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Authors	Lee Badgett, M. V.;Carpenter, Christopher S.;Sansone, Dario
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## LGBTQ Economics

M.V. Lee Badgett, Christopher S. Carpenter, and  
Dario Sansone

**I**n 1995, the first peer-reviewed empirical papers on sexual orientation-based wage differences appeared in economics journals (Badgett 1995a; 1995b). Twenty-five years later, the American Economic Association’s Committee on the Status of LGBTQ+ Individuals in the Economics Profession (CSQIEP) made its debut at the 2020 annual meeting of the Allied Social Science Associations. In between, research on lesbian, gay, bisexual, transgender, and queer (LGBTQ) people has grown rapidly. EconLit (the academic literature database maintained by the American Economic Association) indicates that 39 LGBTQ-related articles were published between 1995 and 1999, 162 articles between 2000 and 2009, and 348 between 2010 and 2019. Much of this research has been made possible by the addition of questions to existing surveys that allow LGBTQ respondents to be identified.

The world has also changed over those 25 years. Social movements led by LGBTQ people have grown in influence, leading to the decriminalization of homosexuality in the United States (*Lawrence v. Texas*, 539 US 558 [2003]) and several

■ *M.V. Lee Badgett is Professor of Economics, University of Massachusetts Amherst, Amherst, Massachusetts, and Distinguished Scholar, Williams Institute, University of California at Los Angeles School of Law, Los Angeles, California. Christopher S. Carpenter is E. Bronson Ingram Professor of Economics, Vanderbilt University, Nashville, Tennessee; Research Fellow, National Bureau of Economic Research, Cambridge, Massachusetts; and Research Fellow, IZA (Institute of Labor Economics), Bonn, Germany. Dario Sansone is Lecturer, University of Exeter Business School, Exeter, United Kingdom; and Research Affiliate, IZA (Institute of Labor Economics), Bonn, Germany. Their email addresses are lbadgett@econs.umass.edu, christopher.s.carpenter@vanderbilt.edu, and d.sansone@exeter.ac.uk.*

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other countries. Being transgender was depathologized in 2013. Public attention to issues of equality for LGBTQ individuals has resulted in major changes in nondiscrimination policies and the right to marry for same-sex couples in the United States and dozens of other countries (OECD 2020). Research shows that many of these changes have resulted in improved socioeconomic outcomes for some LGBTQ groups. These changes have also generated new research questions for economists and other social scientists.

Our starting point is to look at recent survey data to quantify the number of LGBTQ people and to discuss the quality of these data. We describe the location choices, demographic and economic characteristics, and family structures of the LGBTQ population in the United States compared with cisgender (that is, not transgender) heterosexual individuals. We summarize recent evidence on the socioeconomic effects of legal access to same-sex marriage on a range of family structure, employment, social, and health outcomes. We then turn to a growing body of experimental research that finds evidence of employment discrimination against LGBTQ people. Data on wage gaps are also consistent with a discrimination story for gay and bisexual men; in contrast, lesbian and bisexual women earn more than their heterosexual counterparts. We present some new findings on wage gap trends that show persistent wage gaps for gay/bisexual men but a falling wage advantage for lesbian/bisexual women. We conclude by describing emerging areas of research and new questions in LGBTQ economics.

## **How Many Individuals Identify as LGBTQ?**

At least since the Kinsey Reports on male and female sexual behaviors (Kinsey, Pomeroy, and Martin 1948; Kinsey et al. 1953), social scientists have tried to estimate the percentage of LGBTQ individuals in the population. The task poses challenges with sampling and construction of survey questions, particularly because sexual orientation and gender identity have multiple aspects and because individuals might be reluctant to report a stigmatized characteristic. As one example, we include Q for queer in the LGBTQ umbrella acronym to acknowledge the use of that term by some sexual minorities, although we rarely identify these individuals separately. Similarly, no reliable nationally representative estimates exist for asexual individuals (individuals not sexually attracted to anyone) or intersex individuals (individuals born with sex characteristics that do not fit the typical definitions for male or female bodies). Here, we first describe some prevalence estimates from survey data and then discuss potential challenges regarding their interpretation.

The primary way of counting LGBTQ individuals is to ask in surveys. Table 1 presents a range of survey-based estimates on the proportion of adults who identified as gay, lesbian, bisexual, “something else,” and/or transgender. Fourteen high-income countries have included a question on sexual orientation in at least one of their nationally representative surveys and released these data (OECD 2019). On average across these 14 countries, 2.7 percent of adults identified as lesbian, gay, or bisexual,

*Table 1*  
**Size of the LGBTQ Population**

	OECD (2019)	NHIS		BRFSS
	Selected OECD countries	United States		35 US states
	All adults	All women	All men	All adults
<i>Sexual orientation:</i>				
Straight	[96.2%–98.8%]	95.6%	96.2%	92.1%
Gay/lesbian	[0.5%–1.7%]	1.4%	1.8%	1.7%
Bisexual	[0.3%–2.0%]	1.3%	0.6%	2.2%
Something else	—	0.3%	0.3%	0.7%
<i>Gender identity:</i>				
Transgender	[0.1%–0.3%]	—	—	0.5%
Male to female	—	—	—	0.2%
Female to male	—	—	—	0.2%
Gender nonconforming	—	—	—	0.1%

*Source:* Tabulations from OECD (2019, p. 17 and p. 19); Authors' tabulations of NHIS 2013–2018, and BRFSS 2014–2018.

*Note:* This table reports weighted statistics; unweighted statistics are reported in Table B1 in the online Appendix available with this article at the *JEP* website. The shares of individuals who identified as gay, lesbian, bisexual, or something else have been computed in the NHIS and BRFSS data over all (or male/female) respondents (age 18+) who were administered a questionnaire with questions on sexual orientation and gender identity, including those who identified as straight, gay, lesbian, bisexual, something else, who did not know, or who refused to answer. Similarly, the shares of individuals who identified as transgender have also been computed over all respondents who were administered a questionnaire including sexual orientation and gender identity—that is, including those who did not identify as transgender, who did identify as transgender (male to female, female to male, or gender nonconforming), who did not know, or who refused to answer. Data on selected OECD countries have been extracted from the report OECD (2019)

representing 17 million people. In most countries, the share of individuals who identified as gay or lesbian is similar to the share who identified as bisexual.

The next two columns of Table 1 present estimates from two main sources of recent US survey data: the 2013–2018 National Health Interview Surveys (NHIS) and the 2014–2018 Behavioral Risk Factor Surveillance System (BRFSS).<sup>1</sup> The NHIS is nationally representative, while for the BRFSS we observe 35 states in various years that administered a sexual orientation and gender identity module to their core state BRFSS survey and that released their data to the public. As shown in Table 1, 1.4 percent of women (age 18 or more) in the NHIS identified as lesbian, while 1.3 percent identified as bisexual and 0.3 percent identified as “something else” (these are mutually exclusive categories). For men, 1.8 percent identified as gay, while 0.6 percent identified as bisexual and 0.3 percent identified as “something else.” The “something else” option was chosen mainly by transgender respondents and by respondents who identified as queer or pansexual, did not use labels to

<sup>1</sup>Sections B.1 and D.1 in the online Appendix provide detailed information on the NHIS and BRFSS, respectively. BRFSS data are publicly available on the CDC website (CDC, 2019). BRFSS data are publicly available on the CDC website (CDC 2019).

identify themselves, were in the process of determining their sexuality, or were asexual (Miller and Ryan 2011; Dahlhamer et al. 2014). The BRFSS sample produces similar estimates of the share gay or lesbian but slightly higher estimates of the share bisexual or “something else” compared to the NHIS.

The availability and quality of estimates of the transgender population are limited. For example, only three OECD countries have asked questions about gender identity on a nationally representative survey (OECD 2019). The percentage in the adult population who identify as transgender ranges from 0.1 percent in Chile to 0.3 percent in the United States (OECD 2019). Table 1 shows that the BRFSS data for 35 states indicate that 0.5 percent of adults identified as transgender. Of these, 0.2 percent identify as transgender male-to-female, 0.2 percent identify as transgender female-to-male, and 0.1 percent identify as transgender gender nonconforming.

