# Discrimination of transgender people in the Swedish housing market

**Abstract**

This study will investigate the discrimination against transgender people in the Swedish rental housing market. 800 applications will be sent out to various landlords advertising rental vacancies on the Swedish internet-site Blocket.se. To signal the gender identity of the four different testers (the cis man, the cis woman, the trans man, the trans woman) a name change will be used in the experiment, where the transgender people are identified by having one female and one male name. Besides studying the general discrimination against transgender people, the present study will also investigate if there is a difference in the discrimination level against transwomen and transmen. Given previous evidence of discrimination against men in the rental housing market, it will be of interest to see to which degree this affects transwomen and transmen. Furthermore, the study will examine if there exist varying degrees of discrimination depending on the gender of the landlord or if it is a company, and if discrimination differ by rental price, size or region in the country.

# 1 Purpose and aims

Discrimination in the rental housing market can cause inefficiencies through for instance lower labor mobility and have unfair consequences for the individual. Several recent papers in economics have used the correspondence method to show that groups such as immigrants and women (Ahmed and Hammarstedt, 2008, Ahmed et al., 2010, Carlsson and Eriksson, 2014, Bengtsson et al., 2012) and homosexuals (Ahmed and Hammarstedt, 2009) are discriminated in the rental housing market. Yet some groups have remained unstudied. Discrimination of transgender people in the rental housing market, for instance, have never been studied, even though survey evidence points towards discrimination against transgender people (the European Union agency for fundamental rights, 2014). In the study, more than half of the transgender individuals reported to had endured discrimination or some other form of harassment in the studied year. Similar results were found in a survey performed in the US in 2015, in which around one fourth of the respondents reported discrimination in hiring and within the workplace, and one-fifth regarding housing, within the past year (James et al., 2016). Despite this, the studies that cover this topic are scarce and mainly consist of self-reported experiences to examine the discrimination (e.g. Schilt and Wiswall (2008); Grant et al. (2011); European Union Agency for Fundamental rights (2014); James et al., (2016)). One key exception however is Granberg et al. (2020), who use a correspondence method to study discrimination in the hiring process of transgender people.

The purpose of this project is thus to perform a field experiment on the internet to examine the discrimination against transgender in the rental housing market in Sweden. Through the correspondence method, four different applications (the cis-man, the cis-woman, the trans-man, and the trans-woman) will apply for different rentals advertised on the major Internet advertisement site Blocket. We will thus use a similar approach to Granberg et al. (2020) but will focus on the housing rather than the labor market. In addition to being the first project to study discrimination in the rental market of transgender people, the study can provide a benchmark or a lower bound of discrimination present in the housing market, by performing the experiment in Sweden. This is due to Sweden ranking as one of the most progressive countries in the world in terms of gender equality in the Global Gender Gap Report 2020 (World Economic Forum, 2020).

The correspondence method provides a unique method to study the existence of discrimination in different markets. Furthermore, it has been extensively used in the past, as demonstrated above. Specifically, it provides the most neutral way of investigating discrimination and is typically considered the gold standard. It is thus the most appropriate method in order to investigate the possibility of discrimination of transgender people in the rental housing market. Given the limited amount of evidence on clear discrimination against transgender people, the findings of the project are of great importance to guide policy and laws on discrimination against the transgender minority.

# 2 State of the art

Even though the method of correspondence testing has become one of the common ways in revealing discrimination against minorities in the housing and labor markets (e.g. Carlsson and Rooth, 2007; Ahmed and Hammarstedt, 2008; Ahmed et al., 2010; Ahmed and Lång, 2017; Carlsson and Eriksson 2019, Ahmed and Hammarstedt, 2009; Ahmed et al. 2013, Bengtsson et al., 2012), so far only one study has made use of this method to study discrimination of transgender people. This study was conducted by Granberg et al. (2020) and looked at hiring discrimination against transgender people in the Swedish labor market. The study found that discrimination was highest in occupations largely

dominated by a certain gender. Our aim with the present study is thus to follow the methodology of Granberg et al. (2020) in randomizing name changes on applications, such that only one application was sent to each vacancy with either a name change from one gender to the other or just a normal name change. We will however, unlike Granberg et al. (2020), focus on the rental housing market.

