

A review of the effects of legal access to same-sex marriage

M. V. Lee Badgett¹ | Christopher S. Carpenter² | Maxine J. Lee³ | Dario Sansone⁴

¹Department of Economics, University of Massachusetts – Amherst, Amherst, Massachusetts, USA

²Department of Economics, Vanderbilt University, Nashville, Tennessee, USA

³Department of Economics, San Francisco State University, San Francisco, California, USA

⁴Department of Economics, University of Exeter, Exeter, UK

Correspondence

Christopher S. Carpenter, Department of Economics, Vanderbilt University, 2301 Vanderbilt Place, Nashville, TN 37235.
Email: christopher.s.carpenter@vanderbilt.edu

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Abstract

On June 26, 2015, the United States Supreme Court extended nationwide legal access to same-sex marriage in *Obergefell v. Hodges*, following a series of court cases and legislative activities at the state and district levels. Similar policies have diffused throughout other countries, especially in western Europe and the Americas. Researchers have used the staggered rollout of legal same-sex marriage and related policies in the U.S. and elsewhere, along with improved data on lesbian, gay, and bisexual people, to study the effects of marriage equality. In this paper, we review this evidence, focusing on outcomes such as societal attitudes, marriage take-up, family formation, employment, time use, health insurance coverage, and health. We discuss conceptual frameworks for understanding the likely effects of same-sex marriage; methodological considerations for studying treatment effects; the policy context surrounding legal same-sex marriage, including the 2023 Respect for Marriage Act; and important areas for future research.

INTRODUCTION

One of the most striking changes to the social and policy landscape in the U.S. and elsewhere has been the adoption of legal same-sex marriage. As recently as 2010, a majority of U.S. adults opposed legal same-sex marriage. By 2021, over 70% supported it, including the majority of Republicans (McCarthy, 2023). The path to legal marriage equality has been similarly dramatic: in 2004, Massachusetts became the first state in the U.S. to allow legal same-sex marriage; 11 years later, same-sex marriage was made legal nationwide in a U.S. Supreme Court ruling in *Obergefell v. Hodges* (2015). The speed and scope of these changes are notable compared to associated improvements in views and policies related to gender and race in the U.S., for example, which changed much more slowly and incrementally.

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At the heart of these changes in policies and public opinion was a vigorous and sometimes rigorous public debate. Much of that debate was normative and involved whether to apply the principle of fair and equal treatment to open up an important social and legal institution—the right to marry—to same-sex couples. Alongside that normative debate was an important and high-profile debate about the consequences of allowing same-sex couples to marry. The potential consequences raised reflected various positions in the debate. In particular, opponents raised concerns about negative consequences for religious freedom of businesses and individuals, for the well-being of children raised by same-sex couples, for state and federal budgets, and for the willingness of different-sex couples to marry. Proponents of the right to marry, whether LGBTQ+ individuals or allies, pointed to the positive economic and social value that would accrue to same-sex couples who married.¹ A third group, mainly a subgroup of the LGBTQ+ community, opposed having marriage equality as a political priority, arguing that marriage is a patriarchal institution, and buying into it would stigmatize LGBTQ+ people who did not marry and dampen efforts to make marriage less necessary.

During the debate, policy-oriented social scientists took these predictions of consequences seriously, drawing on new sources of data, natural experiments, and various analytical methods to assess their plausibility. Since marriage equality became the law of the land in the U.S. in 2015, a robust complementary literature has emerged that documents whether, how, and to what extent legal same-sex marriage has affected a range of policy-relevant outcomes. Most of this literature examines outcomes before and after individual states granted legal same-sex marriage, often comparing outcomes for sexual minority individuals to the associated changes in outcomes for heterosexual individuals. Other studies have used the staggered rollout of legal same-sex marriage availability across space and time in an attempt to reach more general conclusions. This research has been carried out primarily by public policy scholars, economists, sociologists, political scientists, and public health scholars. It has been published in a wide range of journals in those fields, including the *Journal of Policy Analysis and Management*.²

In this paper, we provide a comprehensive review of this body of research that has studied the effects of legal same-sex marriage on a range of policy-relevant outcomes. We begin with a discussion of the background of how legal same-sex marriage has diffused throughout the U.S. and western Europe (where the vast majority of the research has focused), and we also discuss policy alternatives to legal same-sex marriage such as same-sex domestic partnerships and same-sex civil unions. We then review conceptual frameworks underpinning same-sex marriage, as well as a range of important methodological issues relevant for estimating the effects of legal same-sex marriage on social, economic, health, and family outcomes. The core of our paper is a systematic review of research on the effects of legal same-sex marriage in the U.S. on attitudes toward LGBTQ+ people, take-up of same-sex and different-sex marriages, tax revenues, employment, health insurance, health, migration, and family formation. Next, we discuss lessons from international comparisons, and we then summarize what the existing knowledge suggests about the net effect of same-sex marriage on the economic well-being of LGBTQ+ people, same-sex couples, and the larger society. We end with a discussion of current and future challenges to same-sex marriage and LGBTQ+ rights in general and some directions for future research.

¹ LGBTQ+ refers to individuals who identify as lesbian, gay, bisexual, transgender, or queer, as well as other sexual and gender minority people. Lesbian, gay, bisexual, transgender, and queer populations are characterized by having minority sexual orientation and/or gender identity. Sexual orientation refers to one's sexual attraction, behavior, and/or identity. Individuals with same-sex attraction and/or same-sex sexual activity are referred to as sexual minorities, including lesbian women (or lesbians), gay men, and bisexual individuals. In contrast, heterosexual or straight individuals are individuals who are attracted to and/or have sex with individuals of a different sex. Gender identity refers to one's sense of being male, female, both, or neither. Gender minorities are individuals whose gender does not match their sex at birth. Cisgender individuals are people whose gender aligns with their sex at birth. Gender minorities include transgender men, transgender women, and nonbinary individuals, among others.

