

LGBT people are more likely to face the unemployed situation: Evidence from the U.S.

Man Adrian Ho Hin (20731801)

Hong Kong University of Science and Technology

Abstract

This study investigates the potential employment disadvantages faced by the LGBT community in the U.S. labor market. Despite increased legal recognition, discrimination against LGBT individuals may lead to reduced job opportunities. Our empirical analysis reveals that LGBT people are nearly 50% more likely to face unemployment compared to their non-LGBT. Although the study cannot pinpoint the exact reasons behind this disparity, controlling for factors such as education, age, and race suggest that workplace discrimination or macroeconomic environment may contribute to the observed outcomes. The findings highlight the need for further research and policy interventions to address employment disparities.

1. Introduction

The concept of Lesbian, Gay, Bisexual, and Transgender (LGBT) has garnered increasing attention in recent years. This is about human rights and challenging our traditional cognition. It seems to be turning into more acceptable behaviour among the public, an increasing number of countries, especially in the Western World like the United States and Germany, have granted legal recognition to same-sex marriages. However, not all people agree on LGBT, therefore it may lead to a consideration for the “cost” of being LGBT. Within this context, I want to discuss the “cost” from employment, as employment is essentially needed by almost everyone. Are there any disadvantages that occur to being LGBT in the labour market? Discrimination against LGBT people in the workplace, whether implicitly or explicitly, may lead to reduced opportunities, lower income, and hindered access to jobs. This research aims to explore the extent to which the LGBT community is being affected in the labour market in the sense of employment status. This article will focus on the U.S. society as

it is one of the top 10 most LGBT-friendly¹ in the world and has a comprehensive dataset collection.

According to the research from Wilson et al. (2023), from 2018 to 2021, the proportion of facing poverty among LGBT people was 6% higher than that of non-LGBT people², the cases could be even worse with those households with children³. Mize (2016) showed that bisexual men and women face wage penalties regardless of their personal characteristics and resources different. Although Banerjee and Duflo (2011) argue that poverty is more related to the family condition and macro surrounding environment, it is hard to get out if falling into the poverty trap, this article is more on the employment opportunity or employment efforts which poverty or low income could be one of the major incentives that demotivate the working spirit. Cacillo and Valfort (2020) supported that those discriminated parties have higher difficulties in accessing employment and lower wages do reduce the working incentives. It even resulted in lowering the productivity of LGPT people as low expectations in the income return, investing much fewer resources in education or value-adding activities.

For workplace discrimination, Sear et al. (2021) reported that over one-third of their LGBT respondent have the incentives to change their job due to the uncomfortable and unsupportive working environment. This implies a higher turnover rate may be faced by the LGBT employees. Badgett, Waaldijk and Rodgers (2019) suggested that LGBT inclusion could be beneficial to the economy, with better resource allocation and increased the GDP per capita, perhaps more LGBT people can be non-unemployed in this article. Labour market stigmatisation of LGBT employees is harmful to the economy

These barriers not only affect the well-being and economic stability of LGBT people but may also have broader implications for the labour market as a whole. By examining the factors contributing to these disparities and the potential policy interventions that may mitigate them, this research aims to provide an initial understanding of the relationship between LGBT identity and labour market outcomes, more specifically whether employed.

¹ <https://www.equaldex.com/equality-index>

² see Appendix 1

³ see Appendix 2

In this paper, we will attempt to evaluate whether being LGBT has a significant impact on employment status. Since the employment status is a binary status, employed or unemployed at that moment of time, therefore I will use the probit and logit model to estimate the results. As sexual orientation is personal, therefore I will use the individual level data for analysis.

In the following sections, I will further explore the dataset used, then run the probit and logit model with different independent variables in order to choose the best model. Finally concludes the results I have found.

2. Data

The data used in this study comes from the National Survey on Drug Use and Health series (NSDUH) from U.S. Department of Health & Human Services. The series itself is targeting to collect health-related issues among the general population in the U.S. Although this is not directly contributing to our topic, it includes the individual level data of sexual orientation, demographic and employment status which we can create a new dataset with little modification. The data collected in 2021 contain N=58,034 observations.

