necessary involve personnel management so that, this mechanism could come onto horizontal segregation leaving socio-demographic gaps unexplained.[81] At this stage, let us mention a further …nding of the OECD employment

[79] Jobs which are at least 60% female.

[80] See OECD employment outlook (2002, pp. 93, 94).

[81] As regards how labour mobility can allow overcoming the consequences of prejudiced economic agents' behavior, see Cain (1986).

outlook (2002). Women are less prone than men to feel that they have the skills or quali…cations to do a more demanding job than the one they occupy.[82] Although we consider it separately, the importance of this latter evidence is better understood when connected to latter mentioned OECD …ndings: it seems that women are less likely than men to wish to occupy high demanding jobs. From the perspective of our model this can be interpreted as evidence that women are more numerous to hold the out-the-workplace identity than men. Hence, vertical gender segregation may result less from rebellious co-workers[83] than from the preferences of women. In any case, our view suggests another way to look at the glass ceiling phenomenon.

Human capital theories, and motivation-based theory of discrimination

Gender disparities. Since the ability to develop motivation to e¤ort might be comprehended as a form of human capital, one could see our story as closely related to that of Becker (1985) which mobilizes human capital theory.[84] However, our argument does not deal with sexual division of labor but with self-esteem achievement strategies. An empirical analysis exists that both di¤erentiates our explanation from that of Becker (1985) and emphasizes its relevance as regards facts. Lobel and St. Clair (1992) studies the e¤ects of family responsibilities, gender, and career identity salience on performance outcomes. When controlling identity salience (career- or family-oriented), neither extensive family responsibilities nor female gender adversely a¤ects merit increase. This result limits the empirical worth of Becker's (1985) prediction as regards the consequences of having family responsibilities.[85] By contrast, identity salience is proved to positively

[82] This last subjective indicator may re‡ect both one's perceptions about the adequacy of one's skills and quali…cations for the job's demands as well as one's aspirations for a more demanding job.

[83] Besides, personnel management could be understood as an aspect of the degree of demand attached to a job.

[84] The argument of Becker [1985] is the following. Because housework an childcare are more e¤ort-intensive than leisure activities, individuals with household responsibilities will economize on the e¤ort expended at work by seeking relatively undemanding jobs. Prediction would be that individual's family responsibilies should have a direct, negative e¤ect on work e¤ort. This to justify that women be less likely to be hired than men.

[85] But also the gender discrimination story's prediction.

a¤ect both merit increase and work e¤ort.[86]

Racial disparities: the issue of unobserved human capital. Holzer and Ihlanfeldt (1998) note that a much smaller part of the racial di¤erences in employment rates than wage rates is eliminated by the AFQT.[87] This suggests that Neal and Johnson's (1996) insights be not so comprehensive as regards racial disparities in the labor market. In more precise terms, this feeds the presumption that stories of purely cognitive pre-market di¤erences in human capital, while bound to explain racial earnings gap could leave the question of hiring performance di¤erentials unanswered. Our model explicitly treats the problem of employment access by giving an account of why hiring discrimination could occur. To this extent, it can be viewed as complementing human capital theory by stressing on non-cognitive aspects of human capital: the ability to develop motivation at work. Besides, even as one considers the racial earnings gap, there are empirical …nding supporting the idea that non-cognitive aptitudes are relevant explicatives of the level of wages.[88] This is emphasized by Bowles, Gintis, and Osborn (2001) through their notion of incentive enhancing preferences.

We believe it worthy to stress the fact that human capital understanding of disparities in the labor market (to which our approach could be a¢liated) does not rule out the issue of discrimination: it states that discrimination takes place outside the labor market, not that it does not exist.

Crowding hypothesis, statistical discrimination, and a motivation-based theory

Our analysis could bring compensation for some weaknesses existing models display.

Hiring discrimination: the statistical argument. We believe that the identity trade-o¤ we highlight is particularly well suited to the statistical discrimination mech-

[86] Age, education, tenure, position, salary, number of children, preschool child and gender being controlled.

[87] A presumed measure of pre-market skills.