## Data Quality on LGBTQ People

How much should we trust self-reported information on sexual orientation? We know that survey results vary depending on how researchers classify sexual minorities (Laumann et al. 2000; Gates 2011). For example, survey questions can ask about romantic, sexual, and/or emotional attraction to members of the same sex; about actual same-sex sexual behavior; or about whether an individual self-identifies as gay, lesbian, bisexual, or queer. Of these, the share of people reporting same-sex attraction is consistently larger than the share reporting same-sex sexual behavior or the share identifying as LGBTQ. How questions are worded, and the degree of privacy and anonymity afforded to survey respondents—say, in-person interviews versus computer-assisted ones—can also affect these estimates (Robertson et al. 2018). In the United States, for example, the average estimate of self-identified lesbian, gay, or bisexual people across surveys is 3.8 percent, but this total increases to 4.6 percent when focusing only on self-administered modules (OECD 2019). Coffman, Coffman, and Ericson (2017) used “list experiments” designed to elicit the true rate of non-heterosexuality in a non-representative Amazon Mechanical Turk sample (which is younger, more highly educated, and more liberal than the general population). The authors found that rates of non-heterosexual identity implied by the list experiment were 65 percent larger than rates based on direct self-reports.<sup>2</sup>

Research on sexual orientation and gender identity survey questions continues to expand, but no consensus yet exists on best practices for gender identity. The questions about sexual orientation on large federal surveys such as the NHIS have undergone extensive testing to understand why respondents choose particular

<sup>2</sup>Researchers have also used Internet data which affords users anonymity to suggest that same-sex attraction and behavior are higher than reported in surveys (Pornhub Insights 2017; Stephens-Davidowitz 2017).

answers and why some response options pose challenges.<sup>3</sup> A working group of statisticians from federal statistical agencies reviewed evaluations of sexual orientation and gender identity questions and found that existing measures of sexual identity have performed well (Federal Interagency Working Group 2016).

Of course, one may worry that willingness to self-identify as LGBTQ on surveys is correlated with unobserved characteristics such as family and social support in a way that could bias estimates of outcomes under study. Given that attitudes toward sexual minorities have improved over the recent past, one approach is to examine whether rates of reporting LGBTQ status have increased over time. Unfortunately, most surveys with direct questions on sexual orientation or gender identity have not included them over a sufficiently long period of time as to be informative in this context. But there are exceptions. First, the Gallup corporation found that the share of Americans who identify as LGBT increased from 3.5 percent in 2012 to 4.5 percent in 2017 (Newport 2018). But only the youngest cohort—born between 1980 and 1999—showed any increase in prevalence, rising from 5.8 percent in 2012 to 8.2 percent in 2017, and much of that change was accounted for by women. Second, a more detailed analysis of three waves of data from the 2002–2013 National Surveys of Family Growth found an upward time trend in the percentage of women age 18–45 reporting a bisexual identity and the percentage reporting a same-sex sex partner (England et al. 2016). It is not possible to distinguish whether those trends reflect an increased willingness of some subgroups of LGBTQ people to report their status or whether the trends capture changes in sexual behavior and identity for those subgroups.

Fortunately, another dataset allows us to indirectly assess trends in reporting sexual minority status. Specifically, a large body of prior research pioneered by Black et al. (2000) uses the American Community Survey to look at individuals in same-sex couples who are very likely to be sexual minorities in cohabiting same-sex romantic relationships. The American Community Survey identifies a primary reference person, defined as “the person living or staying here in whose name this house or apartment is owned, being bought, or rented.” The American Community Survey also collects information on the relationship to the primary reference person for all individuals living at the same address, and the range of possible relationships includes husband, wife, and unmarried partner (as a different category than roommate or other nonrelative).<sup>4</sup> We can thus identify same-sex couples by

<sup>3</sup>Some measurement problems come from those non-LGBTQ people for whom sexual identity is not a particularly salient self-concept. Some do not understand the term “heterosexual” and refuse to answer or respond with “something else” or “I don’t know” (Ridolfo, Miller, and Maitland 2012). This finding influenced the design of the sexual orientation question on the National Health Interview Survey, for example, which uses “straight, that is, not gay” instead of “heterosexual” in the English language survey (Dahlhamer et al. 2014).

<sup>4</sup>Section C.1 in the online Appendix provide detailed information on the American Community Survey and discuss possible measurement error issues highlighted in the literature (like misclassification of different-sex couples as same-sex couples) and how they have been addressed. To reduce measurement error, the relationship categories of spouse and unmarried partner have recently been changed on the Census, American Community Survey, and Current Population Survey to include opposite-sex husband/

linking the household primary reference person with their same-sex spouse or unmarried partner, and we can also see households with two people of the same sex who do not report being in a same-sex partnership. As a result, we can classify thousands of couples as same-sex in each year of the survey data. Our intuition here is that increasing trends over time in the share of households with two same-sex adults that are same-sex couples would be consistent with increased reporting of same-sex couple status (and, by implication, minority sexual orientation) over time.

Thus, we compare two measures: 1) the share of all two-adult households composed of two same-sex adults; and 2) the share of all households with two same-sex adults that is composed of same-sex couples (either same-sex unmarried partners or married same-sex spouses).<sup>5</sup> Changes in the first series could plausibly reflect changes in coupling and cohabitation decisions of sexual minorities, while changes in the second series are more likely to reflect changes in reporting decisions among sexual minorities conditional on same-sex cohabitation. The share of all two-adult households composed of two same-sex adults increased modestly over the time period (by about 10 percent) while the share of households with two same-sex adults that was composed of people who describe themselves as same-sex couples exhibited closer to a 50 percent increase. Taken together these patterns point to relatively larger increases in *reporting* of same-sex relationships conditional on same-sex cohabitation over the past decade, with a more modest change in same-sex cohabitation itself. Figure C1 in the online Appendix shows the trends from 2008 to 2018.

If these changes over time are also reflected in changes in observed demographic characteristics, how should we think about their effects on estimates of gaps in economic outcomes between sexual minorities and heterosexuals? We look at trends in the share of all couples (both different-sex and same-sex) that are same-sex couples across age, race, education, and region. Several patterns emerge. First, the same-sex couple shares increased for every demographic group we examine.<sup>6</sup> Second, the increase in the same-sex couple share was slightly higher for younger people (18–45) relative to older people (46+). Third, the increase in the same-sex couple share was notably higher for Black individuals relative to other race groups. Fourth, the increase in the same-sex couple share was slightly smaller for the less educated, relative to the highly educated. Finally, there were no noticeable differences in the trends over time in the same-sex couple shares across regions. Overall, these patterns are consistent with younger, slightly more educated, and more racially diverse sexual minorities being more represented among the sample of same-sex couples in recent years.

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wife/spouse, same-sex husband/wife/spouse, opposite-sex unmarried partner, and same-sex unmarried partner as separate categories. ACS data are publicly available through IPUMS-USA at the University of Minnesota (Ruggles et al. 2020).

<sup>5</sup>These trends are reported in Panels B and C of online Appendix Figure C1, respectively. For the sake of completeness, Panel A reports the trend in the share of all households composed of exactly two adults.

<sup>6</sup>For details of the calculations, see Figure C2 in the online Appendix. These findings are also in line with the general trend plotted in Panel D of Figure C1 and show the share of all couples (both different-sex and same-sex) that are same-sex couples without splitting the sample based on demographic characteristics.

Taken as a whole, the evidence suggests that sexual orientation and gender identity questions perform reasonably well, even though not all LGBTQ people are willing to report as such on surveys. Also, the analysis of the American Community Survey supports the idea that sexual minorities are becoming more willing to disclose their status on surveys over time. However, it is important to note that willingness to report being LGBTQ on a survey does not necessarily imply an individual's openness in other settings being studied, such as the workplace. If the willingness to report on a survey is related to openness about being LGBTQ in the setting being studied, then the economic outcomes observed by sexual orientation or gender identity might be biased. More research is needed to understand which LGBTQ people reveal their identities in various data, perhaps linking survey data to administrative records. But in the research review below, the consistency of many findings over time, across datasets and research designs, and across measures suggest that reporting bias is not likely to be the source of the broad findings observed.

## **Location Choices of Sexual Minorities**

Historically, income, fertility, and attitudes in the general population have affected the location and migration choices of sexual minorities, an early topic studied by economists (Black et al. 2002). The American Community Survey also provides very large sample sizes of same-sex couples, which allows for meaningful comparisons across geographic areas.

