Sexual Orientation, Demography & Labor Relations

Dr Drydakis Nick
PhD in Economics

Work Address
Department of Accounting and Finance, Athens University of Economics and Business, 76 Patision Str, 104 34, Athens, Greece
Department of Economics, University of Piraeus, 80 Karaoli and Dimitriou Str, 18534, Piraeus, Greece
Department of Public Administration, Panteion University of Social and Political Sciences, 136 Syggrou Avenue, 17671, Kallithea, Athens, Greece
Scientific Centre for the Study of Discrimination, Ίσον, Athens, Greece
email: ndrydakis@econ.soc.uoc.gr

Abstract: We use data from the 2008-09 Athens Area Study (AAS) to provide the first evidence on the relationship between sexual orientation and earnings in Greece. The AAS asks male adults a direct question about their sexual orientation: about 4.52% self-identify as homosexuals and 0.86% as bisexuals. Sexual orientation minorities are found to receive significantly lower monthly wages than heterosexual workers of the same age, education, health status and occupational characteristics. Moreover, there is statistically significant evidence that homosexual and bisexual men have higher unemployment rates than similarly situated heterosexuals. Of further importance is the finding that sexual orientation minorities who are also older, less educated, blue collar workers, and/or immigrants are statistically more vulnerable to wage discrimination and unemployment than comparable heterosexuals. Moreover, in the current research, in order to better understand the determinants of the wage gaps, we compare homosexual/bisexual men with both married and unmarried heterosexual men. By making these comparisons, we are able to disentangle the penalty associated with being unmarried from other human capital explanations of the wage gap. Given the legal actions in Greece that have the potential to affect sexual orientation minorities, it is important to understand the relationships between sexual orientation, demography and labor market.

1. Introduction

The current social situation for homosexual and bisexual men represents a problem for Greece[1]. The European Union Agency for Fundamental Rights report (FRA, 2009) highlights that sexual orientation minorities experience unequal treatment and harassment in Greece[2]. In the labor market, researchers often recount instances of biases in order to assert that employment discrimination[3] is common. However, hiring tactics have been found to pose the biggest problem (Drydakis, 2009a;b). These trends are especially striking when considered in the context of legislation aimed at securing improvements in the labor market position of homosexuals and bisexuals (De Schutter, 2008). New Greek laws prohibiting discrimination on the grounds of sexual orientation (2005/3304) came into force in January 2005 under the European Union's Employment Equality Directive 2000/78. According to this legislation, employment equality applies to everyone, regardless of sexual orientation[4]. Its goal is to ensure that everyone living in the European Union can benefit from effective legal protection against discrimination.

For economists, in order to determine whether sexual orientation minorities face discrimination, it is useful to compare the earnings of homosexuals/bisexuals to the earnings of heterosexuals. If sexual orientation minorities earn less than heterosexuals after accounting for differences in productivity and other factors that influence wages, then the differential may be attributed to labor market discrimination by employers. In Greece, until recently no datasets included data on sexual orientation, which precluded investigation of this discrimination hypothesis. In the current study, data pooled from a 2008-09 random sample,

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[1] Greece is one of the most puritanical societies in terms of general attitudes toward homosexuality. Eurobarometer (2007/263) revealed that the large majority of Greeks (85%) feel that homosexuality is a taboo, compared to 48% of European Union individuals, while a similarly large majority (84%) share the opinion that it is difficult for homosexuals and lesbians to state their sexual orientation at work, compared to 68% of European Union respondents. Historical, sociological, and psychological research demonstrates the existence of *sexual stigma* (the shared knowledge of society's negative regard for any behavior, identity, relationship or community that is not heterosexual), *heterosexism* (the cultural ideology that perpetuates sexual stigma) and *sexual prejudice* (negative attitudes based on sexual orientation) and the effects that such attitudes have on the everyday experiences of gays and lesbians (Herek, 2000).

[2] In Greece, the derogatory terms used for homosexuals in school from a young age teach homosexual individuals to remain invisible; they cannot secure their relationships to one another as legal partners; they rarely see positive representation in the media; and when seeking treatment for themselves or their partner, they hesitate to reveal themselves in settings that take heterosexuality for granted (Vlami, 2007).

[3] Labor market discrimination exists when two equally qualified individuals are treated differently in the labor market based on some personal characteristic unrelated to productivity (Swinton, 1977).

[4] It is unlawful to discriminate against (i) job applicants, in relation to recruitment, arrangements, decisions, and harassment, (ii) employees, in relation to terms, promotions, transfers, training, benefits, and dismissals, and (iii) ex-employees, where the discrimination is closely connected to their employment.

the Athens Area Study, allow, for the first time, testing of whether discrimination against homosexual/bisexual men affects wages.

Knowledge of the size of the homosexual population holds promise for helping social scientists understand a wide array of important questions about the general nature of labor market choices, accumulation of human capital, specialization within households, discrimination, and decisions about geographic location (Black *et al.,* 2000). Demographics would also help in calculating the costs and benefits of marriage benefits and of the impact of legalizing gay adoption. The comparative strength of our study is that it identifies homosexual and bisexual men based on self-reporting of their lifestyle, rather than on sexual behavior that could have been experimental and not indicative of sexual orientation (see Carpenter's 2005 analysis). Hence, our measure is likely to be correlated with the concept of interest, living an "openly homosexual/bisexual" life, and is arguably better than the sexual behavior measures used in previous research.

Our work concludes that discrimination remains an important cause of the wage gap. Homosexuals' wages would increase by approximately 4.1% if homosexuals were remunerated on the same basis as heterosexual workers. For bisexuals, the wage discrimination factor is even higher. Of further importance is the finding that sexual orientation minorities who are also older, less educated, blue collar workers, and/or immigrants are statistically more vulnerable to wage discrimination and unemployment than comparable heterosexuals. Moreover, in the current research, in order to better understand the determinants of the wage gaps, we compare homosexual/bisexual men with both married and unmarried heterosexual men. By making these comparisons, we are able to disentangle the penalty associated with being unmarried from other human capital explanations of the wage gap. Overall, the outcomes are consistent with the Taste (Becker, 1957) and/or Statistical theories (Arrow, 1973; Aigner and Clain, 1977) of discrimination.

The evidence set forth here suggests that discrimination continues at alarming levels, and it suggests the need to more closely examine the effects of sexual orientation discrimination and labor market characteristics on employment for homosexual/bisexual workers in Greece.

The paper is divided into seven sections. Section 2 reviews the stylized facts concerning sexual orientation discrimination in the labor market. Section 3 discusses the Athens Area Study data set. Section 4 discusses the descriptive statistics. Section 5 evaluates

the estimation framework. Section 6 presents the empirical estimations and offers a theoretical discussion. Section 7 concludes.

