Detecting Discrimination against Homosexuals: Evidence from a Field Experiment on the Internet

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This paper presents the first field experiment studying discrimination against homosexuals on the housing market. The study is conducted on the rental housing market in Sweden using the internet as a research platform. Two fictitious couples, one heterosexual and one male homosexual, apply for vacant rental apartments advertised by landlords on the internet. Our findings show that homosexual males are discriminated against on the Swedish housing market, since the homosexual couple gets far fewer call-backs and fewer invitations to further contacts and to showings of apartments than the heterosexual couple.

INTRODUCTION

During recent decades economists have used field experiments in order to detect discrimination on labour markets, housing markets and product markets in different countries (see Riach and Rich 2002 for an overview). Many of these field experiments have focused on females, on immigrants, on the elderly and, no doubt, other groups, but less attention has been paid to discrimination against homosexuals.

It therefore relevant to ask whether there is some reason to expect differential treatment of people because of their sexual orientation. Psychological and sociological research demonstrates the existence of sexual prejudice. According to Herek (2000), sexual prejudice refers to all negative attitudes with respect to sexual orientation, whether the target is homosexual, bisexual or heterosexual. However, such prejudice is almost always directed at people who are homosexual or label themselves as gay, lesbian or bisexual. Like other types of prejudice, sexual prejudice is an attitude; it is directed at a social group and its members; and it involves hostility or dislike. There is much literature in psychology furnishing proofs that negative attitudes towards homosexuals do exist (Herek and Capitanio 1996; Yang 1997).

Economic research regarding discrimination against homosexuals has so far primarily made use of register data and econometric methods. Focus has been on differences between homo- and heterosexuals in labour market outcomes. In the United States, Badgett (1995), Klawitter and Flatt (1998) and Allegretto and Arthur (2001) have studied earnings differentials between homo- and hetero-sexuals and found that homosexual males earn less than their male heterosexual counterparts, while homosexual females earn about the same, or in some cases more, than heterosexual females. The same pattern has been observed in European countries by Arabsheibani et al. (2004, 2005) and Plug and Berkhout (2004).

Thus, previous economic research has documented discrimination against homosexual males. However, the results from labour market research based on register data have their limitations, since it is not unproblematic, for different reasons, to detect discrimination against homosexuals with the help of register data and econometric methods. First, there is often an absence of accurate information. Unlike ethnicity and gender, which are both easily observable, the sexual orientation of individuals is not
generally an observable trait. Therefore an individual’s sexual orientation might be known to the econometrician performing a study but not to other individuals such as employers and co-workers. This might bias the results. Second, since homosexuality is not an observable characteristic, its exposure can happen either voluntarily or involuntarily. If it occurs voluntarily it is an endogenous action. According to economic theory, rational individuals should experience at least some benefits arising from such an action, which might also bias the results.

One way to overcome the problem associated with uncovering discrimination against homosexuals is to create a situation in which the individuals whose attitudes or actions are to be studied become convinced that they are dealing with homosexuals, and in which the homosexual individuals expose their sexual orientation. Such situations can be created in field experiments. However, the number of field experiments conducted in order to detect discrimination against homosexuals is limited, and focus has been solely on labour market outcomes. In Canada, Adam (1981) established discrimination against male as well as female homosexuals who applied for jobs in Canadian law firms, and Weischselbaumer (2003) found that lesbian females were subject to discrimination when they applied for jobs in Austria.

One situation in which individuals reveal their sexual orientation, and in which the individuals who are to be studied become convinced that they are dealing with homosexuals, might be when a married/cohabiting couple applies for a rental apartment. If landlords or their tenants have sexual prejudices against homosexual identity, behaviour or lifestyle, landlords may develop a taste for discrimination (following Becker 1957). It is also possible that landlords develop stereotypes that result in discriminatory behaviour (following Phelps 1972 and Arrow 1973).

Against this background, the present paper presents the first field experiment studying discrimination against homosexuals on the housing market. We conduct the study on the rental housing market using the internet as a research platform. Two fictitious couples, one heterosexual and one homosexual, both openly signalling their sexual orientation, apply for vacant rental apartments advertised by landlords on the internet in Sweden. Since previous economic research has documented discrimination against homosexual males, we let the homosexual couple consist of two male individuals. Homosexuals are thus identified as individuals living with partners of the same sex. We explore the incidence of discrimination by observing the choice by landlords to e-mail back and invite applicants to further contacts and/or to a showing of the housing unit. If landlords, or their tenants, have a tendency to discriminate and can distinguish the homosexual from the heterosexual couple, the result may be lower call-back rates for the homosexual couple. We may also expect fewer positive responses and invitations to showings to the homosexual couple than to the heterosexual couple.