² *JPAM* has a long history of publishing groundbreaking research on LGBTQ+ public policy. It published the first article on the effects of LGBTQ+ nondiscrimination policies on earnings in 1998 (Klawitter & Flatt, 1998) and has since published several other papers on LGBTQ+ discrimination and bullying (C. G. Aksoy et al., 2023; Klawitter, 2011; Mackenzie-Liu et al., 2021; Rees et al., 2022), as well as several articles on legal same-sex marriage that we review below.

The timing of this review is contextualized across two opposing trends. One is the continued acceptance of legal same-sex marriage. This is observed both in the number and variety of countries that have adopted legal same-sex marriage and in public opinion polls that exhibit a consistent and growing level of support for same-sex marriage in the U.S. and elsewhere. As of December 2023, 34 countries have adopted full legal same-sex marriage, including places as diverse as Cuba, Chile, Taiwan, South Africa, and Slovenia (International Lesbian, Gay, Bisexual, Trans and Intersex Association [ILGA], 2023). Regarding public opinion, recent international polls have indicated that 56% of people support legal same-sex marriage across 30 countries, and 72% support some form of legal recognition for same-sex relationships (Jackson, 2023).

At the same time, another noticeable trend is the policy activity to effectively undo same-sex marriage rights. Most countries in eastern Europe have routinely refused to recognize same-sex couples, even when married in other European countries, thus leading to tensions among national governments, courts, and European institutions (BBC News, 2018; Deystvie, 2023; Renew Europe, 2018). In the U.S., these efforts include invoking religious freedom protections to allow governments and private entities to refuse to offer the benefits of legal marriage (such as employer-provided health insurance) or access to business services to sexual minorities in same-sex couples. More recently, in a concurring opinion in the 2022 abortion rights Supreme Court case *Dobbs v. Jackson Women's Health Organization*, Justice Clarence Thomas explicitly called for the court to reconsider and reverse its decisions in major LGBTQ+ rights cases, including not only *Obergefell v. Hodges* but also the 2003 *Lawrence v. Texas* decision that struck down laws banning consensual sexual activity between two adults of the same-sex (Ciacci & Sansone, 2023). These opposing trends further increase the need for and importance of this systematic review of what we know about the effects of legal same-sex marriage from well-designed studies.

INSTITUTIONAL/HISTORICAL BACKGROUND AND POLICY ALTERNATIVES

The research reviewed in this article includes studies of the legal recognition of same-sex couples' relationships, whether from marriage or some other legal status. However, the relatively rapid spread of the right to marry overshadows the incremental process that came before 2015 in the U.S. and in other countries regarding other forms of legal recognition for same-sex relationships. This section outlines a brief history of the development of several policy alternatives for legal recognition of same-sex couples that evolved over time: access to a status with the equivalent rights and obligations that states can provide (usually called civil unions in the U.S. and registered partnerships in other countries), access to a status with a limited set of rights and benefits (going by various names), or the right to marry.³ Understanding the varying practical and symbolic value across those legal statuses is important for interpreting some of the studies in later sections.

Historically, northern European countries pioneered the recognition of same-sex couples by creating new legal statuses (Badgett, 2009b). Denmark was the first country to do so with the creation of "registered partnerships" for same-sex couples in 1989. Couples registering for that status received nearly all of the rights and obligations of marriage, with the exception of a church wedding, adoption rights, and access to assisted reproduction. In the 1990s, Norway (1993), Sweden (1994), Iceland (1996), and the Netherlands (1998) followed this model for same-sex couples. Only the Netherlands allowed different-sex couples to choose between marriage and registered partnership.

In 1999, France and Belgium introduced a different model, creating a form of registered cohabitation for both same-sex and different-sex couples that offered a smaller package of rights and responsibilities. The packages varied across countries adopting this approach, including or

³ In the U.S., the marriage equality movement was also aided and influenced by decisions of employers to recognize employees' same-sex partners for purposes of health insurance coverage (Badgett, 2020), but here we focus on broader public policies.

excluding particular practical elements of marriage, such as mutual responsibility for debts, joint taxation, inheritance rights, obligation of support, or alimony. Germany, Czechia, Luxembourg, and Slovenia, among others, also initially adopted this approach. Generally, the symbolic value of these statuses also differed. For example, marriages in France are conducted at a town hall by the mayor (or mayor's deputy), but the PACS (*pacte civile de solidarité*), as it is known, requires registering with a court clerk, with no ritual for the occasion (Rault, 2003). Marriage was first opened to same-sex couples by the Netherlands in 2001, only 3 years after the creation of registered partnerships there. Same-sex marriage has since spread to countries in Latin America, Africa, Oceania, and southeast Asia (Marcén & Morales, 2022a).

The incremental path to marriage equality across the U.S. looked very similar to that of Europe, with legislatures inventing a variety of alternative legal relationships as incremental improvements or political compromises. In the course of litigation over same-sex marriage in Hawaii, that state's legislature was the first in the U.S. to offer some form of legal recognition to same-sex couples, called a "reciprocal beneficiary" status in 1997 for any two individuals who could not legally marry. Those registering received some inheritance rights, state pension benefits, and tax benefits. As in Hawaii, states adopting these limited packages sometimes opened them to unmarried different-sex couples or other family relationships. In reaction to the litigation in Hawaii, the U.S. Congress passed the Defense of Marriage Act (DOMA) in 1996, requiring the federal government to only recognize marriages of one man and one woman and allowing states to make their own decisions about recognizing same-sex marriages from other states. Several states passed bans on the recognition of same-sex marriages after DOMA was enacted.

The other main state approach created a separate status that was very similar to marriage. California created a statewide domestic partnership registry in 1999 for same-sex couples (and different-sex couples over 65 years old) that initially came with 16 specified rights, including hospital visitation and partner benefits for public employees. That package was expanded twice, eventually including almost all of the state-granted rights and obligations of marriage, including common law property rights in 2005. Also in 1999, Vermont's Supreme Court ruled in *Baker v. Vermont (1999)* that same-sex couples had a constitutional right to the same state-provided benefits and protections that different-sex couples get with marriage. That court allowed the Vermont legislature to implement this principle, resulting in the creation of a new status called the "civil union" (very similar to registered partnerships in Europe, although lacking in federal recognition in the U.S.).

