Sexual orientation and wage discrimination in France: the hidden side of the rainbow

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Sexual Orientation and Wage Discrimination in France: the Hidden Side of the Rainbow

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Summary

This article is the first study to present an econometric evaluation of wage discrimination based on sexual orientation in the French labor market. Having identified same-sex couples using the French Employment Survey, we estimate the wage gap related to sexual orientation in the private and public sectors, in order to analyze whether or not lesbians and gays suffer a wage penalty. The results obtained show the existence of a wage penalty for homosexual male workers, as compared with their heterosexual counterparts, in both the private and public sectors; the magnitude of this discrimination varies from about -6.5% in the private sector, to -5.5% in the public sector. In the private sector, the wage penalty suffered by gay employees is higher for skilled workers than for the unskilled, and – in both sectors – the wage penalty is higher for older workers than for younger ones. Discrimination is also lower in Paris than in the rest of France. As with many other countries, we do not find any evidence of the existence of a wage discrimination against lesbians.

0. – Introduction

Theoretical and applied studies, have long emphasized the possible existence in the labor market of wage discrimination against specific population subgroups (women, foreign workers, ethnic groups *etc*.); nevertheless, one had to wait until the late nineties, to see the gradual emergence, following the seminal paper by BADGETT [1995], *The Wage Effects of Sexual Orientation Discrimination*, of a literature specifically devoted to wage discrimination based on sexual orientation[1].

This body of work, initially developed in the US – KLAWITTER [1997], [1998], KLAWITTER & FLATT [1998], BLANDFORD [1999], [2000], ALLEGRETTO & ARTHUR [2001], CLAIN & LEPPEL [2001] – and in the UK– CALANDRINO [1999], ARABSHEIBANI & *al.* [2002] – led to further studies overseas and to a limited amount of research in other countries : Netherlands (PLUG & BERKHOUT [2004], [2008]), Sweden (AHMED & HAMMARSTEDT [2009]), Australia and Canada (CARPENTER [2008a], [2008b]). The main results highlight the existence of significant wage discrimination against gay men, usually between –7% and –15%, but – in most of the cases – fail to find any significant wage discrimination against lesbians (some results even indicate the existence of a positive wage premium for lesbians).

Despite the legislation in France prohibiting any wage discrimination based on sexual orientation, until now no empirical work has been conducted in this country to investigate the question of the existence and extent of this type of discrimination. The main obstacle to the development of such

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[1] See BADGETT [2006] for a survey of this literature.

research is obviously the lack of reliable statistical sources which would permit identifying precisely the homosexual populations (gay and lesbian) and their individual and economic characteristics.

The aim of this paper is to evaluate in the French labor market, for both the private sector and the public sector, the extent of wage discrimination based on sexual orientation, using data from the INSEE employment survey. The first section summarizes the theoretical and empirical literature on this subject; the second is devoted to the construction of the database and to the presentation of the main statistical characteristics of homosexual and heterosexual populations. The third section presents the main results for the private and public sectors, while the last section is devoted to measuring the impact of different variables (age, seniority, qualifications, *etc*.) on the magnitude of discrimination.

1. – Literature

After presenting the main theoretical arguments to explain the existence of wage discrimination against homosexual employees, gays and lesbians, we survey the main empirical results available in the economic literature.

1.1. – Theory

One knows that the economic analysis of the division of labor within households, as originally developed by Becker [1965] [1981] and known as the *specialization theory*, can be used to explain wage differentials between heterosexual and homosexual workers (BLACK & *al.* [2003], PLUG & BERKHOUT [2004]). Lesbians who know they have a lower probability than heterosexual women of living – and thus sharing the cost of living – with a male partner, invest more in human capital, thus obtaining higher wages in the labor market. Symmetrically, gays underinvest in human capital, as compared with heterosexual men, because they know they have a lower probability of needing to compensate in the future for the low income of a female partner specialized in home production ; as a result gays receive lower wages than those of straight male workers.

While specialization theory provides some theoretical justification for incomes differences based on the sexual orientation of employees, there is however no necessary link to discrimination – but rather there are *compensatory inequalities* – since the income gap may well reflect productivity differences[2]. Two theoretical arguments exist, however, to explain the existence of a real wage discrimination against homosexual employees:

(i) Statistical discrimination

Originally developed by PHELPS [1972] and ARROW [1973], this theory of discrimination relies on the existence of informational imperfections preventing the employer from precisely assessing the individual productivity of workers. In such a context, the employer then uses the average productivity of the group to which a worker belongs (or is believed to belong), as an indicator of his individual skills. Therefore if some groups of workers are viewed, wrongly or rightly, as being less productive or implying extra costs for the firm, the employer can offer the workers in such groups lower wages than those offered to other groups.

In this framework, the argument often advanced to explain the existence of wage discrimination against gay men is linked to the presence of a higher prevalence of HIV infection and AIDS in this sub-population group. The employer then uses sexual orientation as the signal of a greater likelihood of HIV infection which is associated with extra costs and lower profits for the firm (higher absenteeism and/or turnover rate, lower productivity due to fatigue associated with the illness, *etc*.).

Symmetrical arguments that point out the important role played by certain kinds of stereotypes are used to explain the absence of wage discrimination against lesbians, or the existence of a lesbian wage premium, as found in some studies. Compared with heterosexual women, lesbians are often perceived as being stronger and having a more aggressive style, as being more attentive to their careers (PEPLAU & FINGERHUT [2004]), more independent, more competitive, with more assurance and confidence (KITE & DEAUX [1987]). These masculine traits are associated by employers with higher productivity. Similarly, compared to heterosexual couples, lesbian couples are characterized by a

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[2] Unlike the case of wage discrimination, it is thus sufficient to introduce the relevant control variables in the wage equation to explain these income differences.

more egalitarian domestic division of labor. This gives lesbians the opportunity to focus more on their professional lives and their careers than their heterosexual counterparts do.

(ii) Taste for discrimination

Unlike statistical discrimination, this approach, originally developed by BECKER [1957], does not rely on the existence of differences in average productivity between groups of workers, but relies directly on the fact that employers exhibit discriminative preferences. Homophobia and/or heterosexism may indeed be the source, for some employers, of a "disaffection" with the gay identity and/or the homosexual "lifestyle", leading to a strict preference for discrimination based on sexual orientation.

In this context, if an employer is characterized by preferences such that, for every euro of salary paid to a homosexual worker, he suffers a "disutility" estimated at d dollars, he will agree to hire that person only if he can offer her a wage equal to $w(1-d)$ dollars, even though he is ready to offer w dollars to a straight employee. Wage discrimination then occurs if the number of employees perceived as homosexual, exceeds the number of jobs posted by non-discriminating employers, forcing some homosexual workers to match with discriminating employers.

The taste for discrimination may be directly attributable to the employer in some cases; in others, it may be indirect and "imposed" on the employer, either by consumers or other employees. In both cases, it may be profitable for employers to discriminate. Indeed, if consumers experience a disutility from being in contact with gay employees, the employment of such employees may result in a partial loss of customers to the company. In such a case the employer, in order to maximize the profit of his firm, will express *indirectly* a preference for discrimination that merely reflects that of its customers. Similarly, the taste for discrimination expressed by an employer may be the consequence of the homophobia of some company employees[3].

The wage penalty associated with the taste for discrimination is usually not identical for gays and lesbians because of the different public perceptions of male and female homosexuality; public attitudes towards gays being generally more negative and hostile than they are towards lesbians (see BERILL [1992], KITE & WHITLEY [1996]), the wage penalty induced is also higher.

Considering the different theoretical elements presented above, the wage discriminations experienced by gays and lesbians should not be of the same magnitude:

– Compared to heterosexual men, gay men suffer a double wage penalty, associated with both a strong taste for discrimination and a statistical discrimination effect;

– Compared to heterosexual women, lesbians suffer a taste for discrimination *(i)* smaller that for gays and *(ii)* probably partially balanced by a positive wage premium linked to the statistical discrimination effect.

The combination of the two effects – statistical discrimination and the taste for discrimination –, should then lead to an estimate of a higher wage penalty for gays than for lesbians (the wage penalty for lesbians could even be strictly negative corresponding, in such a case, to a lesbian wage premium).

1.2. – Homophobia

Homophobia leads to a vulnerability of homosexuals in the workplace. Between one quarter and two thirds of gays and lesbians interviewed for various US surveys reported having lost their jobs or missing promotions because of their sexual orientation (BADGETT [1997])[4].

Negative attitudes toward homosexuality, although less prevalent in France than in the US, do remain significant: 21% of French respondents in 2002 believe that homosexuality is a lifestyle that should not be accepted by society (PRCPP [2002]). In a 2004 poll[5], 20% of respondents stated "homosexuals should not have the same rights as heterosexuals"; 31% stated "homosexuals have an abnormal sexuality"; 23% said "homosexuals should be banned from certain occupations involving

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[3] If a significant proportion of heterosexual employees is homophobic, hiring homosexual workers can lead to a decrease in individual productivity of both homosexuals (harassment, depression, lack of motivation, *etc.*) and heterosexuals (lack of concentration, lost time, *etc.*).

[4] For a complete investigation of the various types of discrimination faced by gays and lesbians in the workplace, one can usefully refer to BADGETT & *al.* [2007] for the United States, or IRWIN [1999] for Australia.

[5] IPSOS survey conducted in 2004 for the newspaper *Têtu*, on a national sample of 1002 persons, representative of the French population over 15 years of age.

constant contact with children"; 20% believed that "they are not really people like others" and finally 7% stated that "violence against homosexuals is sometimes understandable". In 2007, 23% of the French said they disagree with the idea that homosexuality is "a way like another to live sexuality".[6] In 2008, 16% said they were uncomfortable or not fully comfortable with "the idea of having a gay neighbor" and 27% with "the idea of a gay or a lesbian being President"[7].