The paper contributes to economic research in different ways. First, it highlights a new dimension of discrimination against homosexuals since we are focusing on the housing market instead of the labour market. Second, we are using an experimental instead of an econometric approach. Our findings show that homosexual males are discriminated against on the Swedish housing market since the homosexual couple gets far fewer call-backs and invitations to further contacts and showings than the heterosexual couple.

The remainder of the paper is organised as follows. The experimental design is presented in Section I; the results are reported in Section II, and Section III contains the conclusions.
I. EXPERIMENTAL DESIGN

The internet platform for housing market

To test for discrimination in the housing market on the internet, we use one of the largest buy-and-sell sites in Sweden, Blocket.se (http://www.blocket.se/). On this website people can place advertisements to buy, sell or rent almost anything. The housing market is an active segment of this platform, and both companies and private people are allowed to advertise. Responding to an advert is free, and if you are interested in a particular item you can send an e-mail message to the placer of the advert; the only information that you are required to give is your name, e-mail address and a short message.

Conducting a field experiment on the internet involves observing people’s behaviour without their knowledge or consent. Ethical considerations must therefore be taken seriously. We conducted our experiment completely within the rules and regulations of the platform we used to avoid adverse reactions from participants or platform authorities. In particular, we decided not to survey the landlords and to use only the information that could be obtained from the adverts or e-mails received from the landlords. We also chose not to obtain informed consent and not to debrief participants. We argue that this is defensible in view of the methodological dilemma posed by the conflict between observing uninfluenced behaviour and informing participants of the purpose of a study in which they were taking part. We have done our utmost not to offend people by replying to and rejecting offers as soon as possible. We believe that our routines have minimized the costs and harm to landlords.

Identities of the fictitious applicants

The first step in our experimental design was to create two fictitious couples, one heterosexual and one homosexual, in search of an apartment, and to generate identities for them. Since all correspondence was to be accomplished through the internet, there was no need to create telephone numbers and postal addresses. The only information required when answering an advert is a person’s name and an e-mail address to which a landlord can reply.

The choice of names was important for our study. For the heterosexual couple we needed two distinctive Swedish names, one male and one female; for the homosexual couple we needed two characteristic Swedish male names. We named our heterosexual man Fredrik and our heterosexual woman Malin. The two homosexual men were named Per and Johan. These names are typical Swedish names and cannot be mistaken as foreign names. Also, all these names are gender-unique.

We also used typical Swedish last names for the person who would be the corresponding applicant. We let Fredrik apply for himself and Malin and we let Per apply for himself and Johan. We chose to let Fredrik apply for the heterosexual couple because we wanted a male to apply in both cases, avoiding any possible gender effects. As a result, our two experimental fictitious couples were Fredrik Svensson and Malin, the heterosexual couple, and Per Magnusson and Johan, the homosexual couple.

Next we needed to create e-mail addresses for the corresponding applicants, Fredrik Svensson and Per Magnusson. To minimize similarity between applicants, we created e-mail accounts at different e-mail providers. We did not believe that this would affect our results. (It is hard to believe that landlords would base their decision on which e-mail provider a person had.) E-mail accounts were created under the addresses fredrik.svensson
@yahoo.se and per.magnusson@inbox.com at http://www.yahoo.se and http://www.inbox.com/ respectively.

Formulating application letters

The next step in our experimental design was to make templates for applying to available apartments. In order to allow all applicants to apply to all adverts and again minimize similarity, we generated two different formulations of an application letter with similar content. For Per and Johan for example, the first version was:

Hi,

We would like to sign up as interested in the announced apartment. We are a couple without children (non-smokers, and no pets) searching for an apartment with 2–4 rooms. Johan is 31 years old and is a recreation instructor and Per is 33 years old and is an insurer.

Good references. No payment complaints.

Regards,

Johan & Per

The second version for Per and Johan was:

Hi,

We would like to apply for the apartment that has been announced vacant. We are a couple searching for an apartment (2–4 rooms). Johan works as a nurse and is 32 years old while Per is 33 years old and works as a banker.

We have no children, no pets, and are also non-smokers. We have no payment complaints.

Sincerely

Johan & Per

The formulations for Fredrik and Malin are the same. Whenever Johan and Per used the first version, Fredrik and Malin used the second version. This is a concise response that eliminates many undesired sources of variation discussed earlier. The only thing that varied across applicants was whether they were a heterosexual or a homosexual couple. Of course, the variation of occupation and age in the two versions was alternated across couples and was controlled for. It was not necessary to include the e-mail address in the letter, since this was automatically received by landlords.

Application procedure

The experiment was carried out between 27 March and 10 April 2007. Over this period our two couples applied to all apartment adverts on Blocket.se without any restrictions to place and cost; however, our couples did not apply to apartments with only one room. The order of the applications from our two couples was controlled; so half the time the heterosexual couple was first to apply and half the time the homosexual couple was first to apply. The time delay between applications to the same apartment was between half an hour and one hour. Also, to control for the minor possibility that the information in a particular letter might influence the outcome, the design of letters was alternated between our applicants.