As hinted at by the Hawaii and Vermont examples, an important difference between the U.S. and Europe was the key role played by the judiciary.⁴ Massachusetts was the first state to legalize same-sex marriage in the U.S. in 2004 through a state Supreme Judicial Court ruling.⁵ The U.S. Supreme Court considered same-sex marriage in both *United States v. Windsor (2013)* and *Obergefell v. Hodges (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. This decision led to tangible changes in benefits, rights, and responsibilities associated with federal recognition of same-sex marriages related to income tax liability, spousal immigration rights, and other marriage-related benefits. Two years later, the Supreme Court

⁴ Courts also played a key role in other countries such as Mexico, Brazil, Colombia, Costa Rica, and Ecuador—the latter two countries taking action after Advisory Opinion No. 24 from the Inter-American Court of Human Rights in 2017 (ILGA, 2023). Although the European Court of Human Rights has repeatedly protected the rights of same-sex couples by obliging member states to provide legal recognition for same-sex couples, or to recognize same-sex unions formed in other member states (e.g., *Oliari and Others v. Italy*, 2015; *Fedotova and Others v. Russia*, 2023; *Coman v. Romania*, 2018), it has not forced member states to legalize same-sex marriages (*Schalk and Kopf v. Austria*, 2010).

⁵ Other states legalized same-sex marriage through state legislative activity or through state ballot initiatives (e.g., Vermont, Washington). Like Massachusetts, California adopted legal same-sex marriage through a state court ruling, though same-sex marriage in the state was overturned by the Proposition 8 referendum in 2008 as a result of efforts by opponents of same-sex marriage. Proposition 8 was later overturned in federal court in *Hollingsworth v. Perry (2013)*.

legalized same-sex marriage nationwide in *Obergefell*, ruling that denying same-sex couples the right to legal marriage violated the Due Process Clause and Equal Protection Clause of the Constitution.

As of December 2023, 46 countries either allow same-sex couples to marry or to have another form of legal relationship—or both (ILGA, 2023). Some countries and states have left non-marital forms of recognition in place to provide options for both same-sex couples and different-sex couples. Some of those alternatives were designed to meet the practical needs of same-sex couples, unmarried different-sex couples, and sometimes other kinds of family structures; some alternatives were clearly intended as political compromises and were seen as separate-and-unequal alternatives that lacked the social and cultural symbolism of marriage as well as full legal recognition by the federal government (Badgett, 2009b). Indeed, some members of the LGBTQ+ community preferred the creation of legal alternatives to marriage, arguing that marriage is a patriarchal institution that does not fit the range of family forms seen in the LGBTQ+ community (Hull & Ortyl, 2013). However, as will be discussed later, both different-sex and same-sex couples have been much more likely to take up the option to marry over the alternative legal statuses.

To summarize, two outcomes of the marriage equality debates can be seen in the public policy environment: opening up access to marriage for same-sex couples and the creation (in some places) of other legal forms of relationship recognition that sometimes were retained even after same-sex couples could marry and sometimes were open to different-sex couples or other family forms.

CONCEPTUAL FRAMEWORKS

This section provides an overview of key conceptual issues and considerations for researchers studying the effects of legal same-sex marriage on outcomes. From a broad conceptual perspective, we know of no attempts to undertake a comprehensive analysis of the overall net social benefits or costs of allowing same-sex couples to marry, nor are we currently equipped to do so with the research that exists.⁶ Our approach is to integrate existing research with theoretical contexts that are relevant to the particular domain being studied.

As noted in the introduction, much of the policy debate involved speculation about the consequences of allowing same-sex couples to marry by both opponents and proponents of same-sex marriage. Assessing those predictions before and after 2015 has required drawing on diverse social science frameworks that connect marriage and the outcome in question. In this section, we offer a three-pronged conceptual framework. First, we outline how some of these frameworks explain whether two people marry and why, particularly focusing on how marriage might improve individual and couple well-being. Second, we sketch other models of decision-making in contexts such as buying a house or having a child to show how the legal and social institution of marriage shapes benefits and costs relevant to those decisions, generating predictions about how allowing same-sex couples to marry would change those decisions. As laid out below, we argue that these first two angles would be as relevant for same-sex couples as for different-sex couples. Third, we note that marriage sometimes comes with externalities, broadly defined, most of which would be positive at a social level.

First, we note that much of the research on same-sex marriage draws on economic and sociological theories of families and marriage. Neoclassical economic theories of marriage—both in terms of deciding whether to marry and decision-making within marriage—focus on the complementarity of skills between two partners that leads to intrahousehold specialization in which one partner participates in the labor market for pay and one partner completes most of household labor (Becker, 1991). Under Becker's theory, two people marry if specialization increases productivity, which in turn provides extra benefit to each person. In contrast, historians and other social scientists explain that

⁶ One partial exception is the framework in Allen (2009) of the costs and benefits of inclusion and exclusion of same-sex couples from marriage, which was based on broad comparisons with marriage for other groups who had been excluded from the right to marry.

individuals marry in accordance with social norms for relationships and accept gendered division of labor based on social norms of masculinity and femininity (Coontz, 2006; West & Zimmerman, 1987). These perspectives fit reasonably well with the historical marriage patterns between women and men, in which fertility constraints and gender norms lead to women specializing in household tasks and men specializing in market tasks.