2. Literature Review

Evidence of employment discrimination largely comes from personal accounts and from data collected in studies on the socio-economic status of sexual orientation minorities (Colgan *et al*., 2006; Badgett *et al.,* 2007). These incidents involve the use of institutionalized procedures to restrict officially conferred work rewards, such as promotions, salary increases or increased job responsibilities. Briefly, wage regressions have documented lower incomes for homosexual men, but they have repeatedly shown higher incomes for lesbians. In this study, we make no attempt to review the existing literature of the earning differentials of lesbian women. Drydakis (2009b) discuss many relevant issues.

A number of studies have documented a significant and dramatic relationship between sexual orientation and economic outcomes in the United States. Badgett (1995), using data from the 1989–91 General Social Survey (GSS), found that behaviourally homosexual/bisexual men (defined a number of ways depending on the presence of a same sex partner) earned 11-27% less than heterosexual men. Black *et al.* (2003) employed GSS data from 1989–96 and found earnings to be between 14% and 16% lower for behaviourally gay men than for heterosexuals. Moreover, Carpenter (2007) used the Third National Health and Nutrition Examination Survey from the 1984–94 wave and found that behaviourally gay men experienced a statistically and economically significant penalty on the order of 23–30%.

Allegretto and Arthur (2001) used data from the 1990 Census on men and found a smaller gay male (consisting in unmarried partnered relationship) earnings penalty on the order of 3%. Furthermore, Carpenter (2005) used self-reported sexual orientation data from a public health survey in California (California Health Interview Survey; 2001) and found small statistically insignificant earnings differentials for gay men compared to heterosexuals. Similarly, studies of self-reported gay men in the Netherlands found that gay men, between 2003 and 2006, earned about 4% less than heterosexuals (Plug and Berkhout, 2004). In the United Kingdom, Arabsheibani *et al*. (2005), using data from the Labor Force Survey between 2001 and 2005, found that gay men, identified as individuals living with same sex partners, earned about 5% less than heterosexuals.

The evidence of earnings effects of sexual orientation has garnered a variety of economic explanations for the source of such differences. One explanation for the observed wage differential between heterosexuals and homosexuals/bisexuals is that employers discriminate against sexual minority individuals (Becker, 1957; Arrow, 1973). Some have invoked the hypothesis that sexual minority individuals are paid differently than heterosexuals because they do not conform to traditional gender roles. To be specific, the labor market values homosexual/bisexual men's characteristics less (Blandford, 2003).

However, other explanations for the wage differentials are possible. In the economic story of specialisation, expectation of marriage and acceptance of traditional gender roles drive the relationship between sexual orientation and earnings (Becker, 1991). Young homosexual men invest less in human capital formation than do their heterosexual counterparts, because of rational, sexual orientation–based expectations about their future partners and domestic arrangements. Other theories argue that homosexual men choose different levels of work effort given different budget constraints (Berg and Donald, 2002). However, additional unobservable factors may have contributed to the wage gap.

3. Data Set

Data were gathered from April 2008 through January 2009, in the Athens Area Study (AAS), conducted by the University of Piraeus, University of Central Greece, and Panteion University of Social and Political Sciences. The 2008 AAS is one component of the Multi-City Study of the Scientific Centre for the Study of Discrimination (SCSD), which has collected information on labor market variables (employment status, demographic characteristics, and wages), and which focuses on the sexual orientation.

The current AAS consists of telephone-based surveys that were administered to approximately 7,400 households. Male workers in each household were selected to provide individual information on a variety of demographic characteristics. The AAS excludes homemakers, and self-employed. Interviews were restricted to individuals aged 18 to 65 years. Income is measured as a continuous variable. The AAS constructed an hourly wage measure by dividing the last month's earnings by self-reported working hours per month. Surveyors asked, *"What is your best estimate of your wage last month before taxes and other deductions?"* The earnings variable is the natural logarithm of hourly earnings.

The AAS includes a direct question about an individual's sexual orientation. To investigate the sexual orientation, adult workers were asked: *"The next question is about sexual orientation: Do you consider yourself to be: (1) Heterosexual? (that is sexual relations with people of the opposite sex). (2) Homosexual? (that is sexual relations with people of your own sex). (3) Bisexual? (that is sexual relations with people of both sexes)"*. Carpenter (2005) argued that direct self-reports of sexual orientation offer a measure of sexuality that, in the context of labor market analyses, is preferable to the behavioural measures used by most previous research on individuals. Self-reported sexual orientation is almost surely closer to workplace disclosure than is same-sex sexual behavior[5], in large part because the latter is likely less observable to employers.

In this stage, two issues in economic analyses of sexual orientation are important to discuss. First, an important factor influencing the potential for homosexual and bisexual background to decrease earnings through employer discrimination is the employers' ability to distinguish homosexuals, bisexuals and heterosexuals. To the extent that an employer only imperfectly observes homosexuals/bisexuals employees, any evidence of discrimination we find would understate the extent of discrimination against sexual orientation minorities. Second, "underreporting" is a concern in every study that infers sexual orientation from self-reported data. Within the homosexual/bisexual community, it may be that a higher percentage of higher-earning men are willing to identify themselves as homosexual/bisexual. Both instances of untruthfulness, if uniformly distributed over all kinds of employees, would tend to bring the homosexual/bisexuals and heterosexuals averages closer together, biasing a test to detect differences against finding any.

Nothing suggests that the above mentioned two points cause greater bias than in comparable studies.

There are numerous factors besides sexual orientation that may influence wage levels. To isolate the effect of sexual orientation on wages, we must appropriately control for all other factors that affect wages and that correlate with sexual orientation. Some of these factors pertain to individual productivity. The productivity variables used in the study are age, education, fluency in the Greek language, health status, and occupation. The variable *AGE* measured the individual's age in years. To allow for a non-linear relationship between wage

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[5] Studies have found that more than half of people who report a same-sex sex partner in adulthood concurrently do not report a gay, lesbian, or bisexual orientation (Laumann, 1994).

and age, the square of age (*AGESQ*) was included in the regression. The variable *MARR* was set equal to one if the respondent was married, and zero otherwise. The variable *CHIL* measured the number of children in the household. The variable *HOMEM* measured the individual's household members.