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We eliminated any advert where applicants were asked to call, forward a letter through ordinary post or appear in person. However, most of the advertisers during the period of the experiment preferred to be contacted by e-mail. We also eliminated all advert stating that they wanted responses from a particular gender. We recorded the time, date, whether there was a picture in the advert, the heading of the advert, geographical area, whether the landlord was a private person or a company, the name of the landlord (when available), the gender, whether the landlord had a foreign-sounding name, the number of rooms in the apartment and the rental cost per month.

Measuring the responses from landlords

First we observed whether or not landlords e-mailed back. If they did, we noted whether the landlords rejected the application (for any reason—the most common of which was that the apartment had already been taken) or invited further contacts and asked for more information about the applicant. Finally, we noted whether the landlord invited the applicant to a showing without any further inquiries. For each e-mail response, we recorded any other information that was not found in the advert (gender, ethnicity and rental cost). To minimize inconvenience to landlords, invitations to a showing were rapidly and politely declined.

II. RESULTS

Descriptive statistics

In total, the couples applied for 408 apartments each. Table 1 tabulates average call-back rates by sexual orientation; included in parentheses beside each rate is the actual number of cases out of the total 408 cases. The first row in the table gives the percentage of applications that resulted in a contact, regardless of whether it was a positive or a negative response. Applications from the heterosexual couple had a 56% chance of resulting in a contact; equivalent applications from the homosexual couple had a 44% chance of establishing a contact with a landlord. This represents a statistical significant difference in call-back rates of almost 12 percentage points, or 25%, that can be attributed solely to the difference in sexual orientation between our two couples.

The second row in Table 1 gives the percentage of applications that resulted in a positive response from the landlord, that is, cases where the landlord invites the applicant to make further contact, for example to provide the landlord with additional information about the couple, or to view the apartment. The third row presents the percentage of applications that resulted in a direct invitation to view. Thus, the category invited to further contacts or to a showing is a broader definition of a positive call-back than the category invited to a showing.

For the heterosexual couple, we find that almost 53% of their applications led to positive call-backs, in the sense that they were either invited to provide further information about themselves or invited by the landlord to a view the apartment. The corresponding figure for the homosexual couple is 41%. Hence the heterosexual couple was 27% more likely than the homosexual couple to receive a call-back asking them to provide further information or inviting them to an immediate showing. This difference is statistically significant.

In 29% of the cases the heterosexual couple received an immediate invitation by the landlord to view an apartment. For the homosexual couple, we found that 21% of their
applications led to a direct invitation to a showing. The difference of 9 percentage points, or 39%, is statistically significant. Put differently, these results imply that the heterosexual couple should expect on average three immediate invitations to a showing for 10 applications whereas the homosexual couple should only expect two immediate invitations to a showing for 10 applications.

Distribution of call-back rates

In the previous section we studied the distribution of call-backs at the applicant level. In Table 2 we compute the percentage of landlords that did not respond to either of the couples (given by the column Both no), the percentage of landlords that responded to both of the couples (given by the column Both yes), the percentage of landlords that favoured the heterosexual couple (given by the column Hetero) and the percentage of landlords that favoured the homosexual couple (given by the column Homo). The heterosexual couple was favoured when they got a response from a landlord but the homosexual couple did not. If only the homosexual couple got a response, they were considered favoured.

The first row in Table 2, Call-back, shows that 43% of landlords did not e-mail either of the couples, another 43% of landlords e-mailed both couples, 12% e-mailed only the heterosexual couple and less than 1% e-mailed only the homosexual couple. The
important thing here is to study whether there is symmetry between the proportion of landlords favouring the heterosexual couple and the proportion favouring the homosexual couple. We find that the heterosexual couple is treated favourably in significantly more cases than the homosexual couple.

The second row in Table 2, *Invited to further contacts or to a showing*, shows the distribution of landlords that chose to e-mail back. A number of 177 landlords e-mailed both couples. Six per cent of these rejected the application of both couples, while almost 93% invited both couples to make further contact or attend a showing. One per cent of the landlords responding to the applications invited only the heterosexual couple to further contacts or to a showing, while no landlords invited only the homosexual couple to make further contact or attend a showing. The proportion of landlords who favoured the heterosexual couple is not significant.

Given that both couples were not rejected by the landlord, the last row of Table 2, *Invited to a showing*, shows whether there is a significant difference between the percentage of landlords favouring the heterosexual couple and the percentage favouring the homosexual couple when they attended a showing. Of all landlords, 164 chose to invite both couples to make further contact or attend a showing; almost 6% of them invited only the heterosexual couple to a showing, while about 1% invited only the homosexual couple. This difference is statistically significant.