Another experimental approach was used by Langowski et al. (2017), in which the discrimination against transgender people was investigated in the housing market in Boston through matched paired discrimination tests, known as audit testing. Results showed that the transgender tester were in 61% of the cases treated discriminatory and were 9 % more probable to receive a higher rental price than the cis gender tester. An issue with this technique, argued by Heckman and Siegelman (1993), as well as by Heckman (1998), is, however, that it can be hard for testers to be equal enough in all relevant aspects except for e.g. gender or ethnicity, for the results to not be biased, even if the actors are thoroughly trained. In addition, testers that are aware of the study might become motivated to provide data which are or are not in line with their beliefs regarding the discrimination (Heckman, 1998). By using the method of correspondence testing in the present study, and thereby sending out fictitious applications in which the testers are close to identical besides for gender identity, the possibility of achieving biased results becomes smaller, and thereby has a better potential in being robust to this critique. However, as highlighted by Heckman and Siegelman (1993) and Heckman (1998), in correspondence testing the experimenter's choice of how to set the other applicant characteristics, besides the name, might also have an impact on the estimates of discrimination. This needs to be taken into consideration for the present study.

Furthermore, attempts in studying discrimination of transgender people have been done by using non-experimental methods as well. Geijtenbeek and Plug (2018) used registry data to study the earnings of transgender workers in the Netherlands. They found a wage penalty of around 11 percent for male-to-female transgender workers, when registered as female; and only a slight effect when female-to-male transgender workers registered as male. The problem with using registry data is, however, that the effect discrimination has on wages can be hard to obtain, as other omitted variables may impact the wages as well (Neumark, 2018), and that it may only capture a subset of the transgender minority. In a study by Zeluf et al. (2016) only 34 % of the transgender population in Sweden had legally changed their gender, which means that using register data will only capture a subgroup of the total population. With regards to this, in the present study transgender is defined as an individual that socially identifies as the opposite gender it was assigned to at birth, and that has or has not legally changed their gender. This definition is used in aspiration to be able to include a more representative subset of the true transgender group. Furthermore, a necessary assumption when using register data is that the timing of gender change is independent of labor related shocks, and the change in gender in itself does not alter for instance the individuals' productivity.

As previously stated, we thus aim to contribute to the above described literature by using a correspondence method in the Swedish rental housing market. This methodology is considered the gold standard in the area and allows us to only alter the gender identity of the applicant while keeping all other relevant factors constant. Furthermore, this methodology has not previously been used for this particular question at hand. In addition, previous results on discrimination against homosexuals in the housing (Ahmed and Hammarstedt, 2009) and labor markets (Ahmed et al., 2013) show that sexual minorities seem to be about twice as discriminated in the housing as the labor market, thus stressing the need for the current study at hand.

# 3 Experimental design

## 3.1 The rental housing market on the Internet in Sweden

To investigate discrimination against transgender people in the rental housing market on the Internet, one of the largest buy- and sell-sites in Sweden will be used (www.blocket.se). On this particular site private individuals and firms are able to put in adds to sell, buy, and rent more or less anything. There is a cost for putting an ad on the site, but to respond to an ad is free of charge. The only obligatory moment that is needed is to create an account is to use an email address and a password and a phone number to verify. All contact is then made through messages on the site. Furthermore, to create a profile and thereby add additional information of the individual itself is strictly voluntary. The present study will be conducted accordingly to the regulations on the site, and the choice to not include consent from the landlords is done as to avoid potential influences of participants that could affect, and/or compromise the study. Furthermore, offers will shortly be replied to and denied, to not attain more time than necessary from the landlords. This in aspiration to do as little harm to the market as possible.

## 3.2 The experimental manipulation of gender identities of the applicants

In the experiment, the transgender group will be considered the treatment group and the cisgender group will serve as the control group. To signal the gender identity, a name change will be used in the experiment. Granberg et al. (2020) have prior used this treatment, in studying discrimination against transgender in the Swedish labor market. However, as opposed to writing an explicit name change, as in Granberg et al. (2020), this study will attain a more subtle and authentic approach to how applications are formed in the rental housing market. The name change will be formed such that a parenthesis containing the individual's former name will be included between the first and last name when signing the letter. Our own interview with a transgender person suggests that this is a more common way of incorporating a name change when applying for rental vacancies in the housing market, as opposed to stating the current name and previous name, such as H Larsson (prev. L Larsson) which was used in Granberg et al. For the transgender applicants the name change will be from a male name to a female name for the transwoman, and from a female name to male name for the transman. The cis gender applicants will, on the other hand, state a name change from a male to a male name (cis man); and from a female to a female name (cis woman).