If one looks now at the consequences of homophobia, the 2009 *Report on Homophobia* in France[8] underlines that homophobia in the workplace is the main reason for calls to the association *SOS Homophobia* (16% of the calls to the association); 85% of the people reporting suffering of homophobic events in the workplace are men, a finding which is consistent with the evidence observed in the US of a more negative public attitude towards gays than towards lesbians. Similarly, physical assaults – as recorded by *SOS Homophobia* – mainly involve homosexuals (80%). Employees and workers (30% of the French population) represent 60% of the cases, while 38% of the phone calls to the association result from sanctions or discrimination in the workplace.

The extent of homophobia in the workplace is shown by the recent report of the French *Equal Opportunities and Anti-Discrimination Commission* (HALDE), which highlights that 88% of the gays and lesbians surveyed, have been, at least once throughout their careers, victims or witnesses of homophobia; 40% were victims at least once. This homophobia comes mainly from colleagues, especially if they are conservatives, religious believers and males. Concerning the types of discrimination experienced: 12% of the people involved report having been passed over for an internal promotion, 8% report discrimination during a hiring process, 4.5% claim they were fired, and 4.5% say they are underpaid compare to straight men with identical levels of skills and responsibilities. In another survey, conducted in 2009, for the French *Equal Opportunities and Anti-Discrimination Commission* and the *International Labour Organization* [9], 17% of private sector employees (*vs.* 8% in the public sector) consider that being gay is an impediment to career advancement.

1.3. – Problems

The identification of wage discrimination based on sexual orientation poses specific problems, potentially leading to difficulties in the econometric estimation of the extent of discrimination and even the interpretation of results.

First, as some homosexual employees are not identified as such by their employers[10], wage discrimination measured in a sample of all homosexual employees, represents an underestimate of the actual discrimination experienced by workers whose sexual orientation is known to the employer (*cf.* BLACK & *al.* [2003]).

From a methodological point of view, one of the main difficulties is that, unlike gender or ethnic origin, sexual orientation is not a characteristic perfectly and directly observable by the employer. However, as pointed out by Badgett [1995], sexual orientation must be – in one way or another – known to the employer, before one may speak of wage discrimination against homosexual workers. Several points arise from this situation.

First, even if sexual orientation is not always immediately and fully observable, the employer may progressively acquire such information through a learning process: inference from other observable variables (marital status, existence of children, neighborhood of residence, status with respect to the military and national service), rumors reported by other employees, absence of any reference by homosexual employees to their private lives, lower participation in the social life of the firm, *etc*. As

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[6] IFOP survey conducted from December 2006 to March 2007 for the newspaper *Réforme*, "*Voting intentions of Protestants for the presidential election*", March 2007. National sample of 15000 persons, representative of the French population.

[7] European Commission [2008], *Discrimination in the European Union: 2008*, Eurobarometer Special survey n°296.

[8] 2009 *Report on Homophobia*, Association *SOS Homophobia* ed.

[9] CSA Institute, poll n° 0900383: *Perception of discriminations in the workplace: viewpoints of private sector employees and of public servants*, conducted in March 2009 on national representative samples of private and public sector employees.

[10] It is recalled here that 27% of gay and lesbian employees do not disclose their sexual orientation in the workplace, which is considered to be a place where the act of hiding sexual orientation is important (FALCOZ [2008]).

the learning process takes time, observed wage discrimination should then increase with the number of years in the company. Moreover, as the observation of a specific state – such as for example "being single" or "not having children" – conveys more information about the sexual orientation of an individual employee when the employee is older than when he is younger, one can also expect an increasing level of discrimination with age. These considerations underscore the importance of including in the wage equation, as control variables, all the variables that influence the information acquisition process of the employer.

Second, if knowledge by the employer of an employee's sexual orientation is necessary to be allowed to talk of a direct discrimination, hiding one's homosexuality[11] to avoid such a revelation is not a strategy without costs that will fully protect the employee from any negative effect on wages. The actions used to implement such a strategy (concealment, limited social interaction, forced mobility, continuous vigilance) are costly in terms of productivity – as a consequence of stress and the energy used – and also result in a lower integration of the employee in the firm's internal networks, which has an impact on careers. These two effects combine and ultimately lead to a wage gap, characterizing an *indirect discrimination* (BADGETT [1995]): two employees, gay and straight, with identical "potential productivity", are paid differently because of a "real productivity" gap, itself linked to a negative impact of the work environment on the productivity of gay workers only. Although, in theory, direct and indirect discrimination could easily be separated by introducing individual productivity as a control variable in the wage equation, this is difficult to implement because of a lack of reliable data on such a control variable.

Sexual orientation may also influence the choice of occupation, which becomes at least partly endogenous (*cf.* BLACK & *al.* [2003]). It is probably the same for some other variables that may be partially endogenous: industry, geographic location, degrees, *etc*. One should then be cautious when interpreting the estimated coefficients of a wage equation which includes these variables as control variables.

The foregoing remarks refer to a more general and well known problem, when working on wage discrimination: the number and kind of control variables used in the wage equation. It is known from Oaxaca [1973] that a more or less wide integration of these control variables has a direct and strong impact on the measurement of wage discrimination[12]. One thus faces a dilemma:

- either one introduces many control variables in order to achieve a precise measurement of "pure" wage discrimination, *i.e.* with all things being equal, but at the risk of underestimating the actual discrimination if some of these control variables are themselves the result of discriminatory practices; or
- one excludes *a priori* any control variable that can itself, at least partially, results from of discriminatory practices, but at the risk of excluding many important controls and thus overestimating wage discrimination.

This point is of particular importance here, since part of the discrimination against gays and lesbians finds its origin in the process of internal promotion which works differently – *i.e.* with heterogeneous probabilities of success – for heterosexual and homosexual employees (see FRANK [2006]). Controlling too precisely for the "type" of position can thus lead to an underestimation of wage discrimination based on sexual orientation[13].

Another question is whether to include marital status (married *vs.* not married) as a control variable in the wage equation. Indeed, numerous articles point out the existence of a marriage premium that positively affects the income of married workers only. All these studies emphasize the central role played by such a premium when estimating wage discrimination against homosexual employees. ELMSLIE & TEBALDI [2007] show that the marriage premium explains more than half of the wage gap

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[11] According to FALCOZ [2008], more than 30% of gays and lesbians surveyed said they had intentionally hidden their sexual orientation in their workplace.

[12] OAXACA [1973], in his seminal study on gender wage discrimination, shows that the share of the gender wage gap due to discrimination, decreases from 77% to 58% when controlling for industry and occupation.

[13] If the probability of accessing executive positions is lower for homosexuals than for heterosexuals with identical characteristics, but once gays and lesbians become executives they are paid the same, *(i)* the proportion of gay or lesbian employees among executives will be low (*gay glass ceiling*) and thus the average wage will be lower for homosexual employees than for heterosexual ones, but *(ii)* a wage discrimination based on sexual orientation will appear, only if the variable "Executive position *vs.* non-executive position" is not used as a control variable in the wage equation.

between gays and married heterosexual employees[14]. The question is thus to know if one must compare the earnings of gay employees to those of all heterosexuals or only to those of unmarried heterosexuals. As noted by FRANK [2007], the main difficulty arises from the fact that the marriage premium has a double meaning: *(i)* on one hand it can be explained by the intrinsic properties of marriage (long term commitment valued by employers) or those of married individuals (positive valuation of specific personal characteristics on the "marriage market", that are also valued in the workplace), or *(ii)* on the other hand, in an homophobic environment, it can simply be a premium to heterosexuality, with marriage taken as the signal of the latter[15]. In such a situation, not introducing the marriage premium as a control variable leads to overestimating wage discrimination based on sexual orientation (by considering as a result of discriminatory practices against gays and lesbians wage differentials which, at least partly, also penalize unmarried heterosexual employees), while introducing it leads to underestimating the level of discrimination (since part of the marriage premium is the result of discrimination against gays and lesbians, rather than discrimination in favor of marriage as such).

Regarding this set of issues concerning which control variables to take into account, a solution increasingly adopted in the literature consists of being rather "generous" with the number of control variables – to avoid artificially increasing the observed magnitude of discrimination – although knowing that one then estimates a lower bound of the actual discrimination. This is the choice made in this paper.

1.4. – Statistical sources and results

The identification of homosexual and heterosexual employees, and the availability of reliable economic data on these two populations, constitute the two main challenges involved in building a database that will permit the measurement of discrimination against gays and lesbians (which probably explains the low number of empirical studies on this issue). Two different methods are used in the literature to build such a database.

(i) Indirect identification of homosexual employees through same-sex cohabitation

This method consists of identifying the same-sex couples in available public surveys (national censuses, population surveys, data from the Centers for Disease Control, *etc.*). All members of same-sex female pairs are considered as a population sample of lesbians and all members of same-sex male pairs are considered as a population sample of gay men. Of course, the identification of the homosexual populations through same-sex cohabitation, is characterized by certain limits inherent in the method: *(i)* it leads to measurement error, by identifying wrongly as homosexuals some individuals who are in fact heterosexuals[16], *(ii)* it does not allow identify homosexuals who do not live with partners *i.e.* a significant proportion of the populations concerned, and *(iii)* it does not indicate whether the individuals identified as homosexuals are identified as such by their employers.