As mentioned above, the majority of the questions are related to drug usage. And I want to study LGBT, so I first filtered out the respondents who answered the sexual identity question valid, for $\text{sexident}^4 = 1(\text{Heterosexual}) \text{ OR } 2(\text{Lesbian or Gay}) \text{ OR } 3(\text{Bisexual})$. Also, I want to focus on those participating in the workforce, so filtered out the answer with $\text{irwrkstat}^4 = 1(\text{Employed Full Time}) \text{ OR } 2(\text{Employed Part Time}) \text{ OR } 3(\text{Unemployed})$. Also who have answered the weeks without works validly, with $\text{wrknjbwks}^4 \neq 85(\text{Bad Date}) \text{ AND } 94(\text{Don't Know}) \text{ AND } 97(\text{Refused}) \text{ AND } 98(\text{Blank})$, and assume those legitimate skipped respondents' value be 0 in such column. The observations of the adjusted dataset will be N=30,531.

4

<https://www.datafiles.samhsa.gov/sites/default/files/field-uploads-protected/studies/NSDUH-2021/NSDUH-2021-datasets/NSDUH-2021-DS0001/NSDUH-2021-DS0001-info/NSDUH-2021-DS0001-info-codebook.pdf>

The column I included are:

1. sexident: sexual identity
2. irwrkstat: employment status
3. wrkrsnjob: reason for not having a job - past week
4. wrknjbwks: how many weeks without a job - past 12 months
5. eduhighcat: education category⁵
6. irsex: gender
7. CATAG6: age group category⁶
8. ircigrc: cigarette recency
9. iralcrc: alcohol recency
10. irmjrc: marijuana recency
11. ircocrc: cocaine recency
12. irmarit: marriage status⁷
13. NEWRACE2: races⁸

I further modified some of the variables into dummy variables. Here is the table of statistic definitions:

Table 1: Statistic Definitions	
Statistic	Definitions
isUnemployed	Dummy (=1) for irwrkstat == 3 Dependent variable
isLGBT	Dummy (=1) for sexident > 3 main interest
CATAG6	Factor
isMale	Dummy (=1) for irsex == 1
NEWRACE2	Factor
eduhighcat	Factor
isMarried	Dummy (=1) for irmarit != 4 AND 99 have the marriage experience
isCig	Dummy (=1) for ircigrc == 1 assume within past 30 days be active cig user
isAlc	Dummy (=1) for iralcrc == 1 assume within past 30 days be active alc user
isMj	Dummy (=1) for irmjrc == 1 assume within past 30 days be active mj user
isCoc	Dummy (=1) for ircocrc == 1 assume within past 30 days be active coc user
noWorkWeek	Range Values
isNoWantWork	Dummy (=1) for wrkrsnjob == 2 assume those on layoff and not looking for work are low incentive to work

⁵ see Appendix 3

⁶ see Appendix 4

⁷ see Appendix 5

⁸ see Appendix 6

Here is the statistic summary table:

Table 2: Statistic Summary				
Statistic	Value	Frequency	Percentage(%)	
isUnemployed	0	27,881	91%	
	1	2,650	9%	
isLGBT	0	26,842	88%	
	1	3,689	12%	
CATAG6 (Factor)	2	9,308	30%	
	3	7,022	23%	
	4	9,408	31%	
	5	3,594	12%	
	6	1,199	4%	
isMale	0	16,115	53%	
	1	14,416	47%	
NEWRACE2 (Factor)	1	19,472	64%	
	2	3,144	10%	
	3	253	1%	
	4	117	0%	
	5	1,748	6%	
	6	1,195	4%	
	7	4,602	15%	
eduhighcat (Factor)	1	2,052	7%	
	2	6,344	21%	
	3	9,148	30%	
	4	12,987	43%	
isMarried	0	14,334	47%	
	1	16,197	53%	
isCig	0	26,125	86%	
	1	4,406	14%	
isAlc	0	11,899	39%	
	1	18,632	61%	
isMj	0	25,147	82%	
	1	5,384	18%	
isCoc	0	30,269	99%	
	1	262	1%	
isNoWantWork	0	30,077	99%	
	1	454	1%	
	N	Mean	St. Dev.	Range
noWorkWeek	30,531	2.3	7.606	[0,52]

For the visualisation of the data in the table above, please find in Appendix 7.