The names that will be used are randomly drawn from the five most common baby names, per gender, in Sweden in the year of 2000, in which the female names are: Julia, Emma, Wilma, Hanna, Elin; and the male names are: Filip, Oscar, William, Viktor, Simon (SCB, 2021). These two names per applicant will then be matched with a common last name in Sweden, such as Andersson, Johansson, Karlsson, Nilsson, and Eriksson (SCB, 2021). Where the last name will be randomly assigned to each applicant. The decision to randomize each name of the applicant is due to the fact that names might signal more than just the gender identity, such as socioeconomic character (Fryer and Levitt, 2004). Therefore, by randomizing the names, this potential issue can be controlled for. Furthermore, the choice to use the most common baby names from the year of 2000, is to attain common names of people that are around 20 to 30 years old. These names have been in the top among the most common baby names since the late 1990´s (SCB, 2021) and are therefore a good fit to the experiment. The randomization has already been conducted and the following will be the names of the applicants:

Cis woman: Emma (Elin) Karlsson
Cis man: Filip (Viktor) Nilsson
Trans woman: Hanna (Simon) Andersson
Trans man: Oscar (Julia) Johansson

3.3 The construction of the application letters

The application letters will then be constructed in the form of having an opening phrase, in which the landlord is greeted and the applicant makes an introduction and expresses interest in the rental vacancy that is advertised. The message will then end with a curtesy and be signed by the applicant with both the current name, and the former name. The application letters will be formulated in four different ways, and then randomized for each application. The construction of each message will be expressed in a similar way to as follows (but in Swedish):

Hi!

My name is H., and I'm interested in the rental vacancy. Feel free to contact me if it is still available!


Best regards,

H. (V.) Nilsson


The final step will be to construct email addresses for each of the applicants. One of the most common email providers will be used (hotmail.com). In addition, we will opt to not construct any online profile for the applicants, as this would require us to stick to certain characteristics for all four. Furthermore, having certain characteristics might be problematic as illustrated by Heckman and Siegelman (1993). We will thus have clean slate applications in all other regards except for the text message.


3.4 Application procedure and data collection

The correspondence test will be conducted during the spring of 2021, while the summer and fall of 2021 will be spent analyzing the data and finalizing the paper. During the month of May, a total of 800 applications will be sent to various landlords advertising rental vacancies on Blocket.se. This will be equivalent to responding to about all advertisements posted in 48 hours. Thus, the experiment will most likely be restricted to 3-4 days of sending applications, with 1 week given for the landlords to respond. Furthermore, we have settled on 800 applications based on a power calculation, which is presented in section 3.7 below. Only one application will be sent to each landlord and the rental vacancies will be chosen without regards to size and cost. Ads that requires/requests contact through phone calls, postal letter, or to meet up in person will not be included in the study, such that all contact will only be by email.  Furthermore, each landlord will be controlled to only be contacted once in the experiment. The time and date will be recorded for each sent application, as well as information regarding the vacancy. The observations will first be measured in terms of receiving a response or not on the applications. The attained responses will then be divided into categories of whether they are being positive, such that further contact and/or invitation to showing is suggested, or negative, if the application is rejected for any potential reason. Information regarding time and date of attaining the email will be recorded. Table 1 below summarizes the key measures that will be collected, along with date and time.

**Table 1**: Explanatory variables used in the estimations of the probability of getting an invitation to additional contacts and being invited to showings

| Variables | Description |
|---|---|
| *Dependent variables:* | |
| Getting an invitation to additional contacts or to showings | Takes the value of 1 if the person got an invitation to further contacts or to showings. 0 otherwise. |
| Getting an invitation to showings | Takes the value of 1 if the person got invited to showing, 0 otherwise. |
| *Independent variables:* | |
| Apartment area | Apartment area, in square meters |
| Rooms | Number of rooms in the apartment |
| Rent | Apartment rent, in SEK |
| Company | Takes the value of 1 if the landlord is a company, 0 otherwise. |
| Metropolitan area | Takes the value of 1 if the apartment is situated in Stockholm, Gothenburg or Malmo, 0 otherwise. |
| Landlord female | Takes the value of 1 if the landlord is a female, 0 otherwise. |
| Transgender | Takes the value of 1 if the applicant changed gender with the name change, 0 otherwise. |
| Female Identity | Takes the value of 1 if the applicant identifies as female, and the value of 0 if the applicant identifies as male. |

3.5 Analyzing the data

We will analyze the data with a simple regression, where we simply compare the means between the treated trans-applications to the cis-applications using the following specification:

$$Call\ back_i = \alpha + \beta trans_i + \varepsilon_i$$

where $Call\ back_i$ will be one of our two dummy variables measuring the callbacks and $trans_i$ is a dummy indicating if the sent application is from a trans person or not. In order to improve efficiency we will also provide specifications where we control for the collected characteristics of the apartment and landlord.