Where were same-sex couples located at the time of the survey? Washington, DC, had by far the highest number of individuals in same-sex couples as a percent of all individuals in couples (6.8 percent), followed by Vermont (1.89 percent), Massachusetts (1.80 percent), and Rhode Island (1.61 percent).<sup>7</sup> The states with the lowest same-sex couple shares were Wyoming (0.57 percent), North Dakota (0.59 percent), and South Dakota (0.63 percent). If we focus on metropolitan areas, the metropolitan areas with the largest same-sex couple shares were Ithaca, NY; San Francisco, CA; Santa Fe, NM; and Santa Rosa, CA.<sup>8</sup>

Individuals in same-sex couples were more likely than individuals in different-sex couples to reside in a different state from their birth: for men, 45 percent of those in same-sex couples lived in the state in which they were born, compared to 59 percent of those in different-sex couples; for women, 52 percent of those in same-sex couples lived in the state in which they were born, compared with 60 percent of

<sup>7</sup>Figure C3 in the online Appendix plots the weighted and unweighted distribution of same-sex couples across states as well as the states with the largest number of same-sex couples. Weighted percentages are reported here.

<sup>8</sup>Table C3 in the online Appendix reports weighted and unweighted percentages as well as the metropolitan areas with the largest number of same-sex couples. In addition, Tables C4-C5 report the top 20 metropolitan areas separately for women and men in same-sex couples, while Tables C6-C8 report the top 20 cities in terms of number and share of individuals in same-sex couples, jointly and separately by sex.

those in different-sex couples. These gaps do seem to be closing, albeit for women more than for men, consistent with improving attitudes reducing the need for sexual minorities to migrate to more LGBTQ-friendly environments.<sup>9</sup>

Today, the concentration of LGBTQ people in cities and states with progressive policies could reflect an influence of the social climate on reporting LGBTQ status on surveys (National Academies of Sciences, Engineering, and Medicine 2020), as noted earlier. In addition, research in political science suggests that the size and strength of the LGBTQ population is positively correlated with the passage of sexual orientation and gender identity nondiscrimination laws (Taylor, Haider-Markel, and Rogers 2019). However, it is important to emphasize that LGBTQ people do not live exclusively in cities or on the coasts: for example, between 2.9 and 3.8 million LGBTQ people are estimated to live in rural areas (MAP 2019).

## **Demographic and Economic Characteristics of People Who Identify as LGBTQ**

In this section, we describe the demographic profiles of people who identify as LGBTQ, and we compare these with the characteristics of heterosexual and cisgender people. We use data from the 2013–2018 National Health Interview Surveys, the 2008–2018 American Community Surveys, and the 2014–2018 waves of the Behavioral Risk Factor Surveillance System.

### **Differences by Sexual Orientation**

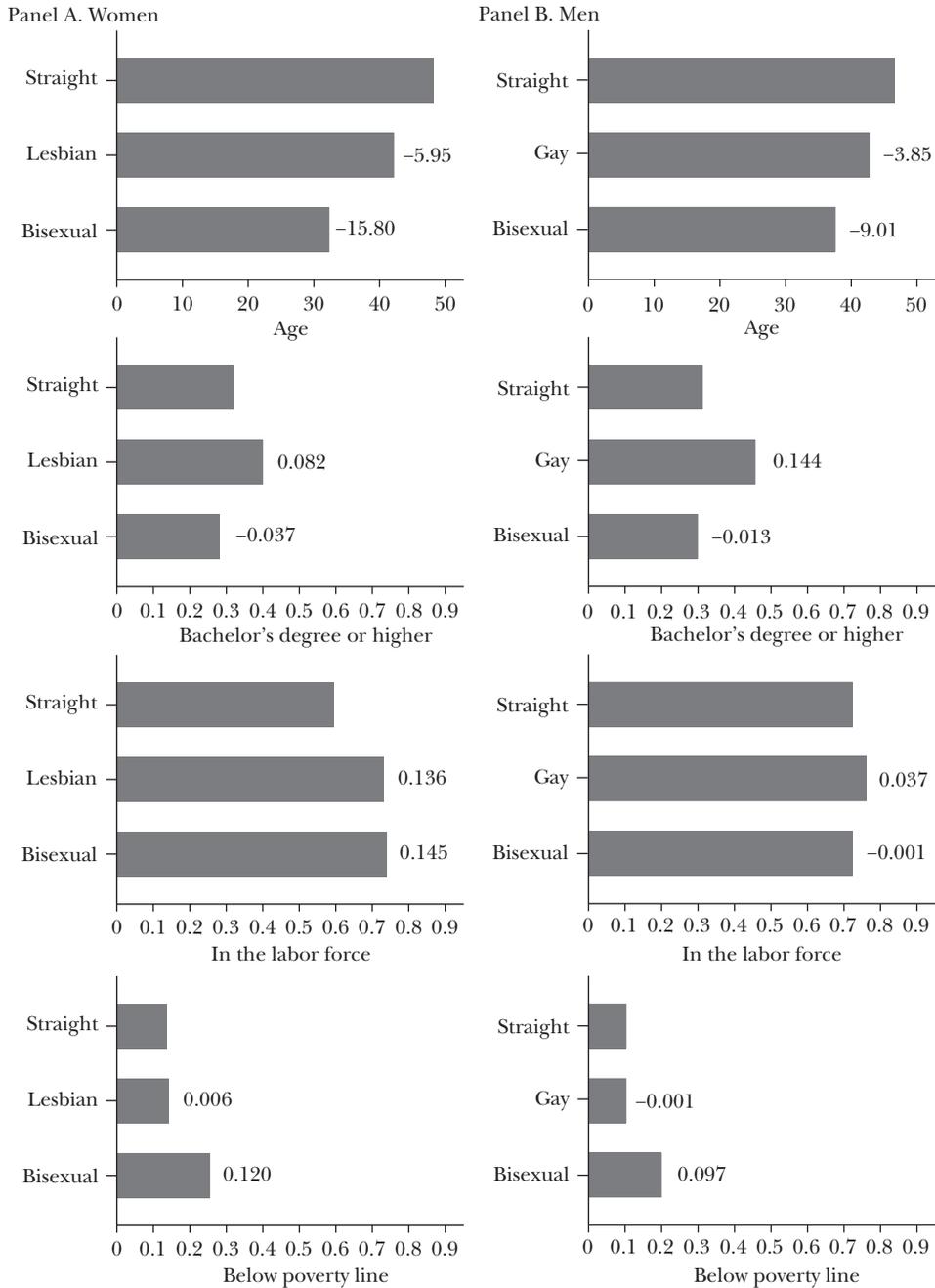
The National Health Interview Survey is the only nationally representative and publicly available survey in the United States with direct information on sexual orientation that produces large sample sizes of sexual minorities and has high quality data on demographic and economic characteristics. Here, we focus on dimensions where there are substantial differences related to sexual orientation.

The top two panels of Figure 1 show that straight men and women were older than those who identified as lesbian and gay, who in turn were older than those who identified as bisexual. This pattern fits with the hypotheses that norms about sexual conduct are evolving or that younger people are more willing to volunteer a non-heterosexual identity on survey questions. The second row of bar graphs in Figure 1 shows a measure of education: the share of each group that reported having a bachelor's degree or higher. Those who identified as gay or lesbian had notably higher education than those who identified as either straight or bisexual.

<sup>9</sup>While the share of women residing in their birth state did not change from 2008–2018 for women age 46 or older in different-sex couples, younger women (age 18–45) in different-sex couples, or older women in same-sex couples, it slightly increased for younger women in same-sex couples. The pattern for men, however, is weaker. For details, see Figure C4 in the online Appendix.

Figure 1

Demographic Characteristics by Individual Self-Reported Sexual Orientation



Source: NHIS 2013–2018.

Note: Weighted statistics. Sample includes all sample adults (age 18+). Tables B3 and B4 in the online Appendix reports a more extensive set of weighted summary statistics by sexual orientation, including individuals who answered “don’t know” to the sexual orientation question, who refused to answer this question, or who skipped the question. Tables B5 and B6 report unweighted summary statistics. All variables are described in Section A of the online Appendix. Numbers next to bars report mean differences with respect to straight individuals.

The third row of bar graphs in Figure 1 shows labor market participation. Here, straight women had lower labor force participation than lesbian and bisexual women, while gay men were slightly more likely to be in the labor force than straight or bisexual men. Finally, the fourth row of bar graphs shows the share with family incomes below the poverty line. Bisexual women and bisexual men had the highest share below the poverty line in each group. Such findings are in line with previous studies (Badgett 2018) and consistent with the fact that bisexual individuals may experience greater stigma, less social acceptance, and less community support than lesbian women or gay men (Herek et al. 2010). High rates of poverty are also observed for individuals who identified as “something else” when asked about their sexual orientation (Tables B3 and B4 in the online Appendix).

The NHIS data does not show especially large differences in race or ethnicity across most of these groups. We also do not see big differences in having health insurance or in having a disability across most of these groups, but previous research suggests some disparities among heterosexual and non-heterosexual individuals in terms of health insurance and access to health care (Ash and Badgett 2006; Gonzales and Blewett 2014) and health outcomes (Institute of Medicine 2011).