The variable *IMM* was set to one if the individual was an immigrant (non-Greek), and it was zero otherwise. The variable *FLUEN* was equal to one if the individual spoke the Greek language well or very well, and zero otherwise. To capture possible effects of disability and disease, the variable *DIS* was set to one if the individual's activities were limited by poor health, otherwise it was zero. To be comparable to previous research, we defined disability status using the self-reported response to the question concerning conditions that limited the individual's ability to work (Baldwin and Johnson, 2000). Similarly, the variable *MHS* was set to one indicating negative mental health symptoms for last week[6] (Dhaval *et al.*, 2008). For convenience, variables definitions are summarized in Table 1 below.

The variable *SCHOL* was set to one if the respondent had completed the minimum mandatory education level, and it was zero otherwise. The variable *GRAD* was set to one if the respondent had graduated from high school, and zero otherwise. The variable *UNIV* was set to one if the respondent had a university or technical school diploma, and zero otherwise. The coefficients of these variables measure the effects of degree completion compared to workers who did not attain a comparable educational level.

In addition, the variable *PC* was set to one if the individual had computer skills and otherwise it was zero. The variable *ENGL* was set to one if the respondent had knowledge of English and zero otherwise. The variable *DRIV* was set equal to one if the respondent had a driving license, and zero otherwise. The variable *EXPER* measures the individual's years of working experience.

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[6] The AAS contains a depression scale, as defined by the Center for Epidemiologic Studies. The *MHS* variable measures the existence of adverse mental health symptoms for the past week, and studies have confirmed the validity and reliability of the variable as a screening instrument for the identification of major depression (Irwin *et al.,* 1999).

Table 1. Definitions of Variables

Variable Name	Definition
NLHN	Natural logarithm of hourly wages
S	1 if individual is homosexual/bisexual; 0 otherwise
AGE	Years of age
AGESQ	Squared years of age
MARR	1 if individual is married; 0 otherwise
CHIL	Number of children in household
HOMEM	Number of members in household
IMM	1 if individual is an immigrant; 0 otherwise
FLUEN	1 if individual is fluent in the Greek language; 0 otherwise
DIS	1 if individual is limited in kind or amount of work, has a mobility limitation, or has a personal care limitation; 0 otherwise
MHS	1 if individual has a negative mental health symptoms for last week (depressed, everything an effort, restless sleep, not happy, lonely, sad, could not get doing, and did not enjoy life)
SCHOL	1 if individual has completed minimum mandatory education; 0 otherwise
GRAD	1 if individual has graduated from a high school; 0 otherwise
UNIV	1 if individual has university or a technical school diploma ; 0 otherwise
PC	1 if individual has computer skills; 0 otherwise
ENGL	1 if individual has knowledge of English; 0 otherwise
DRIV	1 if individual has a driving license; 0 otherwise
EXPER	Years of working experience
EXPERSQ	Squared years of working experience
WHITE	1 if individual's occupation is among managerial or professional specialties, or the individual works in a technical, sales, or administrative support position; 0 otherwise
BLUE	1 if individual's occupation is among precision production, craft, or repair occupations, or the individuals works as an operator, fabricator or laborer; 0 otherwise
SERV	1 if individual is in a service occupation; 0 otherwise
PUBL	1 if individual is employed in the public sector; 0 otherwise
PRIV	1 if individual is employed in the private sector; 0 otherwise
IC	1 if individual is registered with insurance coverage; 0 otherwise
MON_1 - MON_10	Common Time Effects
LAMBDA	Inverse of Mill's ratio, estimated from Probit Model equation results

Three dummy variables for occupational categories were included in the analysis. The variable **WHITE** was set to one if the individual's occupation was considered white-collar, and otherwise it was zero. The variable **BLUE** was set equal to one if the individual's occupation was considered blu-collar, and otherwise it was zero. The variable **SERV** was set to one if the individual's occupation was considered a service occupation, and otherwise it was zero. For greater occupational control, two additional variables were considered. The variable **PUBL** was set to one if the worker was employed in the public sector, and zero

otherwise. The variable **PRIV** was set to one if the worker was employed in the private sector, and it was zero otherwise. In addition, the variable **IC** was set to one if the employee had insurance coverage and zero otherwise. Finally, the variables **MON_1** up to **MON_10** represent common time effects (10 months). Since interviews were conducted over a period of 10 months, it was necessary to control for time effects using time dummy variables defined by the month when the interview took place

4. Descriptive Statistics

By using self-reported sexual orientation data, we are able to separate homosexuals and bisexuals from heterosexuals. Our sample of adults consists of 7,006 heterosexuals, 335 homosexuals and 64 bisexuals, representing a proportion of homosexual individuals on the order of 4.52% and of bisexual people on the order of 0.86%.

We present variable means stratified by employment status and sexual orientation. Table 2, shows descriptive statistics for employed heterosexuals, homosexuals and bisexuals (Columns 1, 3 and 5). At first glance, homosexual and bisexual men have significantly lower hourly wages (natural log) than heterosexuals (3.443*, 3.470* versus 3.611, respectively)[7]. The results also indicate that homosexuals, bisexuals and heterosexuals have nearly the same average ages (34.0^, 35.7^ versus 35.7, respectively). As expected, homosexuals and bisexuals are significantly less likely to be married than heterosexuals (3.2%*, 7.6%* versus 65.5%, respectively). In addition, homosexuals and bisexuals have significantly fewer children than heterosexuals (0.025*, 0.038* versus 0.914, respectively), and their households[8] have fewer members than heterosexuals (1.404*, 1.903* versus 4.232, respectively). Moreover, 5.1%*** of homosexuals, 6.6%^ of bisexuals, versus 6.3% of heterosexuals are immigrants. In addition, homosexuals, bisexuals and heterosexuals are equally likely to be fluent in the Greek language (98.1%^, 95.2%^ versus 99.4%, respectively).

Homosexuals and bisexuals are significantly less likely to have disabilities than heterosexuals (3.2%**, 1.9%** versus 5.26%, respectively). Moreover, homosexuals and bisexuals are insignificantly less likely to have negative mental health symptoms than heterosexuals (2.16%^, 1.92%^ versus 2.4%, respectively).

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[7] (*) Significant at the 1% level, (**) significant at the 5% level, (***) significant at the 10% level, (^) insignificant.

[8] Unfortunately, there is no information regarding the identities of household members. They might be individuals' parents, spouses, children, lovers, friends, or housemates.

On average, homosexual, bisexuals and heterosexuals devote the same number of years to education. Homosexuals and bisexuals are insignificantly more likely to have completed the minimum mandatory education than heterosexuals (96.3%^, 96.1%^ versus 95.4%, respectively). However, homosexuals and bisexuals are insignificantly less likely to have a high school diploma than heterosexuals (82.2%^, 82.6%^ versus 83.4%, respectively). In addition, homosexuals are insignificantly less likely to have a university or technical school degree than heterosexuals (45.1%^ versus 45.7%, respectively), but bisexuals are more likely to have a degree than heterosexuals (50.0%***, versus 45.7%, respectively).