We will consider a number of extensions to our main analysis in order to evaluate possible heterogeneous effects. Primarily, we will in addition to the general discrimination against transgender people study if there is a difference in the discrimination level against transwomen and transmen. Given that there exists some prior evidence on discrimination of men in the rental housing market (see for example Ahmed and Hammarstedt (2008)), it would be of particular interest to see to which degree this affects transwomen and transmen. Furthermore, we will examine if there exist varying degrees of discrimination depending on if the landlord is a female or male, and if discrimination vary by object price, size, if the landlord is a company or not and if the apartment is in a metropolitan or rural area.

In order to test that randomization did work we will also run separate regressions where we regress each apartment and landlord characteristic on the four different treatment and control groups and compute the F-statistic for this regression, in order to test for joint exogeneity.

3.6 The limitations of the study

Even though correspondence testing has been a common way of detecting and analyzing discrimination against minorities, this study needs to take some limitations into consideration. Firstly, due to the fact that gender identity will not be directly written in the application, but signaled through a name change, there is a possibility that this signal will not be apparent enough. Granberg et al. (2020) do use a similar design however and are able to detect some effects in the labor market, thus decreasing this concern. Secondly, since the experiment is only conducted on the Internet, other channels in which rentals vacancies can be searched are not included. There is, however, no known reason to why the discrimination would differ between the channels. Furthermore, Blocket.se is a very large market for rental apartments in Sweden today, with several hundred advertisements each day.

3.7 Power calculation

To calculate the needed sample size of the study, power calculation was performed using the statistical software Statas built in command power. In the calculation the anticipated incidence was put to 0.45 for group 1 (the cisgender), and to 0.39 for group 2 (for the transgender). The call back rate when performing correspondence testing in the housing market in previous studies usually lie around 40-50% for the control groups (see. Ahmed & Hammarstedt, 2008, 2009; Carlsson & Eriksson 2014;). As for the anticipated effect size of 6 percentage points, it comes from the study by Granberg et al. (2020), in which transgender was seen to have a six percentage point penalty in positive employer response rate when compared to cisgender. Given that Ahmed and Hammarstedt (2009) obtain about twice as large effect in the rental housing market for homosexuals compared to the effect in the labor market (see Ahmed et al. (2013)), this assumed effect size should be in the lower regions of the expected true effect. The standard deviation used was 0.3, based on the reported estimate by Bengtsson et al. (2012) in studying ethnic and gender discrimination in the rental housing market. Given these values and settling on a statistical power of 0.8 for 5 percent significance, we obtain a required sample size of 788 observations in total, evenly split between cisgender and transgender applications. We thus aim to conduct 800 applications, which will be about equivalent to the amount of posted vacant apartments on Blocket.se over 48 hours.

3.8 Project organization

**Joakim Jansson** is a senior lecturer at the Department of Economics and Statistics at Linnaeus University since the spring of 2021. Prior to his current position, he was a Post-doc for two years at the same institution. He obtained his PhD in economics in December 2018 from Stockholm

University, and has studied discrimination in varying settings such as in recruitment to corporate boards, in exam corrections at the university level, in anonymous online discussions and in the Swedish legal system.

**Sofia Fritzson** is a master student in economics at the Department of Economics and Statistics at Linnaeus University.

## 4 Significance and scientific novelty

To our knowledge, this study will be the first to use the correspondence method to detect discrimination against transgender people in the rental housing market.

## 5 References

Ahmed, A. & Lång, E. (2019) "Victimized Twice: A Field Experiment on the Employability of Victims". *Victims and Offenders*. 14, pp 859-874 https://doi.org/10.1080/15564886.2019.1641449

Ahmed, A., Andersson, L. & Hammarstedt, M. (2013) "Are Gay Men and Lesbians Discriminated against in the Hiring Process?". *Southern Economic Journal.* 79, pp. 565-585. doi: 10.428/0038-4038-2011.317

Ahmed, A., Andersson, L. & Hammarstedt, M. (2010) "Can Discrimination in the Housing Market Be Reduced by Increasing the Information about the Applicants?", *Land Economics,* 86(1): 79-90. doi: 10.3368/le.86.1.79

Ahmed, A. & Hammarstedt, M (2009) "Detecting discrimination against homosexuals: evidence from a field experiment on the Internet". *Economica*. 76, pp. 588-597 doi:10.1111/j.1468-0335.2008.00692.x

Ahmed, A. & Hammarstedt, M (2008) "Discrimination in the rental housing market: A field experiment on the Internet". *Journal of Urban Economics*. 64, pp 362-372 https://doi.org/10.1016/j.jue.2008.02.004

Bengtsson, R., Iverman, E. & Tyrefors, B. (2012) "Gender and Ethnic Discrimination in the Rental Housing Market". *Applied Economics Letters*. 19, pp. 1-5 https://doi.org/10.1080/13504851.2011.564125

Carlsson, M., & Eriksson, S. (2014). Discrimination in the rental market for apartments. *Journal of Housing Economics*, *23*, pp 41-54.