(ii) Direct identification of homosexual employees

Direct identification of homosexual populations is possible only if specific surveys asking respondents about their sexual behavior or their sexual orientation, are available : US *General Social Survey* or US *National Health and Social Life Survey* (BADGETT [1995], [2001], BERG & LIEN [2002], BLACK & *al.* [2003], BLANDFORD [2003]), *National Health and Nutrition Examination Surveys* (CARPENTER [2007a]), *International Social Survey Programme* (HEINECK [2009]), *Survey on recent graduates in Netherlands* (PLUG & BERKHOUT [2004], [2008]), *California Health Interview Survey* (CARPENTER [2005a]), *Canadian Community Health Surveys* (CARPENTER [2008b]).

Direct identification of homosexual populations has a double interest. First, compared to the indirect identification method, this approach allows a more precise measure of homosexual populations, by integrating homosexual people not living with partners and avoiding measurement errors attributable

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[14] This point is also emphasized by CARPENTER [2004]

[15] In a discrimination and signaling framework, it can be profitable for heterosexual workers, in order to obtain higher wages, to use marriage as a signal of heterosexuality (CARPENTER [2005b], [2007b], FRANK [2006]).

[16] This measurement error can however be reduced by filtering populations of cohabitants on the basis of various criteria: age (to eliminate juvenile cohabitation), family links, income (economic cohabitation), nationality (to exclude migrant workers), *etc*. Several articles show, that identifying homosexual populations via a cohabitation criterion is precise and efficient (see BLACK & *al.* [2000], CARPENTER [2004]) and that the bias associated with this method is less than 0.4%.

to the presence of heterosexual individuals among same-sex cohabitants. Furthermore, most of the surveys used collect information on specific variables relevant for the discrimination analysis: type of sexual behaviors, knowledge or not of the sexual orientation of respondents by their employers, *etc.*

This method is, however, characterized by specific problems that contribute to weakening the results obtained. For example, the identification of homosexual populations on the basis of their self-reported sexual orientation (or sexual behavior) must face *(i)* the imperfect nature of the link between "homosexuality" and "sexual behavior" and *(ii)* the well known and inherent limits of self-identification. Several studies point out that the estimate of wage discrimination varies greatly, depending on the chosen definition of homosexuality: from −13% to −18% for men according to BLACK & *al.* [2003], and from −20% to −30% according to CARPENTER [2007a].

Whatever the method used, the main characteristics of the homosexual populations that are identified are relatively similar. Gays and lesbians are much more highly educated than their heterosexual counterparts[17]; they are significantly younger and more urban[18] and they are fewer to have children[19]. In the same studies, the proportion of women working part time is two to four times higher among heterosexual women (between 40% and 50% depending on the studies) than among lesbians (10% to 25%). In contrast one generally observes the opposite, although with a much smaller difference, when comparing gays and heterosexual men. Finally, compared to their heterosexual counterparts, gays have lower wages (about -5%), while lesbians have a wage premium (+5%).

The different results obtained concerning the nature of wage discrimination are *homogeneous*. Among the twenty empirical studies surveyed by AHMED & HAMMARSTEDT [2009], only two conclude to an absence of negative discrimination against gays. Symmetrically, almost all available studies point to the absence of negative discrimination against lesbians (two-thirds of these studies even concluding that there is a positive wage premium).

Despite this "agreement" on the nature of wage discrimination, quantitative results on the extent of the discrimination are quite *heterogeneous*. For gays, observed wage discrimination varies from a limited level of about −5% (ARABSHEIBANI & *al.* [2002], PLUG & BERKHOUT [2004], [2008]), to higher levels of −10% (ELMSLIE & TEBALDI [2007], AHMED & HAMMARSTEDT [2009], ARABSHEIBANI & *al.* [2007], CARPENTER [2008], HEINECK [2009]), −20% and more (BERG & LIEN [2002], BLACK & *al.* [2003], CARPENTER [2007a]) and even −30% (BADGETT [1995], BLANDFORD [2003]); for lesbians, the discrimination varies from +4% (PLUG & BERKHOUT [2004]), to +10% (ARABSHEIBANI & *al.* [2004], [2007]), about +15% (BLANDFORD [2003], CARPENTER [2008]) and +20% (ARABSHEIBANI & *al.* [2002], BLACK & *al.* [2003]).

These large differences are mainly due to differences in *(i)* the method adopted for the identification of homosexual populations, *(ii)* the definition used for homosexuality (in the case of direct identification), *(iii)* the filters used to identify homosexuals couples among same-sex cohabitants (in the case of indirect identification), *(iv)* the control variables used in the wage equation (and especially the use or not of marital status) and finally *(v)* the econometric method used to estimate the wage equation[20]. If a careful analysis of the different results does not allow detecting a systematic bias associated with one of the two available methods for identifying homosexual populations, it is clear that the estimated extent of wage discrimination decreases when one increases the number of, wisely chosen, control variables.

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[17] see ARABSHEIBANI & *al.* [2004], [2005], [2007], BLACK & *al.* [2003], ELMSLIE & TEBALDI [2007], AHMED & HAMMARSTEDT [2008], CARPENTER [2004], [2007a], [2008b] and, for France, DIGOIX & *al.* [2004], TOULEMON & *al.* [2005]. On average, in these various studies, about 27% of heterosexual men and women have college education, as compared with 43% of gays and over 48% of lesbians

[18] Same references as the previous footnote

[19] On average, in the various studies, about 40% of heterosexual men and women have children as compared with 4.5% of gays and 18% of lesbians (same references that *supra*; see also FRANK [2006])

[20] Especially the correction, or not, of the selection bias by estimating first a probit model of participation (Heckman two-step estimation).

2. – Data

2.1. – Database

Measuring wage discrimination based on sexual orientation from French data is a difficult exercise, since there are no surveys identifying the sexual orientation of employees and providing sufficient economic and individual information on the employees. In particular, sexual orientation is not an observable variable in the *Employment Survey* conducted by the French National Institute of Statistics and Economic Studies (INSEE) or the *Annual Declaration of Social Data* (DADS) completed by the employers. As we saw in the preceding section, an indirect identification of sexual orientation may, however, be achieved by considering same-sex couples (see, for example TOULEMON & *al.* [2005]). This is the method used in this paper: we define as homosexual couples all households of two same-sex adults reporting a friend relationship. Among these same-sex households only 3% of men and 10% of women have children. This finding is consistent with the available French statistics on homosexual parenting.

The identification of homosexuals based on same-sex cohabitation may of course lead to wrongly considering some individuals sharing the same dwelling as gays or lesbians when in fact they are not. The most frequent case is that of cohabitation for economic reasons or linked to some characteristics of their occupations: students, migrant workers, seniors, farmers, *etc*. To minimize the probability of wrongly classifying some heterosexual employees as gays or lesbians, we first identified all households constituted only of two adults of the same gender (with or without children) who report sharing a friendship, and we then imposed the following filters:

– Exclude couples where one member is a student, apprentice, farmer or retired person;
– Require that the younger member of the couple be over 27 years of age and that the older be over 30 years of age;
– Require that neither member of the couple be over sixty years of age;
– Require that both members of the couple be French; and
– Select only households with an income higher than 1000 € /month[21]

Even if these filters eliminate the greater part of heterosexual same-sex cohabitation, the resulting database can, however, still contain outliers in wages due to completion mistakes of the interviewer or a misunderstanding of some questions in the survey (for example confusion between *euros* and *French francs*); we therefore excluded all individuals whose monthly wage, in real terms, is below 50€ or above 20000 €.

After applying these filters, and given the restrictive measure of the number of homosexual couples we adopted, the resulting database contains only a small number of gay and lesbian couples for each year. We then built an aggregated database covering the period 1996-2007 by stacking the data. The final database that we used in our econometric analysis includes 904 individuals belonging to same-sex couples, whom 788 are salaried employees.

2.2. – Descriptive statistics

The sample of heterosexual was subjected to exactly the same selection constraints as those described above for same-sex couples. The main characteristics of the four populations ("men" *vs.* "women" × "heterosexuals" *vs.* "homosexuals") constituting our samples are presented in table 1. These statistics are expressed as a % of the total of all employees (*i.e.* private sector employees + civil servants) except for *(i)* characteristics denoted by * which are expressed as values and *(ii)* characteristics indicated by # which are expressed as a % of all individuals constituting the relevant population. The standard deviations appear in parentheses in each table cell. For example, 28.5% of heterosexual male employees did complete high school, while this is true for only 22.2% of the lesbians[22]; 11.6% of all gays are unemployed or inactive, *etc.*

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[21] The threshold value of 1000€ has been indexed in accordance with the evolution of the average wage. A lump-sum income of 300 €/month, corresponding to a reservation income, has been attributed to inactive members of the couples. Similarly, a lump-sum income of 1000€/month has been attributed to independent workers.

[22] Throughout this article, we use the terms "male homosexuals" or gays – and "female homosexuals" or lesbians – to denote the members of our samples of same-sex couples.