Unsurprisingly, the main distinctions between different-sex and same-sex couples in the 2008–2018 American Community Survey data are much the same as in the NHIS data on sexual orientation.<sup>10</sup> For example, women and men in same-sex couples were on average a few years younger than individuals in different-sex couples. Individuals in same-sex couples were twice as likely to be in college at the time of the American Community Survey than those in different-sex couples. Adults in same-sex couples were more likely to accumulate higher human capital: 43 percent of women in same-sex couples and almost half of men in same-sex couples had a bachelor’s degree or a higher educational level, compared to 34 percent of individuals in different-sex couples (Black, Sanders, and Taylor 2007; Sansone and Carpenter 2020).<sup>11</sup> Interestingly, the most striking gaps are at the highest level: both women and men in same-sex couples had a higher likelihood than those in different-sex couples to have received a master’s degree, an advanced professional degree, or a doctoral degree (21 percent versus 13 percent for women; 21 percent versus 14 percent for men).

Again, we observe higher labor force participation rates for individuals in same-sex couples than for individuals in different-sex couples. The gap between women in same-sex and different-sex couples is particularly striking (76 percent versus 62 percent), as is the gap in proportions of women working full-time (58 percent versus 41 percent). These gaps are partially explained by different fertility levels and by the fact that women in same-sex couples are more likely to be primary earners than women in different-sex couples (Antecol and Steinberger 2013). The data

<sup>10</sup> All the descriptive statistics discussed in this section have been computed using IPUMS person weights and presented in Table C9 in the online Appendix. Table C10 reports unweighted summary statistics.

<sup>11</sup> However, studies that focus on a single cohort, self-reported LGBTQ individuals, or on young adults found more complicated patterns of education, not always supporting the conclusion that LGBTQ individuals have higher educational levels than their heterosexual counterparts (Pearson and Wilkinson 2017; Sansone 2019b).

from the American Community Survey also suggest that women in same-sex couples are penalized from a double gender pay gap. Although labor force participation for women in same-sex couples was high, their personal income was lower on average than that of men in same-sex couples, and their family income was the lowest among all couple types.

### **Differences by Transgender Status**

The National Health Interview Survey and the American Community Survey do not include information on gender identity. Thus, Table 2 reports summary statistics by gender identity using data from the Behavioral Risk Factor Surveillance System. A transgender identity does not imply a particular sexual orientation: a majority of transgender respondents (61 percent) identified as straight. The comparisons here are between cisgender women, cisgender men, male-to-female transgender individuals, female-to-male transgender individuals, and individuals who are gender nonconforming.

In line with Herman et al. (2017), transgender individuals, especially those who are gender-nonconforming, were substantially more likely to be young (age 18–34) than cisgender respondents. They were also more likely to be Black or Hispanic. In contrast with the higher educational levels previously reported among gay and lesbian adults, a smaller percentage of transgender individuals graduated from college, although a larger share of transgender individuals than cisgender individuals were in school at the time of the survey.

While health disparities among transgender and cisgender individuals have been analyzed (National Academies of Sciences Engineering and Medicine 2020), it is worth emphasizing that transgender individuals were less likely to have health insurance coverage and had considerably higher disability rates. In terms of employment outcomes, labor force participation rates among transgender individuals were between those of cisgender women and cisgender men (in line with the findings of Carpenter, Eppink, and Gonzales 2020). Nevertheless, their unemployment rates were much higher: for instance, male-to-female transgender respondents had double the unemployment rate of cisgender men. Relatedly, transgender respondents were more likely to live in households with low incomes.

Relative to transgender individuals who describe themselves as male-to-female or female-to-male, transgender individuals who describe themselves as gender-nonconforming were the youngest; the least likely to be white or with a college education; and the most likely to be Hispanic, without health insurance coverage, with a disability, not in the labor force, unemployed, or in a low-income household.

## **LGBTQ Families**

Next, we describe the family structures of LGBTQ adults, paying particular attention to marriage, partnership, and cohabitation as well as the presence of children. In some ways, the patterns we find are updates of previously published

Table 2

**Demographic Characteristics by Gender Identity**

			<i>Transgender</i>		<i>Transgender Non-conforming</i>
	<i>Cisgender women</i>	<i>Cisgender men</i>	<i>Male to female</i>	<i>Female to male</i>	
<i>Demographic characteristics:</i>					
Age 18–34	0.26	0.29	0.33	0.39	0.54
Age 35–49	0.23	0.24	0.21	0.24	0.14
Age 50–64	0.27	0.27	0.29	0.20	0.19
Age 65+	0.23	0.19	0.17	0.17	0.12
White	0.77	0.76	0.69	0.69	0.65
Black	0.14	0.12	0.16	0.20	0.16
Asian	0.06	0.06	0.08	0.06	0.09
Other races	0.04	0.05	0.06	0.05	0.10
Hispanic	0.15	0.15	0.19	0.19	0.22
<i>Education and health:</i>					
College education	0.27	0.26	0.13	0.12	0.18
Student	0.06	0.05	0.06	0.09	0.13
Any health insurance coverage	0.90	0.87	0.81	0.80	0.85
Any disability	0.25	0.20	0.33	0.37	0.43
<i>Employment and income:</i>					
In the labor force	0.55	0.70	0.63	0.58	0.55
Unemployed (versus employed)	0.09	0.08	0.16	0.11	0.20
Total household income below \$50,000	0.54	0.47	0.66	0.66	0.63
Total household income below \$15,000	0.12	0.08	0.20	0.19	0.16
Observations	538,135	408,503	1,868	1,330	877

Source: BRFSS 2014–2018

Note: Weighted statistics. “Observations” refers to the total number of respondents (age 18+) in the relevant sub-group. In addition to the statistics presented in this table, Tables D2-D3 in the online Appendix report summary statistics by sexual orientation for men and women, respectively; these tables show gaps between heterosexual, gay, lesbian, bisexual, and queer individuals qualitatively similar to those highlighted in Figure 1 using NHIS data. Table D4 in reports unweighted summary statistics by gender identity, while Table D5 reports weighted summary statistics also for individuals who answered “don’t know” to the gender identity question, who refused to answer this question, or who skipped the question.

work (Black et al. 2000; Black, Sanders, and Taylor 2007; Carpenter and Gates 2008; Oreffice 2011; Gates 2015a; 2015b; Sansone 2019a), though we make two new contributions. First, we describe family structures of LGBTQ individuals in addition to same-sex couples. Second, we provide the most up-to-date, nationally representative estimates of partnership and marriage rates for LGBTQ-identified individuals.

### Marital Status and Presence of Children

Using data from the 2013–2018 National Health Interviews Survey, Table 3 shows that partnership rates—the share of individuals who reported being married or living with a partner—were similar for lesbians (53 percent) and heterosexual women (59 percent) but were lower for bisexual women (40 percent). While the

*Table 3*  
**Marital Status by Sexual Orientation**

	<i>Women</i>			<i>Men</i>		
	<i>Straight</i>	<i>Lesbian</i>	<i>Bisexual</i>	<i>Straight</i>	<i>Gay</i>	<i>Bisexual</i>
Married	0.52	0.27	0.22	0.57	0.21	0.20
In an unmarried couple	0.07	0.26	0.18	0.07	0.22	0.10
Divorced	0.11	0.06	0.08	0.08	0.05	0.10
Separated	0.02	0.01	0.04	0.02	0.01	0.02
Widowed	0.09	0.01	0.02	0.03	0.01	0.02
Never married	0.20	0.38	0.47	0.24	0.51	0.56
Observations	97,909	1,424	1,235	80,191	1,752	509

*Source:* NHIS 2014–2018

*Note:* Weighted statistics. Sample includes all sample adults (age 18+). Individuals are coded as children based on their relationship with the household primary reference person. Online Appendix Table B7 reports statistics for individuals who identified as “something else” when asked about their sexual orientation. Table B8 contains unweighted statistics.