We can observe the distribution between isUnemployed and isLGBT is quite similar, it may be due to those unemployed and LGBT are both uncommon features in the dataset or even for the general public. The gender distribution and marriage experience tend to be even, also tend to have healthy living behaviour as only the number of alcohol users is more than the non-alcohol users, the remaining features maintained a large gap. Furthermore, only a small proportion of respondents are not willing to work.

3. Empirical analysis

Since the dependent variable (isUnemployed) is a discrete binary outcome, therefore I am planning to use the probit and logit model in order to capture how those independent variables potentially affect the individual's employment status in a percentage representation. The dependent variable isUnemployed is randomly selected among the U.S. general population therefore it matched with one of the key assumptions for logit and probit model.

3.1. Hypotheses

According to the literature review discussion in part 1, also the imperfect LGBT inclusion in the U.S., being LGBT would be more likely to result in unemployed status.

H_0 : There is no significant relationship between isUnemployed and is LGBT

H_1 : There is a significant relationship between isUnemployed and is LGBT

3.2. Estimation Results

Table 3: Regression Result

	Dependent variable: isUnemployed							
	logistic (1)	probit (2)	logistic (3)	probit (4)	logistic (5)	probit (6)	logistic (7)	probit (8)
isLGBT	0.469*** (0.06)	0.241*** (0.03)	0.371*** (0.06)	0.197*** (0.03)	0.313*** (0.06)	0.167*** (0.03)	0.291*** (0.07)	0.147*** (0.03)
CATAG63			-0.415*** (0.05)	-0.220*** (0.03)	0.01 (0.06)	-0.005 (0.03)	-0.216*** (0.06)	-0.107*** (0.03)
CATAG64			-0.687*** (0.05)	-0.349*** (0.03)	-0.056 (0.06)	-0.031 (0.03)	-0.313*** (0.07)	-0.148*** (0.04)
CATAG65			-0.677*** (0.08)	-0.344*** (0.04)	-0.021 (0.09)	-0.017 (0.04)	-0.267*** (0.10)	-0.122** (0.05)
CATAG66			-1.181*** (0.16)	-0.580*** (0.07)	-0.452*** (0.17)	-0.212*** (0.08)	-0.847*** (0.20)	-0.377*** (0.09)
isMale			0.252*** (0.04)	0.129*** (0.02)	0.119*** (0.04)	0.061*** (0.02)	0.06 (0.05)	0.03 (0.02)
NEWRACE22			1.053*** (0.06)	0.547*** (0.03)	0.726*** (0.06)	0.381*** (0.03)	0.671*** (0.07)	0.343*** (0.04)
NEWRACE23			0.999*** (0.18)	0.525*** (0.10)	0.634*** (0.18)	0.333*** (0.10)	0.416** (0.21)	0.207* (0.11)
NEWRACE24			0.715** (0.28)	0.362** (0.15)	0.46 (0.28)	0.23 (0.15)	0.32 (0.32)	0.18 (0.17)
NEWRACE25			0.266*** (0.09)	0.126*** (0.05)	0.447*** (0.10)	0.227*** (0.05)	0.514*** (0.11)	0.260*** (0.05)
NEWRACE26			0.582*** (0.10)	0.296*** (0.05)	0.434*** (0.10)	0.223*** (0.05)	0.448*** (0.11)	0.224*** (0.06)
NEWRACE27			0.665*** (0.05)	0.340*** (0.03)	0.401*** (0.06)	0.207*** (0.03)	0.422*** (0.06)	0.214*** (0.03)
eduhighcat2					-0.388*** (0.07)	-0.219*** (0.04)	-0.296*** (0.08)	-0.165*** (0.04)
eduhighcat3					-1.016*** (0.07)	-0.544*** (0.04)	-0.816*** (0.08)	-0.428*** (0.04)
eduhighcat4					-1.513*** (0.07)	-0.779*** (0.04)	-1.130*** (0.09)	-0.571*** (0.04)
isMarried					-0.690*** (0.06)	-0.344*** (0.03)	-0.716*** (0.06)	-0.350*** (0.03)
isCig							0.607*** (0.06)	0.312*** (0.03)
isAlc							-0.425*** (0.05)	-0.205*** (0.03)
isMj							0.339*** (0.06)	0.176*** (0.03)
isCoc							0.12 (0.21)	0.06 (0.11)
noWorkWeek							-0.147*** (0.01)	-0.051*** (0.00)
isNoWantWork							18.758 (106.45)	6.94 (26.07)
Observations	30,531	30,531	30,531	30,531	30,531	30,531	30,531	30,531
Log Likelihood	-8,974.60	-8,974.60	-8,611.15	-8,607.75	-8,235.62	-8,234.19	-6,923.85	-6,950.54
Akaike Inf. Crit.	17,953.19	17,953.19	17,248.30	17,241.50	16,505.23	16,502.38	13,893.69	13,947.08
McFadden R2	0.004	0.004	0.044	0.044	0.086	0.086	0.231	0.228