Furthermore, homosexuals and bisexuals are significantly more likely to have computer skills than heterosexuals (79.0%*, 76.9%* versus 69.3%, respectively). Homosexuals are significantly less likely to have knowledge of the English language than heterosexuals (42.5%** versus 47.3%, respectively). On the other hand, bisexuals are significantly more likely to have knowledge of the English language than heterosexuals (53.8%* versus 47.3%, respectively). Finally, homosexual people are more likely to have a driving license than heterosexuals (92.0%*** versus 89.9%, respectively). Bisexuals, on the other hand, are less likely to have a driving license than heterosexuals (88.4%^ versus 89.9%, respectively). Among employed men, homosexuals have insignificantly fewer years of working experience than heterosexuals (13.4^ than 14.7, respectively). On the contrary, bisexuals have insignificantly more years of working experience than heterosexuals (15.4^ than 14.7, respectively).

Homosexual and bisexual men are significantly less likely to be employed in white-collar jobs than heterosexuals (36.2%***, 34.9%* versus 39.6%, respectively). Homosexuals and bisexuals are significantly more likely to be employed in blue-collar jobs than heterosexuals (54.8%*, 56.6%* versus 49.0%, respectively). Moreover, homosexuals and bisexuals are significantly less likely to work in service occupations than heterosexuals (8.3%*, 7.6%* versus 10.8%, respectively). Homosexuals are significantly less likely to be employed in the public sector than heterosexuals (41.5%* versus 39.4%, respectively). Bisexuals are significantly more likely to be employed in the public sector than heterosexuals (50.0%^ versus 39.4%, respectively). In addition, homosexuals and bisexuals are significantly less likely to be employed in the private sector than heterosexuals (58.4%^, 50.0%* versus 58.9%, respectively). Finally, homosexuals are insignificantly more likely to be registered with insurance coverage than heterosexuals (92.0%^ versus 89.9%). Bisexuals are

significantly less likely to be registered with insurance coverage than heterosexuals (84.9%*
versus 89.9%, respectively).

The present results indicate that homosexual, bisexual and heterosexual workers have
the same educational levels and working experience. A potentially important difference
between sexual orientation minorities and heterosexuals is their occupational categories, but
this difference would not necessarily mean lower earnings. Nevertheless, even before
performing an econometric analysis, the data clearly indicate that sexual orientation
minorities have lower monthly earnings.

Table 2. Descriptive Statistics: Heterosexuals, Homosexuals and Bisexuals

	Heterosexuals		Homosexuals		Bisexuals	
	Employed (1)	Unemployed (2)	Employed (3)	Unemployed (4)	Employed (5)	Unemployed (6)
Number of Observations	6305	701	277	58	58	12
Mean hourly earnings (natural log)	3.611	-	3.433	-	3.470	-
Mean age	35.71	29.58	34.07	31.37	35.78	31.25
Percentage who are married	65.56%	47.50%	3.242%	0.000%	7.694%	0.000%
Mean number of children in household	0.914	0.637	0.025	0.000	0.038	0.000
Mean number of household members	4.232	4.310	1.404	2.344	1.903	2.588
Percentage who are immigrants	6.364%	11.84%	5.183%	5.174%	6.638%	6.666%
Percentage with Greek fluency	99.41%	99.00%	98.11%	98.27%	95.23%	100.00%
Percentage with disability limitations	5.263%	6.412%	3.256%	3.423%	1.923%	0.000%
Percentage with negative mental health symptoms	2.470%	2.992%	2.164%	2.178%	1.923%	0.000%
Percentage completing minimum mandatory education	95.49%	97.57%	96.38%	98.27%	96.15%	100.00%
Percentage of high school graduates	83.48%	84.16%	82.22%	86.20%	82.69%	83.33%
Percentage of university or technical school graduates	45.78%	46.64%	45.12%	41.37%	50.00%	58.33%
Percentage with computing skills	69.34%	78.17%	79.06%	74.13%	76.92%	91.66%
Percentage with English skills	47.31%	40.08%	42.59%	39.65%	53.84%	36.66%
Percentage with driving license	89.92%	81.45%	92.01%	81.03%	88.46%	91.66%
Mean years of experience	14.79	9.282	13.48	11.10	15.42	9.666
Percentage in white-collar jobs	39.66%	-	36.24%	-	34.93%	-
Percentage in blue-collar jobs	49.45%	-	54.87%	-	56.61%	-
Percentage in service occupations	10.88%	-	8.302%	-	7.617%	-
Percentage in public sector	39.49%	-	41.51%	-	50.00%	-
Percentage in private sector	58.92%	-	58.48%	-	50.00%	-
Percentage of employees being registered with insurance coverage	89.92%	-	92.05%	-	84.92%	-

Focusing on unemployed[9] homosexuals, bisexuals and heterosexuals (Columns 2, 4 and 6), we see that the mean age of homosexual people is 31.3^ years and that of bisexual people is 31.2^ years, while the mean age of heterosexuals is 29.5 years. Homosexuals face a 17.3%* unemployment rate, and bisexuals face a 18.4%* unemployment rate, while heterosexuals are unemployed at the lower rate of 10.0%. This result supports claims that sexual orientation minorities have higher rates of unemployment than heterosexuals (Drydakis, 2009a;b).

Moreover, among unemployed men, homosexuals and bisexuals are significantly less likely to be married than heterosexuals (0.0%*, 0.0%* versus 47.5%, respectively) and to have children (0.000*, 0.000* versus 0.637, respectively). In addition, homosexuals' and bisexuals' households are smaller than heterosexuals' (2.344*, 2.588* versus 4.310, respectively). In addition, 5.1%* of homosexuals, 6.6%* of bisexuals, versus 11.8% of heterosexuals are immigrants. On average, homosexuals, bisexuals and heterosexuals are likely to be fluent in the Greek language (98.2%^, 100.0%^ versus 99.0%, respectively). Homosexuals and bisexuals are significantly less likely to have disabilities than heterosexuals (3.4%*, 0.0%* versus 6.4%, respectively). Similarly, homosexuals and bisexuals are less likely to have negative mental health symptoms than heterosexuals (2.1%^, 0.0%* versus 2.9%, respectively).

Moreover, 98.2%^ of homosexuals and 100.0%*** of bisexuals have completed mandatory schooling, compared to 97.5% of heterosexual men. In addition, 86.2%^ of homosexuals and 83.3%^ of bisexuals have a high school diploma, while 84.1% of heterosexuals hold high school diplomas. Homosexuals are significantly less likely to graduate from a university or technical school than heterosexuals (41.3%** versus 46.6%, respectively). Bisexuals are significantly more likely to graduate from a university or technical school than heterosexuals (58.3%* versus 46.6%, respectively).