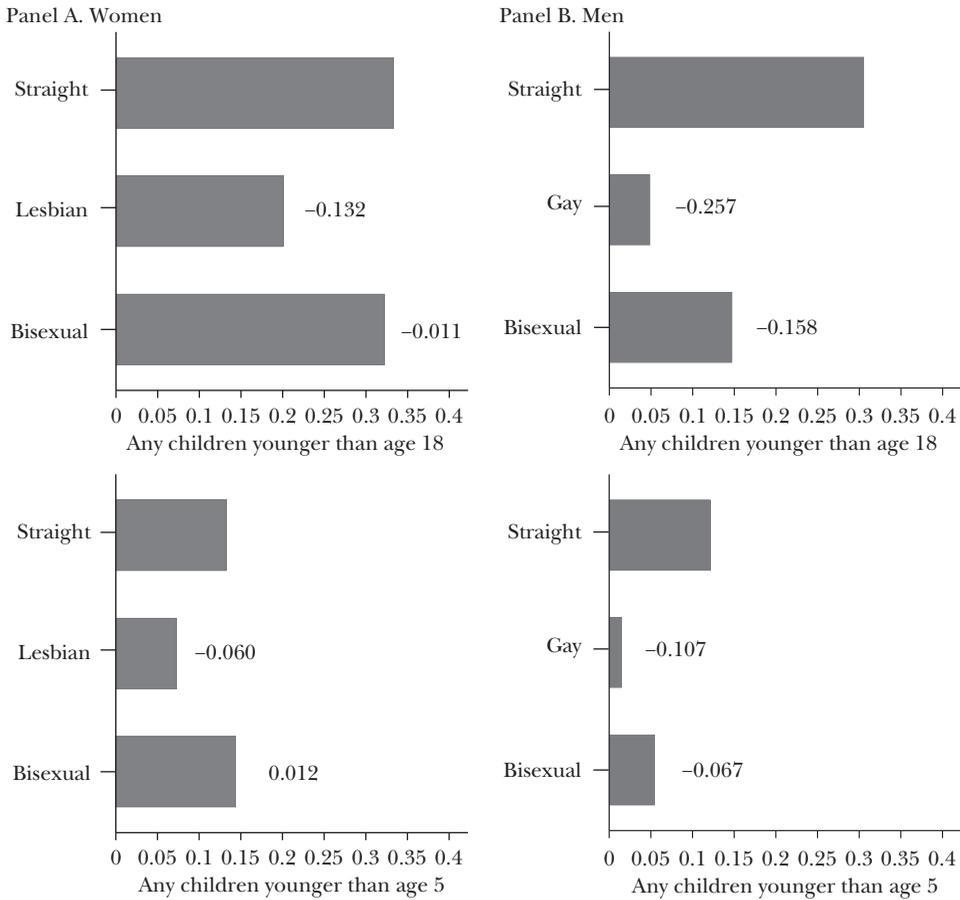
overwhelming majority (88 percent) of partnered heterosexual women reported being married as opposed to being in an unmarried couple, for lesbian women partnership was nearly equally split between the two categories.

For men in Table 3, we observe that heterosexual men had much higher partnership rates (64 percent) than gay men (43 percent) or bisexual men (30 percent). These partnership rates using recent nationally representative samples for gay men and lesbians are very similar to those reported by Carpenter and Gates (2008) for adults in California. Also, among partnered heterosexual men, the overwhelming majority (89 percent) reported being married as opposed to being in an unmarried couple, while for gay men partnership is nearly equally split between the two categories. All sexual minority women were much more likely than heterosexual women to report that they were never married, and the identical pattern is observed for men.

Figure 2 presents the share of individuals with children under age 18 and children under age five in the household separately by sexual orientation.<sup>12</sup> Unsurprisingly, Panel A shows that heterosexual women were the most likely to have children in the household, though the associated share of bisexual women with children was nearly identical (33 versus 32 percent). Fully 20 percent of self-identified lesbian women had children in the household, with 7 percent having young children. For men in Panel B of Figure 2, while the share of heterosexual men with children in the household is very similar to the associated share of

<sup>12</sup>The belief that children raised by LGBTQ parents might be harmed in some way has been extensively studied by social scientists for decades without finding evidence of developmental or other harms (for example, Patterson 2005; Boertien and Bernardi 2019).

*Figure 2*  
**Presence of Children by Sexual Orientation**



Source: NHIS 2014–2018.

Note: Weighted statistics. Individuals are coded as children based on their relationship with the household primary reference person. Only sample adults (age 18+) who are the household primary reference person, or their spouse, or their unmarried partners have been considered. All statistics are reported in tabular form in Table B7 in the Online Appendix. Table B8 reports unweighted summary statistics. Numbers next to bars report mean differences with respect to straight individuals.

heterosexual women (as expected), far fewer gay and bisexual men had children in the household.

Based on the NHIS data, we cannot say whether the child was from a previous relationship, including previous different-sex marriages and partnerships. Biological differences in the costs of adding children to a household could contribute substantially to the childrearing differences across groups. A complicating factor

here is that the vast majority of *both* partnered bisexual women (87 percent) and partnered bisexual men (90 percent) were in different-sex relationships (as opposed to same-sex relationships). The lower rates of partnership for gay and bisexual men compared to those for lesbian and bisexual women could also play a role in the lower rates of childrearing, as could discrimination against male same-sex couples by foster care or adoption agencies (Mackenzie-Liu, Schwegman, and Lopoo forthcoming).

These differences in rates of children present in the household are also present in comparisons of same-sex couples and different-sex couples using the American Community Survey (see Tables C11 and C12 in the online Appendix). Using detailed information on relationship of children to the household primary reference person in the American Community Survey, we found that men and women in same-sex couples were much more likely to have adopted children or stepchildren in the household than men and women in different-sex couples (as also found earlier by Gates 2015a). The overwhelming majority (95 percent) of different-sex households with any children were composed of households with biologically-related children.

### Partnership Dynamics

We can also use the NHIS data to explore partnership dynamics.<sup>13</sup> Although several studies have examined homogamy and assortative mating among same-sex couples (Jepsen and Jepsen 2002; Ciscato, Galichon, and Goussé 2020), far less work has examined partnership formation among all sexual minority individuals, including single gay men, lesbians, and bisexual individuals. Specifically, we can compare those not in a partnership to those in a partnership, and we then further divide the partnered group into those living with a same-sex partner and those who are married. Because the data consists of cross-sectional snapshots, comparisons between non-partnered and partnered individuals could reflect any potential effects of partnership on some of the outcomes (for example, investments in education), and these will be empirically indistinguishable from selection effects.

Compared to non-partnered lesbian women, partnered lesbian women were older (average age of 44.3 versus 39.3 years), more likely to be white (84 versus 70 percent), more likely to have children in the household (25 versus 10 percent), more likely to have a bachelor's degree (52 versus 27 percent), less likely to have a disability (18 versus 24 percent), more likely to be in the labor force (80 versus 64 percent), less likely to be poor (7 versus 23 percent), and more likely to own a home (63 versus 45 percent). There are complex associations related to marriage: on the one hand, compared to lesbians in a same-sex unmarried partnership, married lesbians were older, more likely to have children in the household, more likely to have a college education, and more likely to have health insurance than lesbians who were in a same-sex unmarried partnership. These patterns are

<sup>13</sup>Tables B9–B11 in the online Appendix present detailed cross-tabulations of demographic characteristics by partnership status and sexual orientation.

similar to the patterns observed between non-partnered and partnered lesbians. On the other hand, compared with lesbians in a same-sex unmarried partnership, married lesbians were slightly less likely to be in the labor force, less likely to be full-time employed, and—despite these patterns—were much less likely to have low family incomes and to be in poverty compared with lesbians who were in a same-sex unmarried partnership. Married lesbians were also much more likely to be homeowners than lesbians who were in a same-sex unmarried partnership. One hypothesis for explaining these patterns is that married lesbians may be more likely to have a household division of labor in which one person is the predominant income-earner.

For gay men, the patterns regarding non-partnered and partnered individuals are broadly similar to those observed for lesbian women. Among those gay men who are partnered, the gay men who reported being married were older (average age of 48 years versus 43.2 years) and less likely to be working full-time (60 versus 66 percent) than gay men who reported living with a same-sex partner. However, for gay men the association of marriage (conditional on same-sex partnership) with race, US citizenship, college education, disability, personal and family income, poverty status, and homeownership was either more muted or went in the opposite direction than for lesbians.

### **Family Outcomes among Transgender Individuals**

For patterns on family outcomes by self-identified transgender status, we turn again to data from the 2014–2018 Behavioral Risk Factor Surveillance System. As shown in Table 4, transgender people were less likely to be married than cisgender people, though between 33 and 41 percent of transgender individuals reported being married, and a substantial share (3–11 percent) of the transgender population also reported being in an unmarried couple. Many transgender individuals resided with children: 41 percent of individuals who described themselves as transgender, female-to-male were living in households with children present, which is actually higher than the associated shares for cisgender men and women.