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

I have computed 4 different sets of logit and probit models in order to find out the best model. And the best set will be the last (full) model according to the McFadden R2 which represented the models' goodness-of-fit. The logit model seems to be slightly better as a

slightly higher McFadden R2 than the probit one. With the consideration of interpretation, the logit model at the fourth set of independent variables is chosen. Most of the estimated coefficients are statistically significant at 0.01 level. For our main interest (isLGBT), it is significant among all the models with a positive value. The coefficients keep decreasing when more of the independent variables are added in, while the standard error is not changing much and keep low. That may imply that being LGBT could be more likely to result in unemployed status.

For the first set of independent variables, I only included the isLGBT. We can observe that the McFadden R2 are extremely low although isLGBT is significant. Therefore single variables do not explain much of the variation in the data.

For the second set of independent variables, I included some demographic variables such as age, gender and race. It did have a great improvement for the McFadden R2, from 0.004 to 0.044, although still a low value.

For the third set of independent variables, I included some inner characteristics such as education level and marriage experience. Slightly decreased in the effect of isLGBT with the same significant level. The age group except for the elderly and race of NonHispanic Native HI/Other Pacific Islands turned into insignificant. It did have a great improvement for the McFadden R2, from 0.044 to 0.086, which seems to approach 0.1.

For the fourth set of independent variables, I included some behavioural characteristics such as cigarette user, number of weeks not working and low willingness to work. Again slightly decreased the effect of isLGBT at a similar significant level. Gender and race of NonHispanic Native HI/Other Pacific Islands turned insignificant in this model. It has a sharp improvement for the McFadden R2, from 0.044 to 0.231 and 0.228 respectively.

So using the best model (logit in the fourth set) and converting the coefficient of isLGBT using the formula $\exp(\beta_{\text{isLGBT}}) = \exp(0.291) = 1.43$, therefore LGBT people have 43% more odds of resulting in unemployed status than the non-LGBT people holding other factors being constant. Also, the null hypothesis is rejected at a 0.01 significant level.

4. Conclusion

The result from the empirical study provided some pieces of evidence to our claim which being LGBT are more likely to face unemployed. And the odds could be nearly 50% higher. This dataset is relatively new and collected from one of the most LGBT-friendly countries in the world. Although we cannot differentiate the reason behind why they are more likely to be unemployed, it may be due to workplace discrimination or the macroeconomic environment, at least we controlled for most of the theoretical determinant factors such as education, age and race. However, some other interesting findings are that behavioural characteristics have a big help in explaining the variance, which may be because those are unexpected. Only alcohol users are less likely to face unemployed, maybe most of the work requires socialising. Perhaps publicly stating the sex orientation may not be a good choice since it is “costly” in employment.