In addition, homosexuals are less likely to have computer and English skills than heterosexuals (74.1%*** versus 78.1% and 39.6%^ versus 40.0%, respectively). Bisexuals are significantly more likely to have computer skills than heterosexuals (91.6%* versus 78.1%, respectively) and significantly less likely to have English skills than heterosexuals (36.6%** versus 40.0%, respectively). Homosexuals are insignificantly less likely to have a

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[9] We define unemployed men as a person who is available to work and seeking work but currently without work.

driving license than heterosexuals (81.0%^ versus 81.4%, respectively). Bisexuals are significantly more likely to have a driving license than heterosexuals (91.6%* versus 81.4%, respectively). Finally, homosexuals have 11.1** years of working experience and bisexuals have 9.6^ years of working experience, compared to the 9.2 years for heterosexuals.

Econometric analysis that takes all these variables into consideration is necessary to determine whether homosexuals/bisexuals suffer from lower earnings and higher unemployment rates than otherwise comparable heterosexuals.

5. The Model

In this study, we test the hypothesis that sexual orientation minorities have statistically different earnings from heterosexuals when controlling for differences in labor market experience, educational levels, occupations, and other characteristics. The empirical work is based on the standard human capital wage equation developed by Mincer (1974). We develop our estimates by systematically modifying the Mincer equation, as outlined in Badgett (1995) and updated in Allegretto and Arthur (2001), Black *et al.* (2003), and Carpenter (2005; 2007).

The wage equation, written below, relates the calculated wages (called *NLHW*) to dummy variables for the demographic and control variables. We use the natural logarithm of the wage variable, which increases the efficiency of estimation because it increases the extent to which the variable approximates a Gaussian distribution. It also allows for an easier interpretation of the coefficients as percentages. Equation (1) presents a linearly estimable specification of this basic model:

$$\ln W_i = \alpha_1 + \beta_1 S_i + \gamma_1 X_i + \varepsilon_{1i} \qquad (1)$$

where W_i = hourly wage of individual i; $S_i = 1$ if the worker is homosexual/bisexual and 0 if the worker is heterosexual; X_i = vector of characteristics that describe individuals and that are thought to be related to wages; α_1, β_1, γ_1 = parameters to be estimated by the OLS model; and ε_{1i} = error term.

The key variable of interest is the dummy variable indicating that the worker is homosexual/bisexual. The main effect of discrimination, if any, will be captured by the sexual orientation coefficient. A statistically significant negative coefficient would imply discrimination in the form of lower wages. Following Halvorsen and Palmquist (1980), the

percentage impact on earnings given the presence of the characteristic represented by the dummy variable must be measured using the formula: $100y = 100\{\exp(b_i) - 1\}$, where ψ = the relative effect on wages and β_i = the dummy variable's coefficient.

In any study, isolating unbiased outcomes requires attention to unobserved heterogeneity. In the current study, we addressed this issue as it relates to the effects of sexual orientation and potential employment heterogeneity by estimating a preliminary employment equation in order to construct an *Inverse Mills Ratio* term that will serve as a statistical correction when estimating wage equations for only individuals with observed wages[10] (called **LAMBDA**).

A two-stage estimation procedure proposed by Heckman (1974) was applied, which translates sample selection into a problem of an omitted variable.[11] This correction is particularly important for our analyses because of the possible differentials in importance of the demographic variables in employment selection for sexual orientation minorities. This ratio is known as the hazard rate in reliability theory.

Our empirical work relies on the following specification of the *probit* model applied to employment, in which the continuous latent variable x_i^*, reflecting preferences for paid work, is expressed as the observed discrete employment outcome:

$D_i = 1$ if $x_i^* > 0$ (2)

     $= 0$ otherwise,

where $x_i^* = \alpha_2 + \beta_2 S_i + \gamma_2 X_i + \varepsilon_{Ri}$; $D_i = 1$ if individual *i* participates in the labor force and has positive wages and is 0 otherwise; α_2, β_2, γ_2 = parameters to be estimated by probit model; and ε_{Ri} = error term. The variables that are included in the estimation of employment, but not wages, and that therefore help the model's identification include the 10 common time effects. Actually, in a process to find which variables should affect employment but not wages, the time effects are the only appropriate variables to take into consideration.

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[10] For instance, the sample in Equation 1 is systematically selected according to the condition $\varepsilon_{1i} > -\alpha_1 - \beta_1 S_i - \gamma_1 X_i$. As a result, the expected value of the error term is not zero, and the use of OLS generates inconsistent estimates.

[11] According to Heckman, the results of this procedure can be quite close to results from maximum likelihood estimations.

We then use the Inverse Mills Ratio, which we denote as $I_i = f(bS_i)/F(bS_i)$, for each observation in the sample of workers, where f and F are the standard normal and cumulative density. Equation (3) presents the wage regression above, which includes a correction term to adjust the employment selection correction term.

$$\ln W_i = \alpha_1 + \beta_1 S_i + \gamma_1 X_i + \delta_1 \tilde{I}_i + \varepsilon_{1i} \qquad (3)$$

Estimation of Equation (3) yields consistent parameter estimates. This procedure, while controlling for sample selectivity, introduces heteroskedasticity into the model. We dealt with heteroskedasticity using the White (1981) method to estimate a consistent covariance matrix. Estimation of Equation (3) yields consistent parameter estimates (Amemiya, 1985).

6. Estimations and Discussion

The results of first-stage probit regressions on employment selection are in Table 3. The coefficients measure the influences of the variables on the probability that a male individual was employed in the previous month. All of these regressions included controls for time effects. The estimated probability of unemployment for homosexuals was lower by -0.393 than that for heterosexuals (Model 1), generating a negative marginal effect on the order of 8.0 percentage points. Similarly, the estimated probability of unemployment for bisexuals was lower by -0.425 than that for heterosexuals (Model 2), generating a negative marginal effect on the order of 8.7 percentage points. Both results showed a strong negative effect of homosexual/bisexual orientation on employment chances at the 1% level. Adam (1981), Weichselbaumer (2003), and Drydakis (2009a;b) agreed that sexual orientation discrimination could explain the differences in hiring between equally qualified homosexual/bisexual and heterosexual men.

For the most part, the signs of the coefficients are reasonable. For both specifications, the probability of being employed increases with age, marital status, number of children and household members, fluency in Greek, working experience, and education. We can observe, nevertheless, that the outcomes are not always statistically significant. The higher return on education is observed for those with a degree from a university or technical school. We also note that the probability of being employed insignificantly negatively correlates with

disability status and negative mental symptoms. In other words, people with health limitations are more likely to be unemployed in our sample. Being an immigrant has a negative and significant impact on employment.