It is worth mentioning that the Behavioral Risk Factor Surveillance System questionnaire does not specifically ask about the number of respondents' children, but only the number of children living in the household. The BRFSS shares of transgender people with children in the household is consistent with previous studies and other surveys from the United States (Meyer et al. 2017), although it is higher than estimates from Dutch administrative registry data (Geijtenbeek and Plug 2018).

### **Legal Access to Same-Sex Marriage**

Prior to 2004, LGBTQ people in same-sex couples in some US states had access to civil unions and/or domestic partnerships. These policies varied greatly; some states granted nearly all the same benefits as were afforded to different-sex married couples, while in other states that status was primarily symbolic. Massachusetts was

*Table 4*  
**Family Outcomes by Gender Identity**

	<i>Cisgender women</i>	<i>Cisgender men</i>	<i>Transgender, male to female</i>	<i>Transgender, female to male</i>	<i>Transgender, gender non-conforming</i>
<i>Marital status:</i>					
Married	0.50	0.53	0.41	0.39	0.33
In an unmarried couple	0.04	0.05	0.06	0.03	0.11
Divorced	0.12	0.10	0.12	0.10	0.08
Separated	0.03	0.02	0.04	0.03	0.03
Widowed	0.11	0.04	0.05	0.09	0.07
Never married	0.21	0.27	0.32	0.36	0.39
<i>Presence of children:</i>					
Any child in the household	0.38	0.34	0.28	0.41	0.28
Observations	538,135	408,503	1,868	1,330	877

*Source:* BRFSS 2014–2018

*Note:* Weighted statistics. “Any child in the household” only includes children less than 18 years of age. “Observations” refers to the total number of respondents (age 18+) in the relevant sub-group. Table D6 in the online Appendix contains unweighted statistics.

the first state to legalize same-sex marriage in the United States in 2004 through a state Supreme Judicial Court ruling.

The US Supreme Court considered same-sex marriage in both *US v. Windsor* (570 US 744 [2013]) and *Obergefell v. Hodges* (576 US 644 [2015]). In *Windsor*, the Supreme Court ruled that same-sex marriages legally performed in states that permitted it were entitled to be recognized as full legal marriages by the federal government, striking down the part of the 1996 Defense of Marriage Act that had defined marriage as between one man and one woman for federal purposes. Two years later, the Supreme Court legalized same-sex marriage nationwide in *Obergefell*, effectively ruling that denying same-sex couples the right to legal marriage violated the Due Process Clause and Equal Protection Clause of the Constitution.

Economists contributed greatly to the same-sex marriage debate, both as expert witnesses in the court cases (Badgett 2009) and as social scientists evaluating the effects of legal access to same-sex marriage.<sup>14</sup> For example, a sizable literature has evaluated the effects of changes in legal recognition of same-sex couples on marriage take-up using difference-in-differences methods. Dillender (2014) found

<sup>14</sup>Parallel legal changes in recognition of same-sex relationships also occurred in countries throughout North and South America, Western Europe, and Australia. Economists have, in particular, studied how the diffusion of these policies within and across Europe affected outcomes such as different-sex marriage rates (Trandafir 2015) and sexually transmitted infections (Dee 2008). A literature in economics and political science has found that legal recognition of same-sex relationships improved attitudes toward sexual minorities in both the United States (Flores and Barclay 2016) and Europe (Aksoy et al. 2020), though Ofose et al. (2019) found evidence of backlash effects where the judicial imposition of legal same-sex marriage led to increased implicit and explicit bias against sexual minorities.

no evidence that granting relationship recognition to same-sex couples changed different-sex US marriage rates. Carpenter (2020) studied legal same-sex marriage in Massachusetts in 2004 and found significantly increased marriage take-up among self-identified gay men, lesbians, and bisexual women, with no negative effect on marriage among heterosexuals. Carpenter et al. (forthcoming) examined data from 2000–2018 spanning the rollout of legal access to same-sex marriage and found that marriage equality in an individual's state significantly increased take-up of marriage among individuals in same-sex households, with no effects for individuals in different-sex households.

Regarding economic and social outcomes, economists have studied the effects of legal same-sex marriage using timing variation in a difference-in-differences framework. Sansone (2019a), using variation across states in the timing of legal access to same-sex marriage and data from the American Community Survey, the Survey of Income and Program Participation, and Google Trends, found evidence that marriage equality significantly increased probabilities of being employed among individuals in same-sex couples. He argued that a key mechanism was reduction in discrimination against sexual minorities. Hansen, Martell, and Roncolato (2019) examined data from the American Community Survey, March Current Population Survey, and American Time Use Surveys and found that legal access to same-sex marriage did not change labor supply decisions of men in same-sex couples, but significantly reduced hours of work for women in same-sex couples, particularly for the lower earner within the household. They suggested that marriage equality increased specialization within the households of female same-sex couples. Hamermesh and Delhomme (forthcoming) find that legal same-sex marriage induced greater investments into same-sex relationships: specifically, marital surplus and homeownership for same-sex couples was not strongly related to the duration of the relationship when there was no legal same-sex marriage; in contrast, legal access to same-sex marriage was associated with positive returns to relationship duration with respect to marital surplus and homeownership. Miller and Park (2018) find that legal same-sex marriage was associated with significant increases in applications for mortgage credit for same-sex couples. Carpenter et al. (forthcoming) find that legal access to same-sex marriage increased health insurance coverage and access to care for men in same-sex households. As we note below, more research is needed to understand the full range of outcomes that were affected by same-sex marriage legalization.

## **Labor Market Discrimination and the LGBTQ Population**

Historically, LGBTQ people have faced discrimination in employment, with outright bans in federal employment and, in some places, teaching professions in the 1950s and 1960s, continuing to the recently lifted ban on transgender people serving in the military. It is plausible that employment discrimination still exists to some degree. However, such discrimination is now illegal as a result of the 2020

Supreme Court ruling in *Bostock v. Clayton County* in which the Court found that discrimination against LGBTQ people is a form of sex discrimination prohibited under Title VII of the Civil Rights Act of 1964. This ruling affirmed the Equal Employment Opportunity Commission's 2013 decision to treat sexual orientation and gender identity complaints as sex discrimination charges. These two actions expanded discrimination protections beyond the 22 states that outlawed sexual orientation and/or gender identity discrimination in employment to the entire country.

Researchers have approached the question of discrimination against LGBTQ people with methods similar to studies of discrimination with respect to race, sex, disability, and other characteristics. In this section, we review experimental studies of the job application process, observational studies of wage differences by LGBTQ status, other evidence of discrimination, and the role of public policy. We also assess potential theoretical explanations for observed employment and wage outcomes.

### **Experimental Evidence of Discrimination**

Studies of employment discrimination in many areas have increasingly used experimental methods to assess discrimination in job searches (Neumark 2018), and a growing body of research using similar methods examines discrimination against LGBTQ people (Valfort 2017; Neumark 2018; Granberg, Andersson, and Ahmed 2020). These studies provide the strongest evidence that being LGBTQ causes differential treatment.

In these studies, sexual orientation is usually indicated on a resume through membership in an LGBTQ organization or on a social media profile—for example, a man indicating that he is interested in men (Acquisti and Fong 2020). Studies sometimes incorporate common local features of job applications to enhance variation in other potentially relevant characteristics, such as including pictures of women wearing flowing clothes (a more feminine gender presentation) and women wearing more tailored clothes (indicating a more masculine gender presentation, Weichselbaumer 2003). Gender identity is usually indicated by organization membership, name markers, or gender/sex markers.

The large majority of such studies found that LGBTQ job candidates were significantly less likely to be invited for an interview or to be offered a job. The experimental studies also suggest some of the underlying reasons for the discrimination observed. Employers may be displaying their distaste for employing LGBTQ people in their differential treatment of effectively identical applicants. Some studies have instead tested for evidence of statistical discrimination, which could be at work if employers use applicants' LGBTQ status to infer job-related characteristics (Arrow 1973). Studies testing for statistical discrimination hypothesize that employers assume that LGBTQ people are gender nonconforming and less likely to adhere to behavior that reflects a "legitimate" job requirement (which may be debatable in many contexts). Tilcsik (2011) found that employers discriminate more against gay male applicants when job ads seek stereotypical male

qualities like aggressiveness, decisiveness, assertiveness, and ambition. Lesbians, in contrast, should have an advantage in seeking work because they are less likely to have children. The experimental evidence for statistical discrimination in favor of lesbians is mixed, however (Weichselbaumer 2003; Baert 2014).