Table 1. – Descriptive statistics

			MALE		FEMALE	
			Heterosexual	**Homosexual**	**Heterosexual**	**Homosexual**
	Sample	Population size / Ratio (%)	119645 99.62%	461 0.38%	115875 99.72%	327 0.28%
INDIVIDUAL CHARACTERISTICS	**Age**	< 35	18.37 (0.11)	41.20 (2.30)	25.90 (0.13)	34.12 (2.63)
		35 - 45	36.93 (0.14)	38.38 (2.27)	37.34 (0.14)	37.87 (2.69)
		> 45	44.89 (0.14)	20.42 (1.88)	36.76 (0.14)	28.02 (2.49)
		Average age* (years)	43.42 (0.02)	38.04 (0.37)	41.39 (0.02)	39.87 (0.44)
	Degrees	No degree	28.54 (0.13)	18.14 (1.80)	32.55 (0.14)	22.23 (2.30)
		High School	47.67 (0.14)	42.71 (2.31)	42.03 (0.15)	35.54 (2.65)
		College	10.28 (0.09)	16.12 (1.72)	14.53 (0.10)	21.31 (2.27)
		Master's, PhD	13.51 (0.10)	23.03 (1.97)	10.88 (0.09)	20.88 (2.25)
	Family situation	One child or more *(vs. No child)*	76.21 (0.12)	2.86 (0.78)	76.29 (0.13)	10.31 (1.68)
		Average number of children *	1.46 (0.003)	0.06 (0.015)	1.46 (0.003)	0.180 (0.03)
		Married *(vs. Unmarried)*	80.84 (0.11)	1.59 (0.58)	80.68 (0.12)	1.80 (0.74)
	Location	Town < 200 000 pop.	63.02 (0.14)	31.60 (2.17)	62.94 (0.14)	43.97 (2.75)
		Town ≥ 200 000 pop.	20.86 (0.12)	24.18 (2.00)	20.91 (0.12)	20.00 (2.21)
		Paris metropolitan area	16.12 (0.11)	44.22 (2.32)	16.15 (0.11)	36.07 (2.66)
JOB CHARACTERISTICS	**Sector of activity**	Industry *(vs. Services)*	41.81 (0.15)	15.74 (1.92)	17.49 (0.14)	13.08 (2.06)
		Employees private sector [#]	61.74 (0.14)	56.53 (2.31)	41.43 (0.14)	47.68 (2.77)
		Employees public sector [#]	21.74 (0.12)	23.61 (1.98)	29.02 (0.13)	37.47 (2.68)
		Non employees private sector [#]	12.23 (0.10)	8.28 (1.29)	5.32 (0.07)	6.59 (1.37)
		Inactive, unemployed [#]	4.30 (0.06)	11.58 (1.49)	24.23 (0.13)	8.27 (1.53)
	Firm size	< 50 employees	40.29 (0.14)	39.12 (2.28)	33.29 (0.14)	37.34 (2.68)
		50 - 500	20.45 (0.12)	14.49 (1.64)	15.53 (0.11)	14.26 (1.94)
		> 500	22.05 (0.12)	17.57 (1.78)	16.26 (0.11)	18.72 (2.16)
		na	17.21 (0.11)	28.82 (2.11)	34.92 (0.14)	26.68 (2.53)
	Working hours	Full time, > 30 h /week	96.44 (0.11)	92,86 (2.12)	76.47 (0.15)	85.33 (2.47)
		Part-time, 15-30 h /week	3.32 (0.04)	7.13 (1.06)	20.04 (0.10)	13.23 (1.75)
		Part-time, <15 h /week	0.24 (0.01)	0.00 (0.00)	3.50 (0.04)	1.430 (0.60)
		Special work schedule *(vs. Normal)*	15.00 (0.10)	19.49 (1.85)	9.68 (0.09)	12.93 (1.86)
	Qualifications	Highly skilled	41.45 (0.14)	45.42 (2.32)	27.02 (0.13)	48.15 (2.77)
		Skilled	36.41 (0.14)	34.43 (2.22)	30.45 (0.14)	35.60 (2.65)
		Unskilled	7.98 (0.08)	6.63 (1.16)	19.19 (0.12)	4.76 (1.18)
		Other	14.17 (0.10)	13.53 (1.60)	23.33 (0.12)	11.50 (1.77)
	Type of job	Blue collar *(vs. White collar)*	38.82 (0.14)	21.94 (1.93)	13.55 (0.10)	11.25 (1.75)
		Short term labor contract *(vs. Fixed-term, Long term)*	1.24 (0.03)	1.82 (0.62)	0.71 (0.02)	0.190 (0.24)
	Time with the firm	< 1year	12.18 (0.09)	27.47 (2.08)	31.81 (0.14)	21.08 (2.26)
		1 to 5 years	18.80 (0.11)	31.42 (2.17)	16.95 (0.11)	22.66 (2.32)
		> 5 years	69.02 (0.13)	41.12 (2.30)	51.25 (0.15)	56.25 (2.75)
		Average time* (months)	159 (0.36)	82.51 (4.36)	139 (0.39)	121 (6.65)
	Wage (€2008)	< 1250	30.71 (0.13)	40.00 (2.29)	62.04 (0.14)	35.54 (2.65)
		1250 - 2500	51.35 (0.14)	43.59 (2.31)	33.09 (0.13)	55.06 (2.76)
		> 2500	17.93 (0.11)	16.41 (1.73)	4.87 (0.06)	9.40 (1.62)
		Average wage* (€)	2029 (3.66)	1874 (71.09)	1405 (2.84)	1708 (66.81)

Same-sex couples represent 0.33% of all the couples of our sample, *i.e.*, more or less the middle of the range corresponding to the studies of DIGOIX & *al.* [2004] – who estimate at 0.56% the ratio of same-sex couples in France – and TOULEMON & *al.* [2005] who evaluates this ratio at about 0.08%. Among all identified same-sex couples, one finds that 58.5% are male couples and 41.5% are female couples, which corresponds to the distribution found in the two studies cited above. Given the weights applied, we finally obtained an estimate of about 45 000 gay couples in France (including 26 000 gay couples and 19 000 lesbian couples) – to be compared to 10 500 in TOULEMON & *al.* [2005] and 76 000 in DIGOIX & *al.* [2004]; our estimate is very similar to what we find in the ACSF[23] survey, where 0.3% of men surveyed reported they "*live in a couple with a same-sex partner*", leading to an estimate of about 30 000 gay couples in France.

With an average age of 38.8 years, the members of homosexual couples are younger than those of heterosexual couples, whose average age is 42.4 years. They are also better educated (40% have college degrees, against only 25% of heterosexuals) and more urban (40% live in the Paris metropolitan area, compared with 16% for straight men and women). One recognizes here the main "features" of homosexual populations, observed not only in most foreign studies (see above) but also in France (see DIGOIX & *al.* [2004] and TOULEMON & *al.* [2005]).

Although only few homosexuals have children, the percentages are not negligible: 3% of gays and over 10% of lesbians are parents, which shows the importance of same-sex parenting. We find here, again, a typical characteristic of homosexual populations: parenthood is more prevalent among women than men: 18% *vs.* 4% (ELMSLIE & TEBALDI [2007]), 23% *vs.* 0.5% (AHMED & HAMMARSTEDT [2009]), 28% *vs.* 8% (CARPENTER [2004]) ; measured by "*presence of children in the household*", TOULEMON & *al.* [2005] also note that this fact characterizes about 6% of lesbians but nearly 0% of gays.

If we focus on job characteristics rather than individual characteristics, 84% of gays have a job in the service sector, while only 58% of male heterosexual workers have jobs of this type. Gays are also more likely to work part time or to be "inactive or unemployed", but less likely to be blue collar workers or to work in the private sector. Concerning the earnings, the average wage of gay employees is –8% lower than that of male heterosexuals. It is interesting to note that we find here, although attenuated, some features commonly attributed to females in the labor market, and often explained by the role played by women in the domestic sphere (see the so-called specialization theory : BECKER [1965], [1981]). Finally, the average job stability within the firm is twice as low among gay employees as among heterosexuals: only 41% of the former have had the same employer for more than five years, against nearly 70% of the latter[24].

Lesbians are more qualified than other women: nearly 84% of them are "highly skilled" or "skilled", against less than 58% of heterosexual women. Of course different levels of investment in human capital and/or in the workplace may explain this significant difference. Unlike what has been found for gays, lesbians are less likely than other women to be "inactive or unemployed" (about 8% against more than 24%), to work part time (14.7% against 23.5%) and the average wage of lesbians is +20% higher than that of heterosexual females. Such differences can be explained by a less pronounced specialization in domestic tasks for lesbians than for heterosexual women[25]. As we found for gays, female homosexual employees are more likely to work in the public sector than heterosexual women (44% against 41%) and have, on average, lower job stability.

Table 2 below summarizes the main differences between gays and lesbians, on one hand, and their heterosexual counterparts, on the other.

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[23] *Survey on Sexual Behavior in France* (ACSF), conducted in 1992 (*cf. Les comportements sexuels en France*, SPIRA A., BAJOS N. and the ACSF team, La Documentation Française, Paris, 1993).

[24] In an imperfect information framework such a difference could be explained by a strategic behavior of gay employees, to prevent their employers from accumulating over time a sufficient amount of information, leading to the revelation of their sexual orientation.

[25] See for example ANTECOL & STEINBERGER [2009], for an econometric study of the central role played by sexual orientation on labor supply in the US.

Table 2. – Main characteristics of gays and lesbians employees
(Compared to their heterosexual counterparts)

	Age	Level of education	Urban	Service sector	Public sector	Skills	Job stability	Inactive, unemployed	Part time jobs	Blue collar	Wage
Gays	−	+	+	+	+	(+)	−	+	+	−	−
Lesbians	−	+	+	+	+	+	−	−	−	+	+

Some differences (white cells) are common to gays and lesbians − they are younger, have higher levels of education, are more urban, tend to work in the service sector and the public sector, and have lower job stability − while other differences (grey cells) display opposite signs. These oppositions are associated with differences generally observed between men and women in the labor market. According to the *specialization theory*, gays work in more part time jobs than their heterosexual counterparts and are more often inactive or unemployed, while the reverse is true for lesbians.