However, more recently, marriage rates have fallen, cohabitation rates have increased, gender norms have shifted, and nonmarital childbearing has grown more common (Lundberg et al., 2016; Smock & Schwartz, 2020; B. Stevenson & Wolfers, 2007), leading to a reassessment of why couples might want to marry. The most prominent explanation is that the legal contract of marriage increases the cost of dissolution, which, in turn, incentivizes shared investment in children and household capital (Lundberg & Pollak, 2015; Matouschek & Rasul, 2008; B. Stevenson, 2007). Similarly, marriage reduces the likelihood of dissolution even if other forms of union with identical sets of benefits are available (Chen & van Ours, 2020), and in case of dissolution, divorce laws that more equally divide the household assets provide insurance for the lower-earning partner (Voena, 2015). Cherlin (2004) posited that the marriage ceremony, a public declaration of union witnessed by friends, family, and community, also increases the cost of dissolution. Furthermore, Cherlin (2004) saw a shift in the meaning of marriage over time: if marriage was traditionally viewed as a rite of initiation into adulthood, it is now a signal of one's achievement and success.

Second, as an institution, marriage provides benefits that go beyond the household surplus from investment in household public goods or production and consumption complementarities. Marriage allows partners in the U.S. to potentially benefit from jointly filing income taxes, paying lower taxes when shifting assets within the household, shared health and life insurance, paid leave benefits, the ability to jointly adopt, the ability to serve as a legal delegate (e.g., making medical decisions or suing for wrongful death), residency and immigration rights, spousal inheritance rights, and Social Security benefits in case of widowhood, among others (N. G. Goldberg & Badgett, 2009). Importantly, the legal status of marriage reduces the cost of having children (e.g., as marriage comes with the legal recognition of spouses as parents) and might reduce transaction costs for major purchases (e.g., home ownership) and estate planning.

While theories of marriage and decision-making within marriage were developed to explain different-sex unions, many of the benefits that set marriage apart from cohabitation also apply to same-sex couples (e.g., Badgett, 2009a). Similar to different-sex couples, same-sex couples might see marriage as a commitment device that reduces the likelihood of dissolution, increases the likelihood of childbearing and childrearing, and incentivizes partners to invest in other household public goods. The legal benefits of marriage apply to same-sex couples, and these benefits were often cited in arguments for institutionalizing marriage equality. Marriage as a symbol of stability and prestige also applies to same-sex unions as it does to different-sex unions, in addition to being a symbol of equality.

In other ways, some of the benefits of marriage might be muted for same-sex couples, as discussed later. Intrahousehold specialization is less likely to incentivize same-sex couples to marry as gender norms in household and care labor are less relevant for them. Relatedly, in less LGBTQ-friendly places, same-sex couples may face discrimination in the process of registering for a marriage license or from their relatives, neighbors, employers, and others (Marcén & Morales, 2022a). The uncertainty regarding the legal status of same-sex marriages may have also factored into the decision to marry before 2015 and again more recently with Thomas's concurrence in the *Dobbs* opinion.

The first and second prongs of our conceptual framework point to welfare-enhancing effects of marriages for same-sex couples that mostly accrue at the private level. A third prong adds the other consequences that were posited in the policy debate and might be thought of as external benefits or costs. Consider the positive externality side. To the extent that marriage encourages childrearing, which generates social benefits over time (Folbre, 1994), expanding childrearing by married same-sex couples creates additional social value (although expanding childbearing and fertility rates may also worsen environmental problems). Other examples might be improvements in social attitudes, reduced discrimination, and better mental and physical health for LGBTQ+ people generally, regardless of

marital status. Such benefits might also be felt by the friends and families of LGBTQ+ people who marry. In addition, these improvements could result in positive impacts on employment and labor supply that expand economic output at the macroeconomic level (Badgett, 2020).

On the negative externality side, some commentators worried that heterosexual couples would be less likely to marry if same-sex couples were allowed to do so (although this concern was not rooted in social science understandings of marriage) and that children raised by same-sex couples would be harmed in some way (e.g., Kurtz, 2004; for a general discussion of this position, see description by Yoshino, 2015). In addition, other opponents of same-sex marriage indicated that they would feel some loss of well-being, or psychic pain, with a change in policy that did not reflect their religious values (as discussed in Eskridge & Wilson, 2018). While the first two concerns were open to (and have been subjected to) empirical analysis, the third one related to psychic pain resulting from marriage equality remains difficult to measure, complicated to theorize, and controversial to include in social welfare considerations about equity matters (Adler & Posner, 2000; Sen, 1976). As noted above, some members of the LGBTQ+ community also opposed marriage equality as a political priority and as a personal choice because of concerns about being assimilated into a patriarchal and heteronormative institution (Badgett, 2009b).

Finally, we note that all of these theoretical approaches—choices about getting married, choices influenced by marriage, and possible external costs and benefits—highlight the efficiency-enhancing focus of economics without focusing directly on the equity or human rights considerations that were also implicated in the marriage equality debate. However, some economic analyses make equity considerations more visible. Asking whether similarly situated different-sex and same-sex couples have the same opportunities to achieve a particular goal that is related to marriage was useful for making visible differences in treatment of same-sex couples (Badgett, 2009a, 2009b). The unique breadth of marriage, capturing practical benefits, social status, legal rights, and a broad symbolic value, made it difficult to construct new alternative legal statuses that provide the same opportunity for a different-sex couple and a same-sex couple, as some studies discussed later show. Once that differential treatment is visible, then considerations such as the fundamental right to marry, equal protection under the law, and human rights (among others) have been used to anchor equity-based analyses of whether same-sex couples should have access to marriage. Those equity-based analyses and arguments typically appear in other disciplines, notably in legal scholarship, so we do not present that work here (Eskridge & Riano, 2020).