### **Wage and Income Differences**

Another traditional approach to testing for discrimination is to compare the earnings of LGBTQ to non-LGBTQ people, holding relevant observable factors constant, although wage differences could also reflect differences in unobserved characteristics rather than direct discrimination. In studying wage or earnings gaps for LGBTQ people, the convention has been to make sexual orientation comparisons within groups of men or women (typically using survey questions that did not allow identification of transgender respondents), while holding other influences on wages or incomes constant. To our knowledge, no existing study of population-based data has access to information about whether LGBTQ people have disclosed their identity to people in the workplace.

Reviews of the international body of research that includes data from several advanced economies has found a fairly consistent pattern for men: gay/bisexual men earned less than heterosexual men with the same education, age (or potential experience), race, marital status, geographic location, and other controls. For example, Klawitter (2015) found in a meta-analysis that on average gay/bisexual men earned 11 percent less than heterosexual men with the same characteristics. More recent reviews, notably Valfort (2017), continued to find negative earnings gaps for gay/bisexual men, as have most other studies published since then (Burn 2019; Aksoy, Carpenter, and Frank 2018). Some studies also found larger negative earnings gaps for bisexual men than for gay men (Aksoy, Carpenter, and Frank 2018).

The earnings patterns for women of different sexual orientations differ from those for men. Both Klawitter (2015) and Valfort (2017) found that earnings for lesbian/bisexual women were often higher than for heterosexual women (however, all groups of cisgender women, regardless of sexual orientation, tended to earn less than groups of cisgender men). Klawitter's meta-analysis found an average lesbian wage premium of 9 percent, and studies using data from the 1990 and 2000 Census showed a range of 7–8 percent higher earnings for women in same-sex couples. However, the measured differences for women varied widely across studies, ranging from –25 percent to 43 percent. In US studies, controlling for hours and weeks worked reduced the premium seen for lesbians. Recent studies of US data find mixed patterns: for example, Carpenter and Eppink (2017) showed higher earnings for lesbians and Martell (2019) showed lower earnings. A limitation of this literature—common to most studies of the gender gap in wages—is the difficulty in credibly accounting for the endogeneity of labor force participation, which is particularly relevant for comparisons of labor market outcomes between lesbian and heterosexual women.

Questions about gender identity rarely appear on representative surveys, making similar comparisons for transgender people difficult. Carpenter, Eppink,

and Gonzales (2020) found in the 35 states with information on gender identity in the Behavioral Risk Factor Surveillance System data that transgender-identified people had lower household incomes and lower employment rates than cisgender men with similar observed characteristics. Another study matched Dutch tax records and population registries to compare transgender people pre- and post-transition (Geijtenbeek and Plug 2018), finding that transgender female-to-male individuals earned much less per hour before transitioning than cisgender men, and their earnings changed very little after their transitions. In contrast, transgender, male-to-female individuals had similar hourly earnings compared to cisgender men when they were pre-transition, but saw a large drop in earnings and hours post-transition.

### **Discrimination or a Different Household Division of Labor?**

The common findings of a negative wage gap for gay and bisexual men but a positive wage gap for lesbian and bisexual women raise obvious questions. Previous research in economics and sociology has found support for both discrimination and family decisions as explanations for wage and income gaps.

The audit studies mentioned earlier support the hypothesis of discrimination against LGBTQ cisgender men and women and against transgender people. In addition, some studies of wage or employment gaps include variables that should capture some aspect of discrimination, such as statewide measures of nondiscrimination policies and public attitudes. The wage gap for men in same-sex couples is lower in states with a lower degree of prejudice (Burn 2019). States with nondiscrimination laws that include sexual orientation have somewhat lower earnings gaps for gay men (Burn 2018; Martell 2013). Tilcsik (2011) also found less differential treatment of gay male applicants when an employer was located in a state with a nondiscrimination law. When states opened up marriage to same-sex couples, men and women in same-sex couples worked more hours, and wages increased for men in same-sex couples, possibly reflecting a decline in discrimination (Sansone 2019a). Studies of self-reports of unfair treatment as well as discrimination complaints filed also offer evidence consistent with discrimination (Badgett, Baumle, and Boutcher 2020; Cech and Rothwell 2020).

Household structure of LGBTQ people might also contribute to wage gaps if people who partner with (or expect to partner with) a person of the same sex make different decisions about human capital investments and labor force attachment than those who plan to partner with a different-sex partner (Badgett 1995a; Antecol and Steinberger 2013; Black, Sanders, and Taylor 2007). Klawitter's (2015) meta-analysis found the largest wage differences in studies of data on same-sex couples, but the evidence on this point since then is mixed. In a UK study, only coupled people showed the gay-male penalty/lesbian-premium pattern (Aksoy, Carpenter, and Frank 2018), but a similar US study did not find that pattern (Carpenter and Eppink 2017).

Some studies have offered a Becker-style story of the household division of labor for people in same-sex couples that might differ by sex (Becker 1991). If gay men do not expect to support a partner and children, they might invest less in

unobserved human capital than heterosexual men do. But in most datasets, gay men have higher levels of education (as noted earlier), so it seems unlikely that unobserved human capital would be much lower for them. The household division of labor hypothesis could be a better explanation for the positive wage gap for lesbians. Although evidence from labor market and time-use studies suggests that female same-sex couples specialize to some extent, particularly when they have children, lesbian women might be more committed to the paid labor market because they are not likely to have a higher earning (male) partner to provide for them (Antecol and Steinberger 2013; Hansen, Martell, and Roncolato 2019). As a result, lesbians may invest more in human capital (education and labor force experience) that will raise their wages compared to heterosexual women. Because the data used in the wage gap studies typically include only measures of education but not actual experience, these studies might underestimate the advantage that lesbians have in actual experience that could explain their higher earnings.

Economists have used different strategies to capture lesbians' possible differences in labor market commitment and experience. Several studies have used an interaction term for being lesbian and potential experience and have found that the return on a year of potential experience (age minus years of education minus five), is higher for lesbians than for heterosexual women, as we would expect if potential experience is a better measure of actual experience for lesbians (Martell 2019). The lesbian wage premium becomes smaller or even negative when including that interaction. Also, the wage premium for women in same-sex couples is larger for those who were never married to men (Daneshvary, Waddoups, and Wimmer 2009) and those who are older (Martell 2019). Taken as a whole, this evidence suggests that lesbians have higher earnings in part because of a greater commitment to the paid labor force, an adaptation that could also offset both their earnings disadvantage as women and the potential negative effect of discrimination.

### **Changes over Time**

We know little about whether rising acceptance of LGBTQ people has translated into changes in economic status. Klawitter's (2015) meta-analysis found that estimates of the wage gap for gay/bisexual men and the wage premium for lesbian/bisexual women are decreasing over time, but the trend is statistically insignificant after controlling for other characteristics of the studies. Other studies seeking to study the decline in the wage gap over time have been limited by small sample sizes and varying measures of sexual orientation.

To update earlier approaches with a larger dataset, we estimate wage gaps by year using the American Community Survey, which offers large samples of women and men in same-sex couples each year from 2000–2018. We restrict the respondents' age to be between 25 and 65 in this analysis, because we are focusing on labor market outcomes.<sup>15</sup> We focus on trends in wages, as trends in labor force

<sup>15</sup>Table C1 in the online Appendix reports detailed sample sizes by year, sex, and couple type. Independently of this study, Jepsen and Jepsen (2020) present related analyses.

participation were similar across couple types. To look at the trend in wage gaps, we estimate the inflation-adjusted hourly wage by dividing a respondent's annual wage and salary income by an estimate of hours worked in that year.

Panel A in Figure 3 presents wage gaps adjusted for demographic controls (age, race, ethnicity, education, citizenship, and disability) and state fixed-effects going back to 2000 for women in same-sex couples who usually worked full-time.<sup>16</sup> The lesbian premium fell from 10 percent in 2000, half the 20 percent gap in 1990 (Klawitter and Flatt 1998), to nearly zero by 2018.<sup>17</sup> A similar exercise for men in Panel B of Figure 3 shows a wage gap for men in same-sex couples that is negative every year, with no obvious trend, other than being much closer to zero than the estimated 26 percent gap in 1990 (Klawitter and Flatt 1998).

Our earlier discussion of data quality found that over time the sample composition of same-sex couples has become younger and more racially diverse, possibly because these groups are now more willing to report being in a same-sex couple. Further research is needed to assess the extent and impact of reporting bias and other factors on the diverging wage gaps for men and women.