[88] See Bowles, Gintis, and Osborn (2001).

anism. Indeed, some characteristics favoring the holding of the workplace identity may remain unobserved by the employer: thus, the statistical discrimination mechanism can add up to the self-esteem achievement trade-o¤ we introduce. In addition, the statistical discrimination argument work better when actual di¤erences exist between workers.[89]

Occupational segregation and the gender gap: the crowding hypothesis. Because it involves competitive forces, we did not mention so far a third cause directly connected to occupational segregation and often invoked in the explanation of the gender gap in pay: the "Crowding hypothesis".[90] The idea is that because women are very much crowded into a relative few occupations, market functioning leads to a lower equilibrium wage for female labor services. But this is clearly only half an explanation since the question of why female crowding comes to be true remains unanswered. Johnson and Sta¤ord (1997) provides a model analyzing how institutional constraints, social norms, or employer discrimination might "crowd" a group into particular occupations. But, as Altonji and Blank (1999, p.3180) points it, a major weakness of this stream continues to be a lack of formal models that analyze the mechanisms through which social norms or institutional constraints arise and are sustained. For this very reason, we believe that our model might constitute a useful complement to studies that support the crowding hypothesis: because the workplace identity is, all other things equal, "less a¤ordable" to women than to men, they tend to crowd in jobs that are either unful…lling or strongly ful…lling to them.

Summary and conclusion

In the discussion above, we have suggested that the various manifestations of socio-demographic disparities in the labor market should be studied together, and that analyses connecting these manifestations are valuable. After presenting elements curbing the explanatory appropriateness of theories of direct pay discrimination, we tried to show the expected bene…ts of an analysis accounting for disparities in the distribution of dif-

[89] As it was argued in the …rst section, such di¤erences are found to be at most weakly signi…cant.
[90] See Bergman (1971).

ferent socio-demographic groups between available jobs - and particularly with respect to vertical occupational segregation.

This have led us to present some aspects of an approach based on socio-demographic di¤erences as regards optimal strategies of self-esteem achievement. Indeed, although motivational aspects are sometimes invoked in the literature to explain the gaps in earnings between socio-demographic groups, few theoretical studies are devoted to this argument. Our analysis suggests that, for some jobs whose description is speci…ed, black or female workers could manifest lower motivation at work than white men as a consequence of diverging strategies of self-esteem achievement.

Our analysis has led to the following results:

1) the relative spontaneity with which agents hold the workplace identity may involve a selective hiring or not depending on the characteristics of the job under consideration;

2) there can be an incompatibility between maximizing pro…t and guaranteeing equal employment opportunities. We give the conditions under which this incompatibility holds;

3) selective hiring - as a consequence of di¤erentiated self-esteem concerns - occurs for jobs which are at most (resp. at least) weakly ful…lling for working persons of the dominated (resp. dominant) group.

4) when e¤ort is observable, the potential share of selective jobs is a strictly increasing function of the wage standard under consideration, it is not necessarily monotonous with moral hazard;

5) with moral hazard, the potential share of strongly ful…lling jobs for workers belonging to the "dominated" ($\theta = 0$) group is an increasing function of the wage standard under consideration.

Although we have focused on gender and "racial" disparities in the labor market, our approach might be relevant as regards seeming discrimination against "old" workers. Results of Lobel and St. Clair (1992) reveal that age has a negative e¤ect on employment opportunities although it has no impact on e¤ort. Stereotypes on "old" workers motivation and productivity may in‡uence decisions - see the report of the American Association for Retired Persons, 1990).

Let us focus on empirical refutation test. Our analysis suggests that, does an agent to

achieve self-esteem through work, exhibiting certain characteristics (gender, community belonging, adequacy of ones initial education to the job, age,...) should in‡uence this self-esteem. As regards our model predictions refutation test, a seeming hiring discrimination should rather appear within …rms having an organization intensive in weakly ful…lling jobs. Yet, our model indicates that ful…lling jobs are only selective for degree of demands large enough - they must be weakly ful…lling from the point of view of the "dominated" groups. Assuming one has an application from the set of jobs as usually listed into the set of strongly ful…lling, weakly ful…lling and unful…lling jobs, the concentration of selective hiring among unful…lling jobs would be a refutation of the model predictions.

As regards policy implications, we would argue that our model suggests two ways to homogenize the employment opportunities in the labor market. The …rst is to design jobs so that they become unful…lling to members of the "dominant" group: this corresponds to an economy with a very high level of labor division, leaving individuals with little autonomy at work (and hence little non-wage grati…cation opportunities). Although selective hiring would then disappear, economic e¢ciency would be severely compromised since the intrinsic motivation that individuals could develop in the workplace would never be aroused. The alternative way is obviously the better. It advises designing as many jobs as possible so that they be strongly ful…lling to members of the minority group. This would lead both to a gain in fairness and to more pro…t.

The connection we introduced in this chapter between a special kind of occupational segregation and earnings gap between socio-demographic groups is hypothetical: special assumptions were made regarding the distribution of jobs on possible pairs (non-wage grati…cation opportunities, degree of demands). A clearer understanding of the scope of our argument require a better suited framework. This is the purpose of chapter 5.