3. – Results

3.1. – Econometric method

To assess the impact of sexual orientation on the wages of individuals living in couples, we estimate earnings equations where the logarithm of the monthly wage[26], $\ln(w_i)$, is explained both by job characteristics Z_i (qualifications, years with the firm, type of job, working hours, firm size, sector of activity, *etc.*), employee personal characteristics X_i (age, degrees, family situation, location), and a specific sexual orientation variable, gay_i (which takes the value 1 for same-sex couples and 0 for other couples):

$$\ln(w_i) = Z_i\alpha + X_i\beta + gay_i\gamma + u_i \quad [1]$$

Of course, estimates of equation [1] suffer from sample selection bias because wages of unemployed or inactive individuals are not observed. We thus introduce a selection equation, where the difference U_i between the wage and the reservation wage of individual i, is explained by his or her personal characteristics,

$$U_i = X_i\delta + v_i \quad [2]$$

The disturbance terms u_i and v_i follow a bivariate normal distribution. It must be noted here that U_i is an unobservable variable. What one observes is a dummy variable Emp_i taking the value 1 if individual i is employed ($U_i > 0$) and 0 in the other cases. The selection bias arises because some unobservable characteristics (or characteristics omitted in the selection equation) can play a role in access to employment and determination of wage levels. Therefore, the sample of employed individuals may include people with personal characteristics X_i rather unfavorable for access to employment and wage level, but whose unobservable (or omitted) characteristics are favorable to employability and wage level. Such individuals are characterized by a significant disturbance term v_i, incorporating these omitted or unobservable variables. The direct consequence of such a situation is similar to the problem caused by the existence of omitted variables in the wage equation: the impact of (observed) personal characteristics X_i is underestimated[27]; HECKMAN [1979] shows that, given the selection, the expected value of the error term in the wage equation is no longer zero:

$$E\left[\ln(w_i)|U_i > 0, X_i, Z_i, gay_i\right] = E\left[\ln(w_i)|v_i > -X_i\delta, X_i, Z_i, gay_i\right]$$

$$= Z_i\alpha + X_i\beta + gay_i\gamma + \theta\frac{\phi(X_i\delta)}{\Phi(X_i\delta)}$$

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[26] The wage w_i is a net monthly salary including all monetary compensation.

[27] Note that the cause of the selection bias is not the consequence of having a non-random sample, but arises merely because individuals whose observable characteristics are unfavorable have a large error term in the selection equation

where $\phi(X_i\delta)/\Phi(X_i\delta)$ is the so-called Inverse Mills Ratio (IMR). This term, corresponding to the selection, can be interpreted as a missing explanatory variable in the wage equation [1]. The two-step Heckman procedure (*Heckit*) makes it possible to deal with this problem[28]. In the first step, the probability of being employed is estimated, using a Probit model taking into account the personal characteristics X_i, which allows us to generate the inverse Mills ratio. In the second step, the wage equation, including the inverse Mills ratio as an explanatory variable, is then estimated.

This procedure for estimating selection and wage equations calls for several comments. Insofar as the error terms of the selection equation and the wage equation are correlated, the introduction of the Mills ratio generates an heteroskedasticity of the disturbance term of the wage equation[29]. To correct for heteroskedasticity – during the second step – one either corrects the variance-covariance matrix, or one estimates the wage equation using the generalized least squares procedure.

The identification of the effect of individual characteristics in the wage equation is based on the nonlinearity of the Mills ratio. If the magnitude of fluctuations in individual characteristics is low, the Mills ratio can be approximated properly by a linear relationship in X_i. In such a case, the wage equation is characterized by a strong collinearity, resulting in imprecise estimates. To circumvent these two problems, the selection equation must include one or several additional explanatory variables, which do not appear in the wage equation[30]. In our model, three new variables are thus introduced in the selection equation:

– The situation one year ago in the labor market, which captures the degradation of human capital after a long period of unemployment;

– The occupation/qualifications of the partner, a proxy variable for partner income, which has a negative effect on the labor supply of the individual;

– The home-ownership situation of the individual. Ownership in contrast to rental can reduce the mobility of job seekers and thus affect the probability of finding a job in the labor market.

The wage gap observed between homosexual and heterosexual employees, which is -7.06% for males and $+21.56\%$ for women, can originate from three components:

– The gap induced by the difference in observable characteristics between homosexuals and heterosexuals: $\left(\overline{Z}^{Homo} - \overline{Z}^{Hetero}\right)\hat{\alpha} + \left(\overline{X}^{Homo} - \overline{X}^{Hetero}\right)\hat{\beta}$;

– The gap resulting from a difference between homosexuals and heterosexuals in the probability of being employed;

– The gap resulting only from sexual orientation $\hat{\gamma}$.

It is this last component that will allow us to measure the extent of wage discrimination against homosexual employees. Table 12 (see annex) summarizes all the variables used in the selection and wage equations[31] and presents the characteristics of the base case.

3.2. – Private sector

We first estimate, for the private sector, the magnitude of wage discrimination against gay and lesbian employees living in couples[32]. As shown by previous empirical works, evaluations of wage discrimination are significantly different for gays and lesbians. Thus we estimate the model separately for men and women.

The results obtained with *(i)* the direct estimation of a single wage equation, and *(ii)* the estimation of a selection equation and a wage equation following the two-step Heckman procedure (*Heckit*), are presented in Table 3. Most estimated coefficients have the expected signs. One finding is a

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[28] HECKMAN [1976], [1979].

[29] The residual variance of the earning equation also depends on the Mills ratio and, therefore, on individual characteristics.

[30] The addition of these new variables can be viewed as the introduction of specific constraints necessary for identification.

[31] Sexual orientation is not introduced in the selection equation. Nevertheless, to be cautious, we decided to re-estimate the model with a selection equation including sexual orientation as an explanatory variable. All the estimated parameters of the wage equation and, in particular, the estimates of the wage discrimination remained the same. The results are available upon request.

[32] The definition of the private sector used here includes the large national public companies.

significant wage discrimination against gay employees. Gay men suffer on average a wage penalty equal[33] to −6.3%, whereas lesbians benefit from a wage premium of +2.1%. This difference between male and female homosexuals is similar to that obtained by ARABSHEIBANI & *al.* [2007] on US and UK data (−14% for gays and +6,5% for lesbians in the US; no significant penalty for gays and +6% for lesbians in the UK), CLAIN & LEPPEL [2001] on US data (from −16% to −22% for gays and −2.2% for lesbians) and KLAWITTER & FLATT [1998] on US data (−30% for gays and +16% for lesbians).

Table 3. – Private sector: Selection and wage equations for males and females

PRIVATE SECTOR ESTIMATES			MALES			FEMALES		
		One step estimate of the wage equation	Heckit		One step estimate of the wage equation	Heckit		
			Selection equation	Wage equation		Selection equation	Wage equation
INDIVIDUAL CHARACTERISTICS	**Sexual orientation**	Gay	-0.065		-0.065	ns		0.021
	Age	Age	0.008	-0.024	*0.008	0.005	-0.009	ns
		Age squared	-0.002	-0.002	ns	-0.003	-0.014	ns
	Degrees	Master's, PhD	0.410	-0.518	0.417	0.316	-0.110	0.306
		College	0.136	-0.360	0.140	0.099	-0.263	0.088
		No degree	-0.057	-0.003	-0.057	-0.081	-0.089	-0.085
	Family situation	Number of children	0.006	ns	-0.005	-0.019	-0.166	-0.026
		Married	0.039	0.109	0.038	-0.018	ns	-0.017
	Location	Town < 200 000 pop.	-0.009		-0.009	-0.027		-0.026
		Paris metropolitan area	0.143		0.144	0.178		0.176
	Real estate capital	Home owner		0.134			0.204	
	Partner income *Occupation / qualifications of the partner*	Craftsman, merchant, entrepreneur, independent		*-0.082			-0.521	
		Middle or top managers		-0.257			-0.363	
		Employee or worker, unskilled, inactive, unemployed		0.340			0.621	
	One year ago on the labor market	Unemployed		-2.449			-2.481	
		Inactive		-0.510			-1.541	
JOB CHARACTERISTICS	**Sector of activity**	Industry	0.034		0.034	0.064		0.064
	Firm size	< 50 employees	-0.048		-0.048	0.071		0.072
		> 500 employees	0.045		0.045	0.136		0.136
	Working hours	Part-time, 15-30 h /week	-0.487		-0.486	-0.483		-0.483
		Part-time, < 15 h /week	-1.270		-1.270	-1.365		-1.366
		Flextime	0.091		0.091	-0.246		-0.248
		Special work schedule	0.049		0.049	0.057		0.057
	Qualifications	Highly skilled	0.295		0.295	0.257		0.254
		Unskilled	-0.120		-0.120	-0.231		-0.213
	Type of job	Blue collar	-0.096		-0.096	-0.075		-0.074
		Short term labor contract	ns		ns	0.074		0.076
	Time with the firm	< 1year	-0.038		-0.037	-0.038		-0.044
		> 5 years	0.072		0.072	0.131		0.130
	Inverse of Mill's ratio			-0.030			0.074	
	Intercept		7,301	0.960	7.309	7.096	0.582	7.066
	Size of the sample		72 322	88 204	72 322	45 816	91 054	45 816

No star=coefficients statistically significant at 99% level of confidence, * coefficients statistically significant at 95%-99% level of confidence, ** coefficients statistically significant at 90%-95% level of confidence

<u>Note</u>: *To avoid rounding problems, especially for the quadratic terms, the age variable was centered and divided by 10; this is also the case in all following tables.*

The unconditional wage gap, of almost +20%, observed between lesbians and heterosexual women, is thus mainly due to specific characteristics of lesbians, who are on average better educated, hold

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[33] With the semi-logarithmic specification we used, the net impact on wage of the sexual orientation is given by $e^{\beta_i}-1$ where β_i is the estimated coefficient associated with the explanatory variable *Gay* or *Lesbian*.

jobs requiring higher levels of skills, are less often part-time workers, live in urban areas and are less likely to raise children. The positive wage discrimination is very weak and contributes little to explain the unconditional initial wage gap[34].