Table 3. Coefficients from the Employment Probit Model

	Model 1 Homosexuals vs. Heterosexuals	Model 2 Bisexuals vs. Heterosexuals
S	-0.393 (0.098)*	-0.425 (0.194)*
AGE	0.027 (0.026)	0.039 (0.027)
AGESQ	-0.00007 (0.0003)*	-0.00008 (0.0003)*
MARR	0.071 (0.062)	0.032 (0.064)
CHIL	0.073 (0.060)	0.081 (0.051)
HOMEM	0.019 (0.013)	0.004 (0.014)
IMM	-0.206 (0.075)*	-0.239 (0.076)*
FLUEN	0.137 (0.223)	0.126 (0.237)
EXPER	0.015 (0.007)*	0.008 (0.003)*
EXPERSQ	-0.00001 (0.0003)	-0.00009 (0.004)
SCHOL	0.116 (0.125)	0.129 (0.128)
GRAD	0.091 (0.063)	0.110 (0.051)*
UNIV	0.232 (0.048)*	0.254 (0.050)*
P/C	0.045 (0.049)	0.069 (0.051)
ENGL	0.069 (0.030)*	0.082 (0.039)*
DRIV	0.200 (0.064)*	0.221 (0.066)*
DIS	-0.161 (0.104)	-0.170 (0.106)
MHS	-0.031 (0.147)	-0.039 (0.150)
TIME EFFECTS	Yes	Yes
INTERCEPT	0.530 (0.464)	0.305 (0.479)
N.	7341	7076

*Notes: Standard errors are in parenthesis. *Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 10% level. The Models do not include occupation variables since the individuals are unemployed.*

Table 4 presents coefficients from the OLS wage regression for homosexuals versus heterosexuals (Model 1) and bisexuals versus heterosexuals (Model 2). We document a large and significant income penalty on the order of 4.1% for homosexual people (see Halvorsen and Palmquist, 1980, transformation) at the 1% level. For bisexuals, the estimated income penalty is an approximately 5.7% reduction in wages, and it is significant at the 1% level. As we can see, the sexual orientation effect is stronger for bisexuals than for homosexuals. In

both specifications, we cannot reject the hypothesis that there is a non-trivial incidence of sexual orientation discrimination in the market.

Human capital theory suggests that differences in pay can be explained by differences in workers' education, with more educated workers earning more because of their increased productivity. To the extent that human capital variables are unable to explain pay differences between homosexuals/bisexuals and heterosexuals, the remainder of the assigned differential is generally interpreted as evidence of discrimination[12]. The patterns of results found here appear consistent with the findings of previous studies. The expected significant wage penalties against homosexual/bisexual men were confirmed. Notably, the size of the estimated reduction in income associated with homosexuality is comparable to the results of the most recent studies in the Netherlands (Plug and Berkhout, 2004), the United Kingdom (Arabsheibani *et al.*, 2005) and California (Carpenter, 2007). As Carpenter (2005) notes, the large findings of the previous studies are somewhat sensitive to the time period considered.

With respect to other variables of interest, the results are as expected. In both specifications, age, marital status, and the presence of children have positive and statistically significant effects on earnings. The observed positive effect of more household members is statistically insignificant. Being an immigrant has a negative and significant impact on earnings in all specifications. On the other hand, fluency in Greek has a positive effect on earnings, but it is not always statistically significant. Working experience has a positive and significant correlation with earnings. In addition, wages significantly negatively correlate with disability status and insignificantly negatively correlate with negative mental symptoms.

Concerning the occupation covariates, all have positive effects on the dependent variable. In white-collar jobs, we observe insignificant covariates. In blue-collar jobs, we observe significant effects for the first specification, but insignificant effects for the second specification. The observed positive effects for service occupations are statistically significant. In addition, the effect of having a public or private job on earnings is statistically significant. For private jobs, the coefficients are statistically insignificant. Moreover, being registered with insurance coverage has positive effects on earnings. Finally, each education variable is positive and significant in each specification.

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[12] Alternatively, we can compute the Blinder-Oaxaca decomposition (Blinder, 1973; Oaxaca, 1973), adjusted for sample selection (Reimers, 1983). For homosexuals, the conclusion is that differences in coefficients (4.1%), the unexplained part, account for about 25.1%. Similarly, for bisexuals, differences in coefficients (5.7%) account for about 43.5%.

Table 4. Coefficients from Wage Regression

	Model 1	Model 2
	Homosexuals vs. Heterosexuals	**Bisexuals vs. Heterosexuals**
S	-0.042 (0.011)*	-0.059 (0.018)*
AGE	0.058 (0.002)*	0.059 (0.002)*
AGESQ	-0.0004 (0.0000)*	- 0.0004 (0.0000)*
MARR	0.030 (0.006)*	0.028 (0.006)*
CHIL	0.029 (0.002)*	0.028 (0.002)*
HOMEM	0.001 (0.001)	0.001 (0.001)
IMM	-0.026 (0.008)*	- 0.027 (0.008)*
FLUEN	0.007 (0.003)*	0.021 (0.027)
EXPER	0.026 (0.001)*	0.026 (0.001)*
EXPERSQ	-0.0004 (0.0000)*	-0.0004 (0.0000)*
SCHOL	0.057 (0.011)*	0.047 (0.011)*
GRAD	0.051 (0.006)*	0.050 (0.006)*
UNIV	0.099 (0.004)*	0.097 (0.004)*
P/C	0.009 (0.004)*	0.007 (0.003)
ENGL	0.010 (0.003)*	0.009 (0.003)*
DRIV	0.038 (0.007)*	0.039 (0.007)*
DIS	-0.056 (0.019)*	-0.049 (0.024)*
MHS	-0.024 (0.018)	-0.031 (0.025)
WHITE	0.012 (0.007)	0.011 (0.008)
BLUE	0.008 (0.003)*	0.008 (0.006)
SERV	0.008 (0.001)*	0.008 (0.001)*
PUBL	0.013 (0.006)*	0.013 (0.006)*
PRIV	0.010 (0.004)*	0.010 (0.004)*
IC	0.028 (0.007)*	0.030 (0.007)*
INTERCEPT	1.574 (0.050)*	1.570 (0.050)*
LAMBDA	-0.110 (0.142)	-0.090 (0.082)
ADJ. R^2	0.332	0.214
N.	7341	7076

*Notes: Standard errors are in parenthesis. *Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 10% level.*

Empirical analysis shows that the signs of the coefficients of the variables that measure human capital are consistent with human capital theory. It is important to keep in mind, however, that numerous factors that should affect the level of wage discrimination, such as the importance of unobservable skills, apparent qualifications, precision of observable skills, and ease of performance measurement, may vary greatly across jobs.