**Probit analysis**

In this part of the paper we estimate a probit model in order to elucidate how different background factors affect the probability of receiving a call-back from the landlord or being invited to make further contacts or attend a showing. The dependent variable as well as all independent variables included in the estimations are presented in Table 3.

The results from the probit estimations are presented in Table 4. The results underline what has already been shown in the descriptive statistics, namely that the homosexual couple is discriminated on the Swedish housing market. Specification (1) focuses on the probability of receiving a call-back (either positive or negative) from the landlords. The result shows that the homosexual couple had a 14 percentage point lower probability of receiving a call-back from a landlord than the heterosexual couple. In specification (2) we study the probability of a couple being invited to make further contact or attend a showing. The result indicates that the probability of being invited to make further contact or attend a showing is about 14 percentage points lower for the homosexual couple than for the heterosexual one. Finally, specification (3) focuses on the probability of being invited to a showing. The homosexual couple has about a 12 percentage point lower probability of being invited to a showing than the heterosexual couple.

One could worry that the different letters produced different responses and that the homosexual application was systematically poorer for apartments for which the probability of a positive response was lower. Therefore, we also estimated our specifications and controlled for which application was used in each case. The results from these estimations did not differ from the results presented in Table 4.

In order to study the extent to which the discrimination against homosexuals varies between male and female landlords and between metropolitan and non-metropolitan areas, we also estimated specifications (1)–(3) in Table 4 with interaction terms between the variables *Homo* and *Female* and *Homo* and *Metropolitan area* included. However, none of those variables turned out to be statistically significant.
It is worth noting that the magnitude of the discrimination against homosexuals is considerably lower than the magnitude of the discrimination that has been observed against individuals with Arabic-sounding names in the Swedish housing market (Ahmed and Hammarstedt 2008). Furthermore, the fact that the size of the discrimination does not vary between male and female landlords is in line with what has been observed for ethnicity in the Swedish housing market (Ahmed and Hammarstedt 2008).

### III. CONCLUSIONS

Up to now, economic research regarding discrimination against homosexuals has primarily made use of econometric methods and has focused on differences in labour market outcomes between hetero- and homosexuals. However, since discrimination against homosexuals might have different dimensions, and since detecting discrimination against homosexuals with the help of register data is problematic, in this paper we carried out a field experiment on the internet in order to detect discrimination against homosexuals on the Swedish housing market. The results reveal that homosexual males were discriminated there, since the homosexual couple in the study got fewer call-backs, fewer invitations to further contacts and fewer invitations to showings than the heterosexual couple.

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In order to explain the discrimination found in the housing market, we turn our attention to the existing theories of discrimination. Two leading categories of theories of discrimination within the field of economics are taste-based discrimination (Becker 1957) and statistical discrimination (Phelps 1972; Arrow 1973). One taste-based explanation of our results could be that landlords discriminate against homosexuals because of their own personal prejudice, or in order to protect their business with prejudiced tenants belonging to the majority as regards sexual orientation.

The discrimination found could also be explained by statistical discrimination. Such discrimination exists if landlords treat applicants from different groups differently, because they believe that it is profitable to base their decisions on some easily observable attribute, on the assumption that it is correlated with some unobservable characteristic, the occurrence of which is known to differ across groups. However, since research in social psychology (Herek 2000; Yang 1997) has shown that sexual prejudice is mainly induced by negative attitudes towards homosexuals, and not because of incorrect information about individual characteristics, we believe that discrimination against homosexuals in the Swedish housing market is taste-based rather than statistical.

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It is worth noting that the results in this paper show similarities to as well as differences from other field experiments conducted in order to detect discrimination against certain groups on different markets. The results are in line with previous field experiments that have documented discrimination against homosexuals on the labour

<table>
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<th>Variable</th>
<th>(1) Receiving a call-back</th>
<th>(2) Invited to further contacts or a showing</th>
<th>(3) Invited to a showing</th>
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<td>(0.0425)</td>
<td>(0.0409)</td>
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<td>(0.0017)</td>
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<td>(0.0000)</td>
<td>(0.0000)</td>
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</table>

***Statistically significant at 1%.
**Statistically significant at 5%.
*Statistically significant at 10%.
market. However, the magnitude of the results are substantially lower than what has been observed for ethnicity on the Swedish housing market (Ahmed and Hammarstedt 2008), and also lower than what has been observed for ethnicity in the labour market in Sweden as well as in other countries (Carlsson and Rooth 2007; Bertrand and Mullainathan 2004).

The results in the study underline the importance of further research regarding discrimination against homosexuals. How great, for example, is the effect of being homosexual compared with the impact of having one type of job v. another? How great is the effect of being homosexual compared with being better or less educated? Future work should focus on different markets and make use of experimental as well as econometric methods.

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