In contrast, the wage gap between gay and heterosexual employees, originates partly from differences in observable characteristics – which affect the salaries both positively and negatively and have thus a global limited impact – but mainly from wage discrimination. Gays, on average, are better educated, have jobs requiring higher levels of skills and live in urban areas, which contributes to a higher wage than for heterosexual men; but they are also younger, are employed by smaller firms and have a lower job stability, which tends to reduce their average wage. It is thus wage discrimination, measured by the estimation of our model, which mainly explains the initial wage gap.

Recalling that the individuals in our samples live in couples and keeping in mind that the so-called marriage premium *(i)* is not available to homosexual employees because same-sex marriage is forbidden in France, *(ii)* can be a premium to a "signaled heterosexuality" in an homophobic environment (*see* section 1.3 above), it becomes clear that another (upper bound) estimation of wage discrimination against gay and lesbian employees can be obtained, by simply adding the *marriage premium* to the amount of discrimination calculated above.

The marriage premium, calculated from the estimated coefficient associated to the variable *Married* in the wage equation, is equal to +3.9% for men and is negative (−1.7%) for women. By integrating this premium, as compared with their heterosexual married counterparts, gay employees suffer a wage penalty of −10.2%, while lesbians now have a premium of +3.8%.

The selection equation requires some comments. As we consider a wage equation for the private sector alone, and a selection equation on the set of individuals that can potentially get a job in the private sector, the selection equation measures the probability of having a job in the private sector. It can thus be analyzed as a reduced form, summarizing the probability of being employed and the conditional probability, for an employed individual, of belonging to the private sector. Therefore, the negative coefficient associated – for example – with the variable *Master's/ PhD*, in the selection equation, means that an individual with a Master's/PhD has a lower probability of getting a job *in the private sector* (and of course not "a lower probability of getting a job") than people with less education.

The magnitude of the wage gap between men and women resulting from the selection equation is low, which is not surprising since the rates of participation in the labor market are similar between men and women (this finding is consistent with Meurs & Ponthieux [2006], where the wage gap between men and women resulting from discrimination is very low and rather in favor of women). We have therefore re-estimated the earnings equations without taking into account the selection (one step estimate of the wage equation). The results reported in table 3 are close to those obtained with the Heckit even if the difference, as regards the amount of discrimination, between gays and lesbians is slightly attenuated: −6.3% against gays and no wage discrimination against lesbians.

3.3. – The public sector: a shelter against wage discrimination?

To examine, whether the public sector constitutes a shelter against discrimination based on sexual orientation, we estimated the model for the public sector only. Results are clear and given in table 4 below. Unlike the results obtained for the private sector, lesbian employees do not receive a premium, which is consistent with what was expected. However, wage discrimination strongly affects gay employees in the public sector, although with a magnitude slightly smaller than in the private sector, but far from negligible: −5.6% in the public sector against −6.3% in the private sector[35]. Since wages in the French public sector are based on a common and publicly known salary scale, the presence of such discrimination may at first be viewed as a surprise. However, this result is not surprising:

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[34] As in the US, the higher level of wages earned by lesbians, compared to heterosexual females, is mainly due to a higher level of investment in human capital, particularly in education (*see* for example Antecol & *al.* [2007]).
[35] A lower, but not negligible, wage discrimination in the public sector compared to the private sector, is a result that has already been obtained in several articles: Zweimuller & Winter-Ebmer [1993], Hoffnar & Greene [1996], Berson [2009].

- First, even though hiring is, for the most part but not always, anonymous for national civil servants, this is not always the case for promotions which are generally based on the candidate's file and one or more interviews. Therefore the estimated discrimination can be explained by the presence of a *glass ceiling* which results in slower promotions for gays.

- Second, compensation policies and governance rules are not uniform throughout the public sector and some public administrations, such as local administrations for example, have degrees of freedom in wage setting that are similar to what exists in the private sector.

- Finally, employers in the public sector are less subject to pressures from competition than those in the private sector. The so-called *taste for discrimination* can thus play out more freely in the public sector, because this sector is less "punished" by the market in case of deviation from an efficient wage policy.

Table 4. – Public sector: Selection and wage equations for males and females

PUBLIC SECTOR ESTIMATES			MALES			FEMALES		
			One step estimate of the wage equation	Heckit		One step estimate of the wage equation	Heckit	
				Selection equation	Wage equation		Selection equation	Wage equation
INDIVIDUAL CHARACTERISTICS	**Sexual orientation**	Gay	*-0.058		-0.058	ns		ns
	Age	Age	0.012	0.022	ns	ns	0.019	ns
		Age squared	ns	-0.004	ns	ns	-0.004	ns
	Degrees	Master, PhD	0.325	0.624	0.326	0.294	0.406	0.276
		College	0.115	0.438	0.115	0.107	0.474	0.089
		No diploma	-0.079	-0.066	*-0.079	-0.085	-0.104	**-0.080
	Family situation	Number of children	0.024	*0.012	0.024	-0.006	0.038	-0.007
		Married	0.024	*-0.032	0.024	ns	ns	-0.005
	Location	Town < 200 000 pop.	-0.025		-0.025	ns		ns
		Paris metropolitan area	0.058		0.058	0.073		0.073
	Real estate capital	Home owner		-0.057			ns	
	Partner income *Occupation / qualification of the partner*	Craftsman, merchant, entrepreneur, independent		-0. 544			-0.695	
		Middle or top managers		0.260			0.128	
		Unskilled employee or worker, inactive, unemployed		-0.281			-0.803	
	One year ago on the labor market	Unemployed		-1.553			-2.002	
		Inactive		-0.094			-0.932	
JOB CHARACTERISTICS	**Sector of activity**	Industry	0.109		0.109	ns		ns
	Firm size	< 50 employees	-0.034		-0.034	-0.037		-0.036
		> 500 employees	0.061		0.061	0.032		0.033
	Working hours	Part-time, 15-30 h /week	-0.145		-0.145	-0.314		-0.314
		Part-time, < 15 h /week	-0.705		-0.705	-1.031		-1.033
		Flextime	0.102		0.102	-0.105		-0.104
		Special work schedule	*0.014		*0.014	0.067		0.067
	Qualifications	Highly skilled	0.261		0.261	0.272		0.270
		Unskilled	-0.097		-0.097	-0.273		-0.246
	Type of job	Blue collar	-0.072		-0.073	-0.134		-0.133
		Short term labor contract	ns		ns	ns		ns
	Time with the firm	< 1year	ns		ns	-0.041		-0.039
		> 5 years	0.143		0.143	0.187		0.187
	Inverse of Mill's ratio			ns			-0.052	
	Intercept		7,171	-1.235	7.169	7.063	-0.759	7.131
	Size of the sample		10 980	88 204	10 980	18 762	91 054	18 762

*No star = coefficients statistically significant at 99% level of confidence, * coefficients statistically significant at 95%-99% level of confidence, ** coefficients statistically significant at 90%-95% level of confidence, ns= not statistically significant*

3.4. –Summary of the main results

Table 5 summarizes the evaluations of wage discrimination based on sexual orientation, obtained by estimating the model following the two-step Heckman procedure. Because the marriage premium may be the consequence of discriminatory practices, two measures of discrimination are useful: a *lower bound*, corresponding to the coefficient of sexual orientation in the wage equation and an *upper bound*, corresponding to the lower bound increased by the marriage premium. The first evaluation compares – all things being equal – the incomes of gays and lesbians to those of their unmarried heterosexual counterparts, while the second one compares their incomes with those of their married heterosexual counterparts.

The results of the various estimates are consistent. Even if we consider the lower bounds of wage discrimination, gays suffer a high wage penalty in both sectors: about –6.3% in the private sector and –5.6% in the public sector. The magnitude of wage discrimination based on sexual orientation is thus greater than the gender wage gap estimated at –5.4% in the French labor market (MEURS & PONTHIEUX [2000]). This result highlights the extent of discrimination against gay employees. As compared with their heterosexual counterparts, French lesbians enjoy a limited wage premium of about +1.9% in the private sector *vs.* less than +1.5% in the public sector.

Table 5. – Wage discrimination based on sexual orientation

TWO-STEP HECKMAN PROCEDURE (HECKIT)		Lower bound of discrimination	Marriage premium	Upper bound of discrimination
Private sector	Males	−6.3%	+3.9%	−10.2%
	Females	+2.1%	−1.7%	+3.8%
Public sector	Males	−5.6%	+2.4%	−8.1%
	Females	0.0%	−0.5%	+0.5%

4. – Developments

In the French labor market, wage discrimination based on sexual orientation seems primarily to affect gay men. This result is consistent with the theoretical insights, the nature of homophobia (see 1.1 and 1.2) and the empirical results obtained for other countries (see 1.4). This section deals with the impact of individual variables (skills, age, *etc*.) on the extent of the discrimination faced by gay employees.

4.1. – Do skills protect gays against discrimination?

We study in this section whether jobs requiring higher levels of skills, which are therefore better paid, are characterized by a lower level of wage discrimination against gay employees. To address this question, we present in table 6, the men's earnings equations for two polar qualification levels: the high-skill jobs on the one hand, corresponding to *Executives and Intellectual occupations*, and the low-skill jobs on the other hand, consisting of *Employees and Workers*.

To simplify the analysis we estimated the model directly for the overall economy by aggregating the public and private sectors. The column "Overall economy" displays the coefficient associated with each particular characteristic Z, while the column "×Public sector" displays the estimated coefficient associated with the explanatory crossed variable "Z × Public sector"; therefore, when the return associated with a particular characteristic is different between the public sector and the private sector, the coefficient in the "Overall economy" column corresponds *de facto* to the private sector, while the one appearing in the "Public sector" column describes the spread between the public and the private sectors[36].