The control for sample selectivity (*Inverse Mills Ratio*) is statistically insignificant in all models. This implies the success of efforts to control for sample selectivity that might have biased the analysis on the consequences of sexual orientation for wages.

The effect of sexual orientation on earnings may be more complex than a simple parallel shift of the earnings equation. To explore other possibilities, terms interacting sexual orientation (S) with other explanatory variables were added to the basic two-stage model. As in Clain and Leppel (2001), with no a priori basis for limiting these interactions to a select few, a specification search was conducted to determine which interaction terms were empirically important given the specific samples.

Coefficients for the sexual orientation variable change only modestly, but several interesting results are found (see Appendix). The wage estimations show negative interactions between homosexuality and age (-0.081), basic education (-0.062), blue collar jobs (-0.058), and race status (-0.102), each at least at the 5% level. Similar investigations for bisexuals show negative interactions between bisexuality and age (-0.075), basic education (-0.118), blue collar jobs (-0.084), and race status (-0.059), each at least at the 5% level. Results for the employment equations are similarly interpreted. On average, our estimations indicate that sexual orientation minorities who are older, less educated, blue collar workers, and/or immigrants are statistically more vulnerable to wage discrimination and unemployment than comparable heterosexuals. We observe that various demographic characteristics are correlated with each other and contribute to complicated relationships.

Additionally, in this stage, we extend our analysis to include separate comparisons of gay/bisexual workers to two groups: married heterosexual men and unmarried heterosexual men. Economists often use marital status signals to employers as a proxy for such personality traits as stability and responsibility, and it could be that employers award a bonus to married employees on the assumption that they possess these characteristics (Bloch and Kuskin, 1978; Loh 1996). An exploration of the role of marriage in the wage differential is particularly timely given current debates concerning homosexual marriage.

Following Allegretto and Arthur (2001), these comparisons, which result in two estimates of the wage differential, seem desirable because it is not obvious whether homosexuals/bisexuals are more comparable to married heterosexuals or to unmarried heterosexuals. Because relationships develop along a continuum, we suggest that some homosexuals/bisexuals may be best likened to the former group and others to the latter. We

can view the estimated wage gap between homosexuals/bisexuals and unmarried heterosexuals as a lower bound estimate of the homosexual/bisexual-heterosexual wage differential and the estimated wage gap between homosexuals/bisexuals and married heterosexuals as an upper bound estimate. A range is presented with endpoints that represent the maximum and minimum magnitudes of the wage gap.

In Table 5, Model 1 presents the upper bound on the wage differential between homosexuals and married heterosexuals[13]. A statistically significant wage penalty of 6.2% is estimated. Model 2 presents the lower bound on the wage gap. The unexplained differential between homosexuals and unmarried heterosexuals in this analysis is statistically significant and negative at 3.6%. In sum, we calculate the wage gap for homosexuals as a range between 6.2% and 3.6%. Similarly, for bisexuals we calculate the wage gap as a range between 8.0% (Model 3) and 4.1% (Model 4). Our results in this stage are consistent with previous estimates of the penalty for being unmarried (Allegretto and Arthur, 2001; Carpenter, 2005).

Table 5. Coefficients from Wage Regression

	Model 1	**Model 2**	**Model 3**	**Model 4**
	Homosexuals vs. Married Heterosexuals	**Homosexuals vs. Unmarried Heterosexuals**	**Bisexuals vs. Married Heterosexuals**	**Bisexuals vs. Unmarried Heterosexuals**
S	-0.065 (0.019)*	-0.037* (0.009)	-0.084 (0.027)*	-0.042 (0.020)*
LAMBDA	-0.336 (0.252)	-0.119 (0.292)	0.322 (0.374)	0.078 (0.072)
ADJ. R^2	0.208	0.259	0.201	0.236
N.	4801	2174	4536	1909

*Notes: Standard errors are in parenthesis. *Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 10% level.*

The primary purpose of this study was to uncover the statistical relationship between men's sexual orientation and earnings and to interpret its meaning. In this section, we use econometric analysis of sexual orientation and wages to evaluate the findings of wage discrimination, which are consistent with prior empirical findings. Having demonstrated that

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[13] In this stage, to be comparable with other studies, we include only unmarried homosexuals/bisexuals. Further, we do not include interaction effects in the regressions.

homosexuals'/bisexuals' wages are different from those of heterosexuals, we now discuss what may cause these differences after the human capital parameters are controlled.[14]

A number of important issues concerning the interpretation of the current results should be noted. As a result of discriminatory practices, two equally qualified groups of individuals were treated differently. Discrimination opposes the interest of equality. Thus, it is interesting to ask how previously proposed theories explain the observed effects associated with homosexuality/bisexuality. There is no generally accepted theory that explains labor market discrimination, even though a variety of hypotheses exist. In this section, we briefly review the two main strands of the theoretical literature on discrimination in the context of ethnicity. These strands are *distaste* for the minority (Becker, 1957) and *statistical* discrimination (Arrow, 1973; and Aigner & Clain, 1977).

Becker suggests that discrimination coefficients incorporate the influence of characteristics on tastes and attitudes. In particular, employers may want to maintain a higher physical or social distance from certain groups, or they may fear that other employers, co-workers and customers would dislike interacting with homosexuals/bisexuals in the labor market. Following this line of thinking, employers may also offer homosexuals/bisexuals a lower wage compared to heterosexual men in order to equalize the unit cost of labor once psychological costs are factored in. On the other hand, the statistical theory of discrimination predicts that, in a world of imperfect information, employers face risks when hiring individuals. Thus, specific characteristics can become screening devices. If the belief that minorities are less productive can be self-fulfilling, then sufficient conditions exist to create a permanent differential in hiring chances and wage offers for homosexuals/bisexuals. In this situation, discrimination is the consequence not of exogenous preferences, but of the profit-maximizing behavior of risk-averse employers.

The evidence indicates that discrimination based on sexual orientation has a variety of causes and that these causes are multifaceted. Moreover, they need not be the same for every type of behavior.

Although the European Union's priority is to integrate its entire membership into a new arrangement of active citizenship within a diverse society, the current study finds that homosexuals/bisexuals are disadvantaged in the labor market. The estimated bias on the part of employers was observed in this study after the national adoption of the European Racial

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[14] We acknowledge that the results of our study may not hold for a larger labor market.