METHODOLOGICAL CONSIDERATIONS FOR STUDYING SAME-SEX MARRIAGE

The majority of studies estimating the causal effect of same-sex marriage legalization on a variety of outcome variables have exploited the variation in the timing of same-sex marriage reforms across U.S. states to estimate various difference-in-difference models with staggered adoption similar to the following:

$$y_{ist} = \alpha + \beta \text{SameSexMarriage}_{st} + \delta_s + \mu_t + \varepsilon_{ist},$$

where y_{ist} is the relevant outcome for individual i living in state s at time t . The coefficient of interest is β . $\text{SameSexMarriage}_{st}$ is an indicator equal to one if individual i lived in state s during or after the year t in which same-sex marriage had been legalized in that state, and zero otherwise. This approach attempts to measure whether the adoption of same-sex marriage reforms causes the outcome variable in states with a policy change to trend differently from the outcome variable in other states without a policy change. The key advantage of the approach is that it allows researchers to net out the common trends in the outcome variable for all jurisdictions. Under the assumptions that (1) there

are no unobserved characteristics that caused the outcome variable to trend differently in the states with policy reform relative to the states without policy reform (i.e., “parallel trend” assumption); (2) individuals are unable to change their behavior in anticipation of the policy reform (i.e., “no anticipation effect” assumption); and (3) policy reform in one state does not affect individuals in other states or the adoption of policy reform in other states (i.e., “no spillover effect” assumption), it is possible to attribute the differential trends post-reform to the policy in question.⁷

It is worth noting that in most studies researchers using this approach are identifying the effect of providing legal access to same-sex marriage, not the effect of marriage per se on same-sex couples. Therefore, this approach sidesteps the potential issue of selection into marriage by conducting an intent-to-treat analysis rather than comparing individuals who decided to get married to those who remained single or with an unmarried partner.⁸ The specification includes state fixed effects (δ_s), year fixed effects (μ_t), and an intercept (α). If this model is restricted to sexual minority individuals or individuals in same-sex couples, one is comparing sexual minority individuals or individuals in same-sex couples in states that had legalized same-sex marriage to those living in states that had not yet (or had already) legalized same-sex marriage. In most contexts, gender plays an important role, so researchers have typically estimated this model for men and women separately. This specification can then be easily expanded to include time-varying state-level controls, individual-level controls, and state-specific time trends. Researchers have also used a similar approach to study the impacts of civil unions or registered partnerships (or bans on same-sex relationship recognition), or they have included these policy changes as control variables when estimating the impact of same-sex marriage legalization. Standard errors are usually clustered at the state level (Bertrand et al., 2004).

A straightforward extension to test the validity of the “parallel trend” assumption and of the “no anticipation effect” assumption, as well as to estimate dynamic effects, is to use an event-study model:

$$y_{ist} = \alpha + \sum_{k=\underline{T}}^{\bar{T}} \beta_k \text{SameSexMarriage}_{st}^k + \delta_s + \mu_t + \varepsilon_{ist},$$

where $\text{SameSexMarriage}_{st}^0$ is an indicator variable equal to one if state s had introduced same-sex marriage at time t , zero otherwise (even in the years after the legalization, unlike $\text{SameSexMarriage}_{st}$ in the previous difference-in-differences model). $\text{SameSexMarriage}_{st}^k$ are the resulting lead ($k > 0$) and lag ($k < 0$) operators. The first lag operator ($\text{SameSexMarriage}_{st}^{-1}$) is typically normalized to zero. The number of lead and lag operators (\bar{T} and \underline{T}) is usually constrained by the time length of the dataset and/or the time same-sex marriage was first legalized, although some researchers combine or truncate initial and final time periods.

Another extension compares individuals in same-sex versus different-sex couples, or sexual minority individuals versus heterosexual individuals, thus estimating the following triple-difference model (Angrist & Pischke, 2009):

$$y_{igst} = \alpha + \beta \text{SameSexMarriage}_{st} + \mu_{st} + \pi_{gt} + \rho_{gs} + \varepsilon_{igst},$$

where y_{igst} is the relevant outcome for individual i belonging to group g (e.g., in a same-sex couple) living in state s at time t . The specification includes state-specific time effects that are common across

⁷ An advantage of this technique is that it does not require longitudinal panel data following individuals over time: a difference-in-difference model can be estimated using repeated cross-sectional data. However, researchers using these repeated cross-sections also need to check that there are no sample compositional changes over time and space (Cunningham, 2021).

⁸ Moreover, as noted below when discussing triple-difference models, many studies in the literature compare changes in outcomes for individuals in same-sex couples coincident with legal access to same-sex marriage to the associated changes in outcomes for individuals in different-sex couples, which also helps address selection concerns to the extent that selection is similar across couple types.

groups (μ_{st}), time-varying effects specific to a certain group that are common across states (π_{gt}), and state-level time-invariant characteristics specific to a certain group (ρ_{gs}).

Earlier studies have instead relied only on cross-sectional data by comparing outcomes in states or countries that had legalized same-sex marriage to those that had not legally recognized these relationships (Hooghe & Meeusen, 2013; Kail et al., 2015; Takács & Szalma, 2011). While these studies can provide valuable insights and laid the groundwork for later studies, it is important to emphasize that these methodologies are subject to the concern that other unobserved characteristics about states with permissive same-sex marriage environments (e.g., liberal values, highly educated electorate, other progressive policies) are systematically correlated with the outcomes under study.⁹

Other studies, especially in European countries, have exploited the availability of longitudinal (administrative) datasets. Therefore, even if there is no variation within European countries in the timing of same-sex marriage legalization (e.g., all regions in Sweden legalized same-sex marriage at the same time), researchers have been able to estimate individual fixed-effects models controlling for time-invariant individual characteristics or to compare sexual minority individuals to heterosexual individuals within the same country over time. Individual fixed-effects models are particularly useful to investigate at the micro level how the behavior of certain individuals changed after getting access to same-sex marriage, e.g., in terms of fertility choices.