The results are quite clear. For low-skill jobs, wage discrimination is not significant in either the private sector or the public sector. In contrast, for high-skill jobs the magnitude of this

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[36] For example, for high-skill jobs, the explanatory variable "Number of children" is statistically significant and plays negatively, while the variable "Number of children × Public sector" is statistically significant and plays positively. This means that the return associated to the number of children in the private sector is equal to $e^{-0.004}-1= -0.4\%$ while it is equal to $e^{-0.004+0.015}-1= +1.11\%$ in the public sector.

discrimination is very high (–9.4%), with no obvious distinction between the two sectors. Whatever the sector, gay employees with high-skill occupations are the most affected by discriminatory practices. This result, after all, makes perfect sense. First, employers do not care about the sexual orientation of low-skill workers who have a very limited internal and external visibility; second, opportunities for wage discrimination against unskilled workers are few(career progressions are weak or even nonexistent, wages are set around the minimum wage, mandatory wage scales exist, *etc*).

Conversely, the *glass ceiling* effect comes into full play for highly skilled jobs, particularly jobs of senior managers, which are the most "visible" and often include a representation component. The gay employees can see their careers hampered compared to their heterosexual counterparts, through less frequent promotions. Such situations can be the consequence of heterosexism in the workplace and/or linked to the endogenization, by the employer, of a homophobia attributed to the clients of the firm or to other employees within the firm. Thus, contrary to what one might think at first, high-skill occupations do not protect gay employees, but instead expose them more frequently to discriminatory practices.

Table 6. – Wage equations for men by qualification levels

EARNINGS EQUATIONS FOR THE OVERALL ECONOMY			HIGH-SKILL JOBS		LOW-SKILL JOBS	
			Overall economy	X Public sector	Overall economy	X Public sector
INDIVIDUAL CHARACTERISTICS	Sexual orientation	Gay	ns	ns	-0,099	ns
	Age	Age	0.002	-0.002	0.014	0.004
		Age squared	-0.002	0.002	-0.004	0.003
	Degrees	Master's, PhD	0.074	ns	0.263	ns
		College	0.091	ns	0.096	ns
		No degree	-0.063	ns	-0.033	ns
	Family situation	Number of children	-0.004	0.015	0.014	0.024
		Married	0.031	ns	0.065	**-0.035
	Location	Town < 200 000 pop.	-0.013	ns	ns	ns
		Paris metropolitan area	0.093	-0.066	0.145	-0.077
JOB CHARACTERISTICS	Sector of activity	Industry	0.028		0.033	
		Public	0.117		-0.192	
	Firm size	< 50 employees	-0.042		-0.067	
		> 500 employees	0.070		0.034	
	Working hours	Part-time, 15-30 h /week	-0.485	ns	-0.537	0.361
		Part-time, < 15 h /week	-1.362	0.357	-1.450	0.787
		Flextime	0.047		0.038	
		Special work schedule	0.055	ns	0.062	-0.080
	Type of job	Blue collar	-0.049		-0.055	
		Short term labor contract	-0.023		ns	
	Time with the firm	< 1year	-0.035		-0.042	
		> 5 years	0.089	0.076	0.025	0.051
	Intercept		7,265		7.819	
	Size of the sample		42 755		17 699	

*No star = coefficients statistically significant at 99% level of confidence, * coefficients statistically significant at 95%-99% level of confidence, ** coefficients statistically significant at 90%-95% level of confidence, ns= not statistically significant*

4.2. – Age and seniority: discrimination and the information disclosure

Unlike other forms of wage discrimination (gender, ethnicity, age), discrimination based on sexual orientation does not rely on a directly observable individual characteristic. Valuable information about sexual orientation may, however, be acquired indirectly by the employer, through careful observation and a suitable analysis of some individual characteristics of the employee. These characteristics include marital status, number of children, neighborhood of residence, presence or absence of the partner at public events organized by the company, *etc.*

Although the observation of these characteristics does not allow an employer to make a perfect assessment of the sexual orientation of a worker, it allows him – at least – to revise, upward or downward, the likelihood that the employee is gay. In this context, the acquisition of new information and the belief revision process will allow the employer to evaluate the sexual orientation of an employee with an increasing degree of accuracy over time. The observed wage discrimination should then increase with age (since being unmarried and childless for a junior does not convey the same information than for a senior) and the employee's time of service with the company (since the accumulation of information takes time).

In this subsection we study whether the mechanism described above – continued acquisition of new information and the belief revision process – is at work. To do this we estimate wage equations for two age groups: less than 35 years of age and more than 45. Because only gays seem to suffer from wage discrimination, we limit our investigations to the male population. The results in Table 7 below show unambiguously that the magnitude of wage discrimination increases with age. For gay employees under 35, the wage penalty is estimated to be –5.8% both in the private and the public sectors; beyond 45 years, it shifts to –12.1% in the private sector and is not significantly different from this value in the public sector.

This difference between the two age groups, as regards the extent of wage discrimination, has been statistically tested and is significantly different from zero: all other things being equal, the older the gay employees, the higher the wage penalty. As previously stated, at least two effects combine to achieve this result. First, as the age of an employee increases, more information on his sexual orientation can be extrapolated from specific variables such as marital status and the number of children; second, older workers are those for whom wage discrimination had time to appear, through the slowdown of the career implied by the existence of a glass ceiling.

Table 7. – Wage equations for men by age

EARNINGS EQUATIONS FOR THE OVERALL ECONOMY			< 35 YEARS		≥45 YEARS	
			Overall economy	X Public sector	Overall economy	X Public sector
INDIVIDUAL CHARACTERISTICS	**Sexual orientation**	Gay	-0.060	ns	-0.130	ns
	Degrees	Master's, PhD	0.361	-0.111	0.463	-0.080
		College	0.110	ns	0.180	-0.042
		No degree	-0.036	ns	-0.050	ns
	Family situation	Number of children	0.012	0.024	-0.010	ns
		Married	0.05	ns	0.037	ns
	Location	Town < 200 000 pop.	ns	ns	-0.019	ns
		Paris metropolitan area	0.161	-0.123	0.138	-0.063
JOB CHARACTERISTICS	**Sector of activity**	Industry	0.031		0.035	
		Public	-0.073		-0.089	
	Firm size	< 50 employees	-0.041		-0.057	
		> 500 employees	0.034		0.057	
	Working hours	Part-time, 15-30 h /week	-0.436	0.391	-0.509	0.365
		Part-time, < 15 h /week	-1.001	ns	-1.300	0.761
		Flextime	0.077		0.080	
		Special work schedule	0.048	**-0.032	0.039	-0.032
	Qualifications	Highly skilled	0.212	-0.079	0.344	-0.033
		Unskilled	-0.105		-0.135	
	Type of job	Blue collar	-0.115		-0.111	
		Short term labor contract	ns		*0.036	
	Time with the firm	< 1year	-0.022		-0.061	
		> 5 years	0.060	0.040	0.098	0.066
	Intercept		7.188		7.327	
	Size of the sample		16 031		35 501	

No star = coefficients statistically significant at 99% level of confidence, * coefficients statistically significant at 95%-99% level of confidence, ** coefficients statistically significant at 90%-95% level of confidence, ns= not statistically significant

The results of wage equations by time of service (Table 8) make it possible to make the diagnosis presented above more precise and complete. For time of service of less than one year, no significant wage discrimination can be detected. Significant wage discrimination (–6.6%) seems to prevail only for time of service spanning between one and five years. Beyond five years of service in the firm, one obtains no significant wage discrimination, either in the public sector or in the private sector. These results suggest a fast learning process about sexual orientation: beyond five years of seniority some gay employees, conscious of the progressively increasing awareness of their sexual orientation and the associated discriminatory practices, are encouraged to leave the company[37]; those who decide to stay are those who suffer the least from such practices, which explains the nullity of the wage penalty estimated on the subset of gay employees with high seniority (>5 years).

These results shed light on how wage discrimination is exercised against gay men. In both the public and private sector, it is not the salary at the time of hiring which is responsible for the wage discrimination, but rather the existence of a glass ceiling which slows the careers of gay employees.

Table 8. – Wage equations for men by seniority

EARNINGS EQUATIONS FOR THE OVERALL ECONOMY			LESS THAN 1 YEAR		1 TO 5 YEARS		MORE THAN 5 YEARS	
			Overall economy	x Public sector	Overall economy	x Public sector	Overall economy	x Public sector
INDIVIDUAL CHARACTERISTICS	Sexual orientation	Gay	ns	ns	-0.068	ns	ns	ns
	Age	Age	0.002	0.010	0.005	0.006	0.008	0.005
		Age squared	-0.006	0.007	-0.004	0.004	-0.002	0.002
	Degrees	Master's, PhD	0.409	ns	0.369	ns	0.431	-0.120
		College	0.130	ns	0.119	ns	0.143	-0.044
		No degree	**-0.023	ns	-0.050	**-0.051	-0.063	ns
	Family situation	Number of children		0.036		0.041		0.021
		Married	0.043	ns	0.050	ns	0.036	ns
	Location	Town < 200 000 pop.	ns	ns	ns	ns	-0.015	-0.017
		Paris metropolitan area	0.157	ns	0.162	-0.094	0.135	-0.081
JOB CHARACTERISTICS	Sector of activity	Industry	0.079		0.056		0.022	
		Public	ns		-0.113		-0.054	
	Firm size	< 50 employees	-0.043		-0.046		-0.046	
		> 500 employees	0.032		0.031		0.050	
	Working hours	Part-time, 15-30 h /week	-0.636	0.382	-0.658	0.463	-0.387	0.256
		Part-time, < 15 h /week	-1.360	ns	-1.369	ns	-1.010	0.518
		Flextime	-0.035		0.089		0.115	
		Special work schedule	ns	ns	0.040	-0.056	0.058	-0.040
	Qualifications	Highly skilled	0.314	ns	0.312	-0.065	0.289	-0.032
		Unskilled	-0.142		-0.113		-0.115	
	Type of job	Blue collar	-0.048		-0.090		-0.095	
		Short term labor contract	ns		ns		0.149	
	Intercept		7.25		7.29		7.39	
	Size of the sample		6 166		18 667		60 809	