5. Reference

Abhijit V. Banerjee, Esther Duflo. (2011). Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty. PublicAffairs.

Bianca d.m. wilson, Lauren j.a. bouton, M. v. lee badgett, & Moriah l. macklin. (2023, February). LGBT POVERTY IN THE UNITED STATES Trends at the Onset of COVID-19. The Williams Institute.

<https://williamsinstitute.law.ucla.edu/wp-content/uploads/LGBT-Poverty-COVID-Feb-2023.pdf>

Brad Sears, Christy Mallory, Andrew R. Flores, Kerith J. Conron. (2021, September). LGBT PEOPLE’S EXPERIENCES OF WORKPLACE DISCRIMINATION AND HARASSMENT. The Williams Institute. <https://www.sjsu.edu/ccll/docs/Workplace-Discrimination-Sep-2021.pdf>

Carcillo, S. & Valfort, M. (2020, February). Combating discrimination in the labour market. Notes du conseil d’analyse économique, 56, 1-12. CAIRN.INFO.

https://www.cairn-int.info/article-E_NCAE_056_0001--combating-discrimination-in-the-labour.htm

M.V. Lee Badgett, Kees Waaldijk b, Yana van der Meulen Rodgers. (2019). The relationship between LGBT inclusion and economic development: Macro-level evidence. World Development.

<https://www.sciencedirect.com/science/article/pii/S0305750X19300695>

Center for Behavioral Health Statistics and Quality. (2022). 2021 National Survey on Drug Use and Health Public Use File Codebook, Substance Abuse and Mental Health Services Administration, Rockville, MD.

<https://www.datafiles.samhsa.gov/dataset/national-survey-drug-use-and-health-2021-nsduh-2021-ds0001>

(2021). National Survey on Drug Use and Health (NSDUH). Substance Abuse and Mental Health Data Archive.

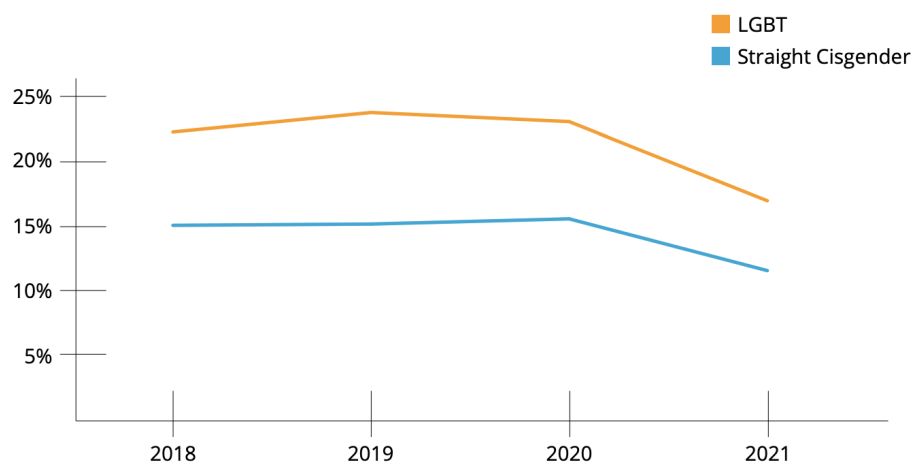
<https://www.datafiles.samhsa.gov/dataset/national-survey-drug-use-and-health-2021-nsduh-2021-ds0001>

Trenton D. Mize. (2016, December). Sexual Orientation in the Labor Market. American Sociological Review. <https://www.jstor.org/stable/44245497>