Directive, and so it is difficult to conclude whether the legislation had much of an effect on these outcomes.

To date, Greece has not had the opportunity to devote significant resources to public education in the area of employment. It is quite likely that the public's general lack of awareness regarding protection against unequal treatment can be attributed to this.

Greece should enhance its ability to integrate its entire population into a new arrangement of active citizenship that ensures the long-term well-being of all in a diverse society. This is a challenge that needs to be taken seriously, not only because discrimination today may have long-term consequences for future generations, societal participation and social mobility, but because the market is continuously changing. This implies new opportunities as well as new threats to equal opportunity. Employers need to give more public support to sexual minorities' equality and be explicit about the unacceptability of discrimination. On the other hand, it is important for social planners to remember that sexual orientation minorities are not a community set apart from the heterosexual population. At a time when the sexual orientation inequities in Greece are so readily observable, policy makers must rise to the challenge and confront all forms of exclusion and discrimination.

7. Conclusions

European institutions have condemned all manifestations of discrimination as incompatible with the values of the European Union, and these institutions have stressed the need to change perspectives and to see diversity and equality as a benefit rather than a threat to society. Nevertheless, discrimination based on sexual orientation has been ignored by the Greek economic literature. In the current study, we report the first estimates of the economic effect of men's sexual orientation in the Greek labor market using the Athens Area Study from 2008-09. Our two-step Heckman framework using a random sample of hourly wages solidifies the empirical record on homosexuals'/bisexuals' identity and individual earnings. We find strong evidence that is consistent with the hypothesis of discriminatory treatment against sexual orientation minorities. Our work concludes that discrimination remains an important cause of the homosexual/bisexual wage gap. Homosexuals' wages would increase by approximately 4.1% if homosexuals were remunerated on the same basis as heterosexuals. Bisexuals' wages would increase by approximately 5.7% if bisexuals were remunerated on the same basis as heterosexuals. Overall, the results are consistent with the Taste and

Statistical theories of discrimination. Currently, sexual orientation minorities do not appear to face a level playing field in the Greek labor market, even four years into the national implementation of European antidiscrimination labor legislation.

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Appendix

Table A. I. Coefficients from the Employment Probit Model with Interactions

	Model 1	Model 2
	Homosexuals **vs.** **Heterosexuals**	**Bisexuals** **vs.** **Heterosexuals**
S	-0.356 (0.095)*	-0.412 (0.134)*
AGE	0.025 (0.026)	0.052 (0.037)
AGESQ	-0.00007 (0.0003)*	-0.00008 (0.0003)*
MARR	0.085 (0.084)	0.083 (0.067)
CHIL	0.030 (0.027)	0.067 (0.048)
HOMEM	0.010 (0.011)	0.009 (0.012)
IMM	-0.239 (0.135)*	-0.242 (0.112)*
FLUEN	0.137 (0.223)	0.116 (0.227)
EXPER	0.013 (0.005)*	0.008 (0.003)*
EXPERSQ	-0.00001 (0.0003)*	-0.00009 (0.004)*
SCHOL	0.145 (0.147)	0.110 (0.078)
GRAD	0.141 (0.093)	0.140 (0.060)*
UNIV	0.235 (0.067)*	0.224 (0.120)*
P/C	0.069 (0.086)	0.072 (0.061)
ENGL	0.069 (0.030)*	0.092 (0.049)*
DRIV	0.227 (0.083)*	0.241 (0.068)*
DIS	-0.143 (0.119)	-0.171 (0.110)
MHS	-0.032 (0.134)	-0.039 (0.145)
S*AGE	-0.275 (0.073)*	-0.395 (0.083)*
S*AGESQ	0.00005 (0.0001)*	0.00007 (0.0003)*
S*IMM	-0.493 (0.193)*	-0.584 (0.203)*
S*SCHOL	-0.184 (0.083)*	-0.304 (0.093)*
TIME EFFECTS	Yes	Yes
INTERCEPT	0.498 (0.376)	0.397 (0.423)
N.	7341	7076

*Notes: Standard errors are in parenthesis. *Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 10% level. The Models do not include occupation variables since the individuals are unemployed.*

Table A. II. Coefficients from Wage Regression with Interactions

	Model 1	Model 2
	Homosexuals vs. Heterosexuals	**Bisexuals vs. Heterosexuals**
S	-0.039 (0.010)*	-0.051 (0.014)*
AGE	0.055 (0.002)*	0.056 (0.002)*
AGESQ	-0.0004 (0.0000)*	- 0.0004 (0.0000)*
MARR	0.035 (0.006)*	0.027 (0.007)*
CHIL	0.032 (0.003)*	0.027 (0.002)*
HOMEM	0.001 (0.001)	0.001 (0.001)
IMM	-0.027 (0.011)*	- 0.027 (0.013)*
FLUEN	0.007 (0.003)*	0.024 (0.024)
EXPER	0.026 (0.002)*	0.028 (0.001)*
EXPERSQ	-0.0004 (0.0000)*	-0.0003 (0.0000)*
SCHOL	0.050 (0.017)*	0.050 (0.011)*
GRAD	0.044 (0.011)*	0.053 (0.006)*
UNIV	0.090 (0.005)*	0.096 (0.005)*
P/C	0.006 (0.003)*	0.006 (0.003)
ENGL	0.009 (0.003)*	0.008 (0.003)*
DRIV	0.034 (0.010)*	0.035 (0.007)*
DIS	-0.053 (0.017)*	-0.051 (0.022)*
MHS	-0.027 (0.019)	-0.047 (0.027)
WHITE	0.011 (0.006)	0.010 (0.008)
BLUE	0.007 (0.003)*	0.009 (0.011)
SERV	0.008 (0.002)*	0.008 (0.002)*
PUBL	0.013 (0.007)*	0.012 (0.006)*
PRIV	0.011 (0.005)*	0.011 (0.006)*
IC	0.032 (0.007)*	0.030 (0.007)*
S*AGE	-0.081 (0.041)**	-0.075 (0.034)*
S*AGESQ	0.00004 (0.00000)*	0.00007 (0.00000)*
S*SCHOL	-0.062 (0.024)*	-0.118 (0.022)*
S*BLUE	-0.058 (0.031)***	-0.084 (0.047)***
S*IMM	-0.102 (0.026)*	-0.059 (0.032)***
INTERCEPT	1.714 (0.047)*	1.628 (0.121)*
LAMBDA	-0.240 (0.245)	-0.404 (0.382)
ADJ. R^2	0.453	0.430
N.	7341	7076

*Notes: Standard errors are in parenthesis. *Significant at the 1% level. ** Significant at the 5% level. *** Significant at the 10% level.*