We emphasize that the vast majority of the studies discussed in this article were published before the recent wave of difference-in-differences econometric advances (Callaway & Sant'Anna, 2021; de Chaisemartin & D'Haultfœuille, 2020; Goodman-Bacon, 2021; Rambachan & Roth, 2023; Roth et al., 2023; Sun & Abraham, 2021). This literature has highlighted that issues can arise when there is heterogeneity of treatment effects over time or across units. For instance, researchers have noted that difference-in-difference models with staggered adoption are a weighted average of simple 2×2 difference-in-differences models, and such weights may even be negative, thus resulting in difference-in-differences estimates with an opposite sign than the true treatment effect. Moreover, these models include “forbidden” comparisons of later treated units with earlier treated units. Other studies have investigated more in depth the parallel trend assumption, discussed how to properly construct standard errors, or cautioned against including covariates in these models since there may be heterogeneous treatment effects that depend on certain covariates. We have highlighted in the following sections a few more recent studies on same-sex marriage that have implemented some of the new econometric recommendations—such as Nikolaou (2022, 2023a, 2023b) and Martin and Rodriguez (2022).¹⁰ While the findings in these studies appear to be robust to using alternative estimation techniques, future research could replicate earlier analyses using the additional datasets which have become available together with these new difference-in-differences estimators to verify previous findings.

Finally, as we discuss more in detail in the next sections, data availability—or lack thereof—has influenced the outcomes and contexts that researchers have studied (for a discussion, see Badgett et al., 2021). For instance, it is rather hard to know how many same-sex couples get married each year in the U.S. Relatedly, the almost complete lack of data on same-sex couples and sexual minorities in most developing countries has limited the analysis of same-sex marriage legalization (or bans) in those countries. One may also argue that it is too early to detect any substantial effects on long-term decisions such as educational choices, fertility outcomes, and divorce rates. Indeed, the availability of data on sexual orientation and relevant outcomes—which has increased sharply in the past decade—has shaped the outcomes studied, particularly when looking for opportunities to apply causal inference methods.

⁹ It is also worth noting here that we do not review studies of the effects of legal same-sex marriage that take qualitative or mixed-methods approaches. For a review, see Drabble et al. (2021).

¹⁰ Several papers that studied the legal recognition of same-sex marriage in Massachusetts or New York or the federal recognition of marriage due to *United States v. Windsor* (2013) that do not rely on the rollout of legal same-sex marriage across states over time are less affected by issues arising from staggered treatment since the treatment variation is not staggered in these contexts.

REVIEW OF LITERATURE ON THE EFFECTS OF LEGAL ACCESS TO SAME-SEX MARRIAGE IN THE U.S.

Effects on attitudes towards LGBTQ+ people

One key mechanism through which legal same-sex relationship recognition might affect socio-economic and health outcomes is through changes in social attitudes toward sexual minority populations. However, it is empirically challenging to disentangle this relationship because changes in social attitudes might themselves bring about some of the legal reforms in question.¹¹ Moreover, finding good data on attitudes toward sexual minorities can be difficult. Despite this, several studies have used a variety of indirect and direct measures to understand the relationship between legal same-sex marriage or same-sex registered partnerships and attitudes: overall, marriage equality is linked to improvements in views on sexual minorities and higher acceptance levels, although there is evidence of backlash in a few cases.

Regarding indirect measures of attitudes toward lesbian, gay, and bisexual people, Nikolaou (2022) used data on hate crimes against sexual minorities, which offer an interesting if adverse and extreme outcome. State panel data on LGBTQ-motivated hate crimes from 1998 to 2019 and variation across states in the timing of same-sex marriage legalization indicate that legal same-sex marriage significantly decreased sexual orientation-motivated hate crimes, with stronger reductions in crimes targeting gay men. Notably, these results were robust to the empirical concerns over staggered policy adoption.¹² Another interesting measure of attitudes used in the literature is the relative search popularity of homophobic terms such as “faggot” or “Leviticus.” Sansone (2019a) used this approach with Google Trends data from 2004 to 2016 and found that legal access to same-sex marriage was associated with significant reductions in relative search popularity of these homophobic terms. Relatedly, Seror and Ticku (2023) used data on enrollment in Catholic seminaries to show that legal same-sex marriage availability in the U.S. was associated with a 15% reduction in seminary enrollment. The authors interpreted this as evidence that same-sex marriage increased the willingness of gay men who may have otherwise been drawn to the priesthood’s vow of celibacy as a cover to come out and live openly. All of these patterns are consistent with the idea that legal same-sex marriage causally improved attitudes in the general population toward sexual minorities. In contrast, Manning and Masella (2023) studied newspaper coverage of gay rights issues in the U.S. and found that when a state began offering same-sex marriages there was a notable increase in both pro-gay and anti-gay newspaper coverage, with larger effects for anti-gay coverage, which may indicate some backlash effect.

Other studies have used more direct information on survey reports of support for same-sex marriage or related items such as “feeling thermometers” for various minority groups, including lesbian, gay, and bisexual people. For example, a literature in political science has studied legal same-sex marriage and attitudes toward sexual minorities using a variety of experimental and non-experimental approaches, with some studies finding that legal recognition of same-sex relationships improved attitudes toward sexual minorities (Flores & Barclay, 2016; Kreitzer et al., 2014; Tankard & Paluck, 2017). This literature also acknowledged possible backlash effects: some studies found evidence of backlash effects when legal same-sex marriage was imposed through judicial rulings (Ofosu et al., 2019) while others did not find such evidence (Bishin et al., 2016).

¹¹ For example, Baranov et al. (2023) exploited plausibly exogenous variation in the presence of men due to historical convict transportation patterns in Australia and find that areas that were more male-biased had more votes against same-sex marriage legalization in the 2017 referendum.

¹² Pettis et al. (2022) also studied hate crimes data in the context of same-sex marriage legalization from 2000 to 2015 and found significant reductions in LGBTQ-targeted hate crimes in the quarter immediately following legalization, although the effect faded quickly. Unlike Nikolaou (2022), however, Pettis et al. (2022) did not examine robustness to alternative estimators that account for heterogeneous treatment timing.