### **Other Kinds of Discrimination**

Several studies have found that lesbian, gay, and bisexual people work in different occupations than heterosexual people. The extent of occupational sorting for lesbian, gay and bisexual people is associated with more tolerant work settings and places where disclosure is less risky (Plug, Webbink, and Martin 2014). In addition, gender plays a smaller role in shaping the occupational positions of lesbian, gay and bisexual people than for heterosexual people (Del Río and Alonso-Villar 2019), which could be the result of gender stereotypes making it harder for lesbian, gay, and bisexual people to be accepted into occupations that are more traditional for people of their sex (Drydakis 2015; Tilcsik 2011). Other research found that LGB people were less likely to reach upper-level managerial jobs, suggesting the possibility that a glass ceiling holds back LGBTQ progress up job ladders (Aksoy et al. 2019).

Other workplace-related differentials are also apparent. In the United States, health insurance benefits offered by employers traditionally covered different-sex spouses of employees, but not necessarily same-sex partners. Although we are not aware of studies in the economics literature that have used large representative datasets to study transgender employees' workplace experiences, the lack of gender transition-related care in employer health benefits and issues such as access

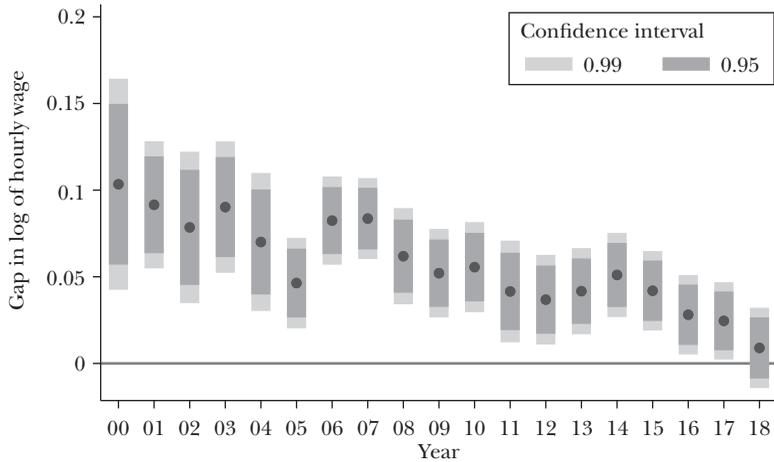
<sup>16</sup>As discussed in Section C.1 of the online Appendix, the American Community Survey 2000–2007 have higher rates of misclassification errors. Nevertheless, we have decided to include here observations from these years to estimate longer trends in the wage differentials.

<sup>17</sup>As shown in Figures C5–C11, similar trends are observed when examining the raw wage gap, as well as when excluding state fixed effects, when including part-time workers, when including outliers in the wage distribution, when replicating the analysis without survey weights, when excluding individuals in different-sex unmarried couples, or when not adjusting wages for inflation.

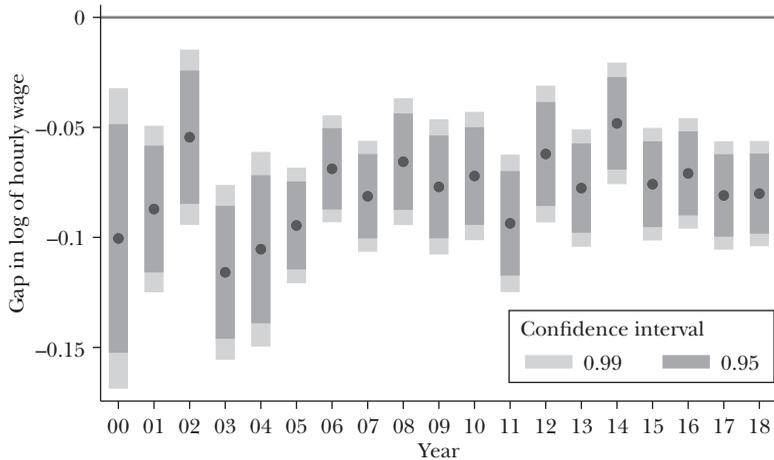
Figure 3

**Gap in Hourly Wage for Individuals in Same-Sex versus Individuals in Different-Sex Couples**

Panel A. Full-time women workers, with demographic controls and state fixed effects



Panel B. Full-time men workers, with demographic controls and state fixed effects



Source: American Community Survey 2000–2012

Notes: These figures report the estimated gap between women (men in Panel B) in same-sex couples and women (men) in different-sex couples from 19 different regressions, one for each year. The dependent variable is the logarithm of the respondent's total pre-tax wage and salary income in the 12 months preceding the American Community Survey interview divided by the estimated number of hours worked in the same 12 months. All wages have been adjusted for inflation using the FRED Consumer Price Index for All Urban Consumers (All Items). Only respondents age 25–64 have been considered. Respondents whose hourly wage was above the 99th percentile of the hourly wage distribution for women (men) in same-sex and different-sex couples have been excluded. Only respondents with a positive hourly wage and working at least 40h/week have been included in the analysis. Both married and unmarried couples included in this sample. Weighted regressions using person weights. Confidence intervals computed using heteroskedasticity-robust standard errors.

to sex-segregated facilities and identification documents have been documented (National Academies of Sciences, Engineering, and Medicine 2020).

Housing discrimination is another growing research area. Several audit studies have tested the treatment of LGBTQ and non-LGBTQ applicants while searching for rental housing, finding evidence that prospective landlords discriminate against LGBTQ applicants (Ahmed and Hammarstedt 2009; Levy et al. 2017; Schwegman 2019). Other analyses of outcomes for actual mortgage loan applications finds evidence of discrimination against LGBTQ people in mortgage lending (Sun and Gao 2019).

## Discussion and Conclusion

New and better data, taken together with the evolution of cross-jurisdiction law and rules affecting the LGBTQ population, have expanded the possibilities for high-quality studies in the area of LGBTQ economics. Continuing methodological work on measures of sexual orientation and gender identity will improve the value of these surveys for studying LGBTQ people (National Academies of Sciences Engineering and Medicine 2020). There are also a number of important research areas for economists.

First, more research is needed on transgender populations. We are not aware of any studies that use nationally representative samples to examine economic outcomes for transgender people, and we aware of only one study with nationally representative samples looking at economic patterns before and after transitions (Geijtenbeek and Plug 2018). This will likely require large surveys, such as the Current Population Survey or the American Community Survey, to include questions on gender identity, as Canada plans for its 2021 Census (LeBlanc 2020). Alternatively, as states increasingly allow individuals to change gender markers on legal documents, administrative data linkages (for example, with state unemployment insurance records) could provide evidence on outcomes for transgender people.

Second, previous research from sociology and psychology suggests the possibility of racial and ethnic heterogeneity in outcomes for sexual and gender minorities (Pedulla 2014; Schwegman 2019). However, small sample sizes have hindered the study of racial or ethnic differences in the earnings effects of sexual orientation. We carried out some cross-tabulations using our largest source of data—from the American Community Survey—to document socioeconomic and demographic outcomes by gender, couple type, and race (Table C13 in the online Appendix). While white and Hispanic women in same-sex couples have much higher education, labor force participation, and full-time employment rates than their same-race female counterparts in different-sex couples, these differences across couple type are much smaller or absent for Black and Asian women. Differences related to age, cohort, nationality, religion, geographic location, or rural/urban status within the LGBTQ population are also worthy of exploration.

Third, more research is needed concerning public policies relating to LGBTQ populations. While a literature on the effects of marriage equality is growing (as described above), more research is needed to understand the effects of legal access to same-sex marriage on savings and investment behavior, wealth, family formation (and divorce rates), and physical and mental health. Future research should explore the effect of the 2020 US Supreme Court ruling in *Bostock v. Clayton County* that employment discrimination based on sexual orientation and gender identity is illegal. Economists should also study the causes and consequences of policies that particularly affect LGBTQ individuals, such as health insurance reforms, religious freedom exemptions from nondiscrimination policies, or bills requiring students to use the bathroom consistent with their sex assigned at birth.

Fourth, there is a need for research on LGBTQ people in developing countries (Badgett 2020), where policy changes have gone in very different directions. On one side, India's Supreme Court decriminalized homosexuality in 2018, Taiwan legalized same-sex marriage in 2019, and Costa Rica introduced marriage equality in 2020. In contrast, anti-LGBTQ laws have been enacted in Hungary, Poland, Russia, Tanzania, and Uganda (Mendos 2019). More knowledge about the economic conditions and challenges faced by LGBTQ people, including the economic impact of these LGBTQ policy changes (Badgett, Waaldijk, and Rodgers 2019; Badgett 2020), could provide evidence to guide future decisions by development agencies and government actors.

Among the fields of economics, labor and demographic economists have been leaders in studying LGBTQ people. However, there are numerous research opportunities for health economists, public economists, development economists, economic historians, and macroeconomists to contribute their expertise to research questions addressing this important population.

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