Appendix

Here, we reproduce the glossary of the EEOC job category used in the table of section 1. The EEO-1 collects data on nine major job categories. They are de…ned below as they are de…ned in the EEO-1 Instruction Booklet. Further detailed de…nitions based on Census job titles is available in the Commission's Job Classi…cation Guide.

O¢cials and managers:

Occupations requiring administrative and managerial personnel who set broad policies, exercise overall responsibility for execution of these policies, and direct individual departments or special phases of a …rm's operations. Includes: o¢cials, executives, middle management, plant managers, department managers, and superintendents, salaried supervisors who are members of management, purchasing agents and buyers, railroad conductors and yard masters, ship captains, mates and other o¢cers, farm operators and managers, and kindred workers.

Professionals:

Occupations requiring either college graduation or experience of such kind and amount as to provide a comparable background. Includes: accountants and auditors, airplane pilots and navigators, architects, artists, chemists, designers, dietitians, editors, engineers, lawyers, librarians, mathematicians, natural scientists, registered professional nurses, personnel and labor relations specialists, physical scientists, physicians, social scientists, teachers, surveyors and kindred workers.

Technicians:

Occupations requiring a combination of basic scienti…c knowledge and manual skill which can be obtained through 2 years of post high school education, such as is offered in many technical institutes and junior colleges, or through equivalent on-the-job training. Includes: computer programmers, drafters, engineering aides, junior engineers, mathematical aides, licensed, practical or vocational nurses, photographers, radio operators, scienti…c assistants, technical illustrators, technicians (medical, dental, electronic, physical science), and kindred workers.

Sales:

Occupations engaging wholly or primarily in direct selling. Includes: advertising agents and sales workers, insurance agents and brokers, real estate agents and brokers, stock and bond sales workers, demonstrators, sales workers and sales clerks, grocery clerks, and cashiers/checkers, and kindred workers.

O¢ce and clerical:

Includes all clerical-type work regard-less of level of di¢culty, where the activities are predominantly nonmanual though some manual work not directly involved with al-

tering or transporting the products is included. Includes: bookkeepers, collectors (bills and accounts), messengers and o¢ce helpers, o¢ce machine operators (including computer), shipping and receiving clerks, stenographers, typists and secretaries, telegraph and telephone operators, legal assistants, and kindred workers.

Craft Workers (skilled):

Manual workers of relatively high skill level having a thorough and comprehensive knowledge of the processes involved in their work. Exercise considerable independent judgment and usually receive an extensive period of training. Includes: the building trades, hourly paid supervisors and lead operators who are not members of management, mechanics and repairers, skilled machining occupations, com-positors and typesetters, electricians, engravers, painters (con-struction and maintenance), motion picture projectionists, pattern and model makers, stationary engineers, tailors and tailoresses, arts occupations, handpainters, coaters, bakers, decorating occupations, and kindred workers.

Operatives (semiskilled):

Workers who operate machine or processing equipment or perform other factory-type duties of intermediate skill level which can be mastered in a few weeks and require only limited training. Includes: apprentices (auto mechanics, plumbers, bricklayers, carpenters, electricians, machinists, mechanics, building trades, metalworking trades, printing trades, etc.), operatives, attendants (auto service and parking), blasters, chau¤eurs, delivery workers, sewers and stitchers, dryers, furnace workers, heaters, laundry and dry cleaning operatives, milliners, mine operatives and laborers, motor operators, oilers and greasers (except auto), painters (manufactured articles), photographic process workers, truck and tractor drivers, knitting, looping, taping and weaving machine operators, welders and ‡amecutters, electrical and electronic equipment assemblers, butchers and meatcutters, inspectors, testers and graders, handpackers and packagers, and kindred workers.

Laborers (unskilled):

Workers in manual occupations which generally require no special training who perform elementary duties that may be learned in a few days and require the application of little or no independent judgment. Includes: garage laborers, car washers and greasers, groundskeepers and gardeners, farmworkers, stevedores, wood choppers, laborers per-

forming lifting, digging, mixing, loading and pulling operations, and kindred workers.

Service workers:

Workers in both protective and non-protective service occupations. Includes: attendants (hospital and other institutions, professional and personal service, including nurses aides, and orderlies), barbers, charworkers and cleaners, cooks, counter and fountain workers, elevator operators, …re…ghters and …re protection, guards, door-keepers, stewards, janitors, police o¢cers and detectives, porters, waiters and waitresses, amusement and recreation facilities attendants, guides, ushers, public transportation attendants, and kindred workers.