Effects on take-up of same-sex and different-sex marriages

One of the most directly relevant questions regarding legal same-sex marriage and other marriage-like statuses is the take-up effects among sexual minorities and whether access to official legal statuses for same-sex couples negatively affects union formation or relationship stability among different-sex couples. The existing research generally suggests that sexual minorities did demand and take up same-sex marriage when it was made legally available and that legal statuses for same-sex couples did not negatively affect different-sex marriage or cohabitation rates. This evidence comes from a variety of institutional and geographic settings.

In line with the potential advantages for individuals from legal relationship recognition highlighted in the conceptual framework, available evidence suggests that sexual minorities do, in fact, take up legal recognition of their relationships when it is made available to them, especially for sexual minority women in the U.S. For example, Carpenter and Gates (2008) used a public health dataset in California with information on sexual orientation, partnership status, and legal recognition to document that 44.7% of lesbian women and 21.5% of gay men in partnerships had their relationships officially registered with the state or local government (prior to same-sex marriage being legalized in the state). Consistent with the survey evidence, Badgett and Mallory (2014a) used administrative data on take-up of formal relationship recognition from ten states and found a much higher prevalence of same-sex female couples than same-sex male couples among those in officially recognized relationships. Similarly, in Massachusetts the majority (61%) of individuals in same-sex marriages in the first 5 years after its legalization in the state were women (Ramos et al., 2009). Badgett et al. (2008) used data from a 2003 LGBT Tobacco Use Survey from the California Department of Health and found that higher-income (relative to lower-income) gay men were more likely to have their relationships registered with the state, while the same was true of older (relative to younger) lesbian women. Relationship duration was also significantly related to the likelihood of relationship registration for sexual minorities.

Multiple studies have directly evaluated the causal effects of changes in legal reforms on marriage take-up among sexual minorities. Carpenter (2020) found that Massachusetts's 2004 legal reform granting same-sex marriage significantly increased reported marriage take-up among self-identified gay men, lesbian women, and bisexual women.¹³ Furthermore, Carpenter et al. (2021) examined data on individuals in same-sex households in the Centers for Disease Control and Prevention (CDC)'s Behavioral Risk Factor Surveillance System (BRFSS) from 2000 to 2018 spanning the rollout of legal access to same-sex marriage in the U.S. and found that marriage equality in an individual's state significantly increased the likelihood of being married among individuals in same-sex households. Administrative data from other states also provide supporting evidence: Badgett and Mallory (2014b) used data on same-sex marriage licenses from Connecticut, New Hampshire, New York, and Vermont to show that the 2013 Supreme Court ruling in *U.S. v. Windsor* led to sharp increases in same-sex marriages from individuals in those states as well as from individuals who travelled across state lines to get married.

Several studies used administrative data on take-up of the various legal statuses available to same-sex couples to describe preferences regarding marriage relative to alternative categories such as civil unions or domestic partnerships. For example, Gates et al. (2008) found that while 37% of same-sex couples became legally married in Massachusetts in the first full year of legal same-sex marriage in the state in 2005, only 12% of same-sex couples took up civil unions and only 10% took up domestic partnerships when they were made available, suggesting that sexual minorities in couples strongly preferred marriage over alternative legal relationship statuses. Badgett and Herman (2013) found similar patterns using a wider set of states offering legal same-sex marriage. Moreover, the authors found that the take-up of relatively limited domestic partnerships that offered fewer benefits and rights was

¹³ Consistent with the descriptive findings in Carpenter and Gates (2008) that lesbian women were more likely to register their relationships with the state or local government, Carpenter (2020) also found that marriage take-up was larger for lesbian women than for gay men in Massachusetts following the state's legalization of same-sex marriage.

even lower (8%) among same-sex couples as compared to states with broader domestic partnerships that came with more rights and responsibilities. In addition, both studies also found that some couples traveled to marriage equality states to marry when their home states did not allow marriage. These patterns are consistent with our conceptual framework and imply a take-up effect that was related to more practical benefits for quasi-marital statuses as well as to the combination of symbolic power and federal recognition of marriage.

In order to verify the aforementioned claims put forward by opponents of marriage equality regarding negative effects on different-sex unions, scholars have also examined whether legal access to same-sex marriage affected relationships among heterosexual individuals. Starting with Badgett (2004, 2009b), the published research finds no evidence that different-sex relationships were affected when sexual minorities were granted legal relationship recognition. For example, Carpenter (2020) studied the effects of legal same-sex marriage in Massachusetts in 2004 using the state's BRFSS and found that the legal reform had no significant effect on marriage propensity among self-identified heterosexual individuals, and in fact the likelihood that heterosexuals report being married increased after 2004. More direct evidence on this question comes from Dillender (2014) who used difference-in-differences methods and data from 1995 to 2010 and found no evidence that granting alternative relationship recognition (e.g., same-sex domestic partnerships, same-sex civil unions, or full legal marriage) to same-sex couples in the U.S. changed different-sex marriage rates. In fact, most of the estimates in Dillender (2014) indicate that legal access to same-sex marriage was associated with slight increases in different-sex marriage. Langbein and Yost (2009) reached a similar conclusion using state panel data from 1990 to 2004. Similarly, Carpenter et al. (2021) found no effects on the likelihood of being married for individuals in different-sex households using data from 2000 to 2018 BRFSS.

Effects on tax revenues, employment, and household specialization

Several studies have examined same-sex marriage either directly or indirectly in the context of tax revenues and income tax liability. Why might taxes change in response to legal same-sex marriage? One argument was that state sales tax revenues would increase following legalization of same-sex marriages due to the influx of same-sex couples coming to the state to get married and spending money on transportation, hotels, entertainment, food and beverage, and other wedding-related items.¹⁴ Effects on income tax revenues are more complicated and depend on the structure of state and federal taxes for single versus married people as well as on the distribution of labor market income between members of the couple. In the U.S. federal tax code, two individuals with similar incomes generally would face a higher tax liability if they were married filing jointly than if they filed as two single individuals, a phenomenon known as the "marriage penalty." This is likely to differentially affect same-sex couples relative to different-sex couples, as different-sex couples are more likely to have one individual specializing in the labor market and the other individual specializing in household production (and thus receiving a marriage subsidy within the federal tax code). If legal access to same-sex marriage had no effect on labor supply, then federal tax revenues may increase if many same-sex couples became married and filed joint taxes. If legal same-sex marriage led to same-sex couples specializing in ways similar to how different-sex couples specialize, however, the effect on tax revenues may be muted.