6. Appendix

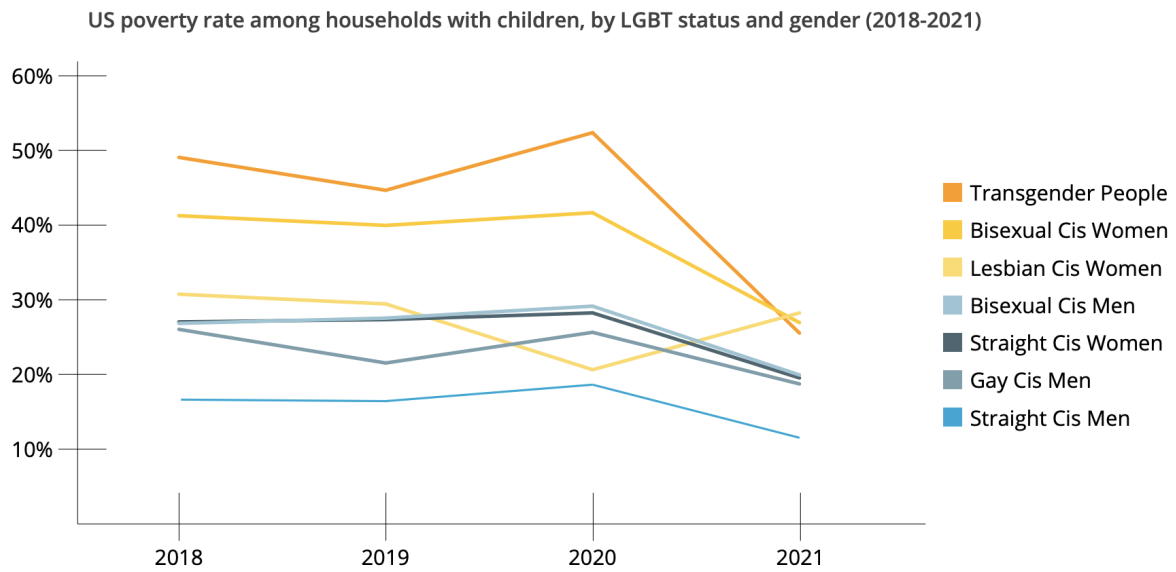
Appendix 1

US poverty rate, by LGBT status (2018-2021)



Source: BRFSS, 2018-2021

Appendix 2



Source: BRFSS, 2018-2021

Note: Cis = Cisgender

Appendix 3

(IREDUHIGHST2)

EDUHIGHCAT

Len : 1 RC-EDUCATION CATEGORIES

- 1 = Less high school (IREDUHIGHST2=1-7 & AGE3=4-11).....
- 2 = High school grad (IREDUHIGHST2=8 & AGE3=4-11)
- 3 = Some coll/Assoc Dg (IREDUHIGHST2=9-10 & AGE3=4-11).....
- 4 = College graduate (IREDUHIGHST2=11 & AGE3=4-11).....
- 5 = 12 to 17 year olds (AGE3=1-3).....

Appendix 4

(AGE3)

CATAG6

Len : 1 RC-AGE CATEGORY RECODE (6 LEVELS)

- 1 = 12-17 Years Old.....
- 2 = 18-25 Years Old.....
- 3 = 26-34 Years Old.....
- 4 = 35-49 Years Old.....
- 5 = 50-64 Years Old.....
- 6 = 65 or Older.....

Appendix 5

IRMARIT

Len : 2 IMPUTATION REVISED MARITAL STATUS

- 1 = Married.....
- 2 = Widowed.....
- 3 = Divorced or Separated
- 4 = Never Been Married.....
- 99 = LEGITIMATE SKIP Respondent is <= 14 years old.....

Appendix 6

NEWRACE2

Len : 1 RC-RACE/HISPANICITY RECODE (7 LEVELS)

- 1 = NonHispanic White.....
- 2 = NonHispanic Black/African American.....
- 3 = NonHispanic Native American/Alaska Native.....
- 4 = NonHispanic Native Hawaiian/Other Pacific Islander.....
- 5 = NonHispanic Asian.....
- 6 = NonHispanic more than one race.....
- 7 = Hispanic.....

Appendix 7