No star = coefficients statistically significant at 99% level of confidence, * coefficients statistically significant at 95%-99% level of confidence, ** coefficients statistically significant at 90%-95% level of confidence, ns= not statistically significant

4.3. – Oaxaca-Blinder decomposition

Wage discrimination has so far been estimated using a dummy variable for sexual orientation. In doing so we adopt the implicit assumption that discrimination affects all homosexual employees in the same way, regardless of their individual characteristics. Such an assumption is obviously excessive, since wage discrimination – see above – varies depending on the characteristics of the employee (sex, age, seniority, *etc*.) and the job held (qualifications). However this choice was constrained, because of the limited number of same-sex couples available in the French Employment Surveys. Even though the problem of limited sample size is probably inherent in this kind of study,

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[37] This explains the lower job stability of gay employees as compared to their heterosexual counterparts (see Table 1).

we try to estimate in this subsection a "simple" model that makes it possible to account for differences in the returns to observable characteristics, between heterosexual and homosexual employees. The process used is similar to what one uses when applying the Oaxaca-Blinder method[38]. By using an analysis in terms of contribution to discrimination we are better able to identify the characteristics for which wage discrimination based on sexual orientation is the most pronounced.

The estimation results for men are presented in Table 9 below, while the decomposition of discrimination according to the differences in returns to observable characteristics is provided in Table 10. The model presented in Table 9 was obtained starting from a general specification integrating as explanatory variables all the products of the two variables "gay" and "sector" with all the other variables. This, in practice, is equivalent to considering, as in Oaxaca-Blinder, at least two different models: one for heterosexual employees and another for gays. In our case, we tested and then imposed, if necessary, all the restrictions corresponding to equal returns between gay and heterosexual employees.

Eventually, one gets the specification presented in the table, where only the significant differences in returns appear: the level of education, the location (Paris metropolitan area), the characteristic of having a part-time job (15-30 h /week) and the characteristic of having a "special work schedule".

Table 9. − Wage equations for men with returns differences (Oaxaca-Blinder)

EARNINGS EQUATIONS FOR THE OVERALL ECONOMY (with returns differences)			MALES		MALES × GAY	
			Overall economy	x Public sector	Overall economy	x Public sector
INDIVIDUAL CHARACTERISTICS	Age	Age	0.007	0.006		
		Age squared	-0.002	0.003		
	Degrees	Master's, PhD	0.412	-0.086	-0.340	0,288
		College	0.137	*-0.022	-0.167	**0.183
		No degree	-0.057	-0.022		
	Family situation	Number of children	0.006	0.019		
		Married	0.039	**-0.015		
	Location	Town < 200 000 pop.	-0.009	-0.016		
		Paris metropolitan area	0.142	-0.083	0.134	**-0.131
JOB CHARACTERISTICS	Sector of activity	Industry	0.034	0.075		
		Public	-0.142			
	Firm size	< 50 employees	-0.048	**0.013		
		> 500 employees	0.045	**0.016		
	Working hours	Part-time, 15-30 h /week	-0.486	0.340	*-0.124	
		Part-time, < 15 h /week	-1.271	0.564		
		Flextime	0.092			
		Special work schedule	0.050	-0.034	-0.124	
	Qualifications	Highly skilled	0.295	-0.033		
		Unskilled	-0.120	ns		
	Type of job	Blue collar	-0.095	0.022		
		Short term labor contract	ns			
	Time with the firm	< 1year	-0.038	Ns		
		> 5 years	0.072	0.070		
	Intercept		7.303			
	Size of the sample		83 302			

*No star = coefficients statistically significant at 99% level of confidence, * coefficients statistically significant at 95%-99% level of confidence, ** coefficients statistically significant at 90%-95% level of confidence, ns= not statistically significant*

It is then straightforward to calculate the magnitude of wage discrimination by summing all the differences in returns, with identical characteristics, between gays and heterosexuals. The resulting evaluation is similar to what has been presented in the previous sections. This confirms the existence

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[38] *Cf*. OAXACA [1973], BLINDER [1973], OAXACA & RANSOM [1994].

of a wage discrimination that is slightly higher in the private sector (–6.3%) than in the public sector (–5.0%).

Inspection of Table 10 clearly shows the main mechanisms responsible for this discrimination. It is mainly through the highest educational degree obtained that discrimination occurs: the educational level of a gay is less valued than that of his heterosexual counterpart. This fact is especially true if it is a high degree, confirming the greater exposure to discrimination of highly graduated gays.

Table 10. – Breakdown of the wage discrimination

BREAK DOWN OF THE WAGE DISCRIMINATION		DISTRIBUTION WITHIN THE SAMPLE		CONTRIBUTIONS TO WAGE DISCRIMINATION	
		PRIVATE	PUBLIC	PRIVATE	PUBLIC
Degrees	Master's, PhD	12.5%	28.0%	− 4.26 % (0.007)	−1.44 % (0.027)
	College	11.6%	18.2%	− 1.93 % (0.006)	+0.29 % (0.009)
Location	Paris metropolitan area	16.0%	14.5%	+ 2.16 % (0.006)	+ 0.04 % (0.013)
Working hours	Part-time, 15-30 h /week	3.2%	13.0%	− 0.39 % (0.002)	− 1.61 % (0.010)
	Special work schedule	15.1%	18.3%	− 1.86 % (0.007)	-2.26 % (0.008)
WAGE DISCRIMINATION				− 6.28 % (0.008)	− 4.98 % (0.017)

Between brackets the standard deviations calculated by a bootstrap performed with 1000 replications

5. – Conclusion

This first attempt to assess the extent, in the French labor market, of wage discrimination based on sexual orientation provides some useful results. First of all, a significant wage discrimination against gay employees does exist in France, in both the private and the public sector. Despite controlling for many variables, and especially for the marriage premium, the estimated wage discrimination lies between –6% to –7% in the private sector and –5% to –6% in the public sector, a magnitude similar to that of gender wage discrimination. Keeping in mind that all gay employees of our sample are not identified as such by their employers, it is certain that those identified as homosexuals suffer a higher wage penalty than the average level we have estimated. This highlights the importance of discriminatory practices against gays within the French labor market.

In contrast, we were not able to identify a significant wage discrimination against lesbians. Such an asymmetry between gays and lesbians, as regards the magnitude of wage discrimination in France, is consistent with the "theoretical intuition" and with most of the results from other countries. The asymmetry observed in our results reflects a diversity of discriminatory practices, explained by the specificity of homophobia and the different nature of stereotypes associated with male and female homosexuality.

A higher degree does not protect gays from discrimination. On the contrary the higher the degree, the higher the magnitude of wage discrimination against gay employees. The *pink glass ceiling* effect is most noticeable for highly skilled jobs, which are the most "visible" and include a representation component. As the learning process of employers about the sexual orientation of their employees takes time, the extent of wage discrimination increases with the age of employees and their seniority within the firm.

The results presented in this paper on the extent of wage discrimination based on sexual orientation in France, are in the low range of comparable estimates about other countries, especially Anglo-Saxon countries. Even if homophobia/heterocentrism may be more pronounced in the US, which could help to explain such a difference in results, our feeling is rather that several studies suffer from neglecting some essential control variables (marriage premium, hours of work per week, sector of activity), thus overestimating the magnitude of the wage penalty in the countries involved..

6. – Annex: variables used in the selection and wage equations

Table 11. – List of variables used
The underlined characteristics correspond to the base case

VARIABLES			SELECTION EQUATION	WAGE EQUATION
INDIVIDUAL CHARACTERISTICS	Sexual orientation	Gay *vs.* <u>Heterosexual</u>		✓
	Age	Age, Age squared	✓	✓
	Degrees	No degree *vs.* <u>A-Level or Professional degree</u> *vs.* College *vs.* Master's, PhD	✓	✓
	Family situation	Number of children	✓	✓
		Married *vs.* <u>Unmarried</u>	✓	✓
	Location	Town < 200 000 *vs.* <u>> 200 000</u> *vs.* Paris metropolitan area		✓
	Real estate capital	Home owner *vs.* <u>Leaseholder</u>	✓	
	Partner income *Occupation / qualifications of the partner*	Craftsman, merchant, entrepreneur, independent *vs.* Middle or top managers *vs.* <u>Technicians, associate professionals</u> *vs.* Unskilled employee or worker, inactive, unemployed	✓	
	One year ago on the labor market	<u>Employed</u> *vs.* Unemployed *vs.* Inactive	✓	
JOB CHARACTERISTICS	Sector of activity	Industry *vs.* <u>Services</u>		✓
	Firm size	< 50 employees *vs.* <u>50-500</u> *vs.* >500		✓
	Working hours	< 15h/week *vs.* 15-30h *vs.* <u>> 30h</u> *vs.* Others		✓
		<u>Normal work schedule</u> *vs.* Special work schedule		✓
	Qualifications	Unskilled *vs.* <u>Skilled</u> *vs.* High-skilled		✓
	Type of job	Blue collar *vs.* <u>White collar</u>		✓
		Short term labor contract *vs.* <u>fixed-term or long term labor contract</u>		✓
	Time with the firm	< 1 year *vs.* <u>1-5 years</u> *vs.* >5 years		✓

Note: Our main sample being constituted of twelve stacked Employment Surveys (1996-2007), time dummy variables – one for each year – have also been systematically introduced into the equations, to remove a possible effect of the business cycle

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