Carlsson, M. & Ericsson, S. (2019) "Age discrimination in hiring decisions: Evidence from a field experiment in the labor market". *Labour Economics*. 59, pp 173-183. https://doi.org/10.1016/j.labeco.2019.03.002

Carlsson, M. & Rooth, D.O. (2017). "Evidence of ethnic discrimination in the Swedish labor market using experimental data". *Labour Economics*. 14, pp 716-729. https://doi.org/10.1016/j.labeco.2007.05.001

Dhejne, C., Lichtenstein, P., Boman, M., Johansson, A.L.V., Långström, N. & Landén, M. (2011) **"**Long-term follow-up of transsexual persons undergoing sex reassignment surgery: Cohort study in Sweden"**.** *PLoS One*, 6. https://doi.org/10.1371/journal.pone.0016885

Drydakis, N. (2015) "Sexual orientation discrimination in the United Kingdom's labour market: A field experiment". *Hum. Relations,* 68 (2015), pp. 1769-1796 https://doi.org/10.1177/0018726715569855

European Union Agency for Fundamental Rights (2014) "Being trans in the European Union". FRA (2014)

Fryer, R.G & Levitt, S.D (2004) "The Causes and Consequences of Distinctively Black Names". *The Quarterly Journal of Economics*. 119(3), pp 767-805 doi: 10.3386/w9938

Geijtenbeek, L. & Plug, E. (2018) "Is there a penalty for registered women? Is there a premium for registered men? Evidence from a sample of transsexual workers". *European Economic Review*, 109, pp. 334-347 https://doi.org/10.1016/j.euroecorev.2017.12.006

Grant, J.M., Mottet, L.A., Tanis, J., Harrison, J., Herman, J., Keisling, M., (2011). Injustice at Every Turn : A Report of the National Transgender Discrimination Survey. Washington: National Center for Transgender Equality and National Gay and Lesbian Task Force.

Granberg, M., Andersson, P.A. & Ahmed, A. (2020). "Hiring Discrimination Against Transgender People: Evidence from a Field Experiment". *Labour Economics*. https://doi.org/10.1016/j.labeco.2020.101860

James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). The Report of the 2015 U.S. Transgender Survey. Washington, DC: National Center for Transgender Equality.

Kcompt, L., Gorey, K.M., Barrett, B.J. & McCabe, S.E. (2020) "Healthcare avoidance due to anticipated discrimination among transgender people: A call to create trans-affirmative environments". SSM Population Health volume 11. https://doi-org.proxy.lnu.se/10.1016/j.ssmph.2020.100608

Langowski, J., Berman, W.L., Hollow, R. & McGinn, C. (2017) "Transcending Prejudice: Gender Identity and Expression-Based Discrimination in the Metro Boston Rental Housing Market" *Political Science*. Suffolk University Law School Legal Studies Research Paper Series


Nagoshi, J.L., Adams, K.A., Terrell, H.K., Hill, E.D., Brzuzy, S. & Nagoshi, C.T. (2018) "Gender differences in correlates of homophobia and transphobia" *Sex Roles*, 59, pp. 521-531 https://doi.org/10.1007/s11199-008-9458-7


Schilt, K., and Wiswall, M. (2008). "Before and After: Gender Transitions, Human Capital, and Workplace Experiences" *The B.E. Journal of Economic Analysis & Policy*: Vol 8. Iss 1 (Contributions), Article 39. https://doi-org.proxy.lnu.se/10.2202/1935-1682.1862


Statistics Sweden. Available at: https://www.scb.se/hitta-statistik/statistik-efter-amne/befolkning/amnesovergripande-statistik/namnstatistik/

https://www.scb.se/en/finding-statistics/statistics-by-subject-area/population/general-statistics/name-statistics/


World Economic Forum, 2020. The Global Gender Gap Report 2020. Cologny/Geneva. Switzerland.


Zeluf, G., Dhejne, C., Orre, C., Nilunger Mannheimer, L., Deogan, C., Höijer, J. & Ekéus Thorson, A. (2016) "Health, disability and quality of life among trans people in Sweden-a web-based survey". *BMC Public Health*, 16 (2016), pp. 1-15 https://doi.org/10.1186/s12889-016-3560-5