Examining prospectively the effect of legalizing same-sex marriage on federal income tax revenues, Alm et al. (2000) estimated an increase of approximately USD 1 billion, though a more recent study

¹⁴ This was especially true because most states that adopted legal same-sex marriage in the early years in the U.S. did not have a requirement that the partners be residents of the state, though whether and to what extent the marriage would be legally recognized in their home state was typically uncertain. Of course, as legal access to same-sex marriage expanded throughout the U.S., these incentives to travel across state lines weakened and the resulting potential sales tax revenues declined.

estimated reductions in federal revenues up to USD 580 million (Alm et al., 2014).¹⁵ Regarding effects on marriage and labor supply, Friedberg and Isaac (2024) studied the effects of differential tax treatment of same-sex couples across space and time induced by the *U.S. v. Windsor* decision and found that there was a statistically significant but small negative effect of tax liability on marriage take-up. Isaac (2023) used similar variations to study effects on labor supply, finding significant changes in labor force participation from greater tax liability.

Multiple studies have examined the effects of granting legal same-sex marriage and/or other official relationship statuses such as civil unions or domestic partnerships on employment.¹⁶ Sansone (2019a), using variation across states in the timing of legal access to same-sex marriage and data from the American Community Survey and the Survey of Income and Program Participation, found evidence that marriage equality significantly increased probabilities of being employed among individuals in same-sex couples, possibly due to reductions in discrimination. In contrast, Hansen et al. (2020) used a similar empirical strategy and examined data from the American Community Survey, March Current Population Survey, and American Time Use Survey to find 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 household specialization within female same-sex couples. This result broadly accords with an earlier study by Dillender (2015), who used the Current Population Survey and variation across states in the timing of legal recognition of same-sex domestic partnerships and same-sex civil unions to find that such recognition had no effects on men in same-sex couples but induced women in same-sex couples to move from dual-earner status to a situation where only one member of the couple worked. As these studies were written prior to the recent advances in the difference-in-differences literature, they do not address robustness to staggered treatment timing issues.

Regarding effects on relationship-specific investments, Hamermesh and Delhommer (2021) found that legal same-sex marriage induced greater investments into same-sex relationships: specifically, marital surplus (i.e., household income in excess of the predicted value based on observable household characteristics) and homeownership for same-sex couples were 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 (but not same-sex domestic partnerships or same-sex civil unions) was associated with positive returns to relationship duration with respect to marital surplus and homeownership.¹⁷ In line with our conceptual framework, this suggests that the enhanced legal protections of same-sex marriage increased investments in household-specific capital.

¹⁵ Stevenson (2012) used variation in labor supply responses to tax code changes from the 2003 Jobs and Growth Tax Relief Reconciliation Act and data from the ACS with information on individuals in same-sex couples to estimate that legalizing same-sex marriage would result in a small increase in federal tax revenues of around USD 34 million per year. Looking retrospectively, Fisher et al. (2018) studied the characteristics of same-sex couples who filed taxes using confidential tax return data, before and after the federal same-sex marriage ruling in *Obergefell*. They found that married same-sex couples after *Obergefell* had higher incomes and fewer children than married different-sex couples.

¹⁶ Notably, studies of LGBTQ+ people in relationships started well before the legalization of same-sex marriage in the U.S., utilizing unmarried partners living in the same household that were identifiable in datasets such as the U.S. Decennial Census or the American Community Survey. These papers generally found that there were significant differences in employment and incomes of same-sex and different-sex couples and that these gaps differed by gender: specifically, men in same-sex couples earned lower individual incomes, and women in same-sex couples earned higher individual incomes and had higher labor force participation relative to their counterparts in different-sex couples (Klawitter, 2015), but female same-sex couples' household income was lower than that of different-sex couples on average (Badgett, 2018; Schneebaum & Badgett, 2019). These gaps remained even after accounting for the differences in observed characteristics such as education and occupation, leaving a large portion of the gaps to unobserved factors.

¹⁷ In a related contribution, Miller and Park (2018) found that legal same-sex marriage was associated with significant increases in applications for mortgage credit from same-sex couples, though Hagendorff et al. (2022) documented that legal same-sex marriage was also associated with an increase in the denial gap between same-sex applicants and different-sex applicants. Hagendorff et al. (2022) used a stacked regression approach that is robust to concerns about staggered treatment timing, and they further showed that their core finding was not due to changes in applicant quality among same-sex borrowers, nor could backlash to same-sex marriage explain the results. They argued that same-sex marriage increased the reliance of mortgage loan officers on new "soft" information about same-sex couple relationship strength and stability, and that this drove the increase in mortgage loan denials for same-sex applicants.

Effects on health insurance

Closely related to effects on employment are effects of legal same-sex relationship recognition on health insurance, given the primacy of employment-based health insurance in the U.S. (unlike many other high-income countries that have universal access to health care). Some individuals may be working simply for health insurance benefits, especially if the employer does not recognize or offer same-sex partner health insurance or if the sexual minority worker does not want to effectively “out” themselves to their employer by asking for such benefits if they are offered. In that case, legal relationship recognition might reduce labor supply for one member of the couple either because the law newly requires the employer to offer such benefits or because the new rights coincide with improvements in social attitudes toward LGBTQ+ people, thus making more individuals willing to ask for same-sex partner or spouse benefits if they exist. Indeed, the mechanism of “working for health insurance” may explain some of the patterns described above. Based on the existing studies, there is substantial evidence that legal access to same-sex marriage and same-sex civil unions or domestic partnerships was associated with increases in health insurance coverage, either through one’s own employer or through the employer of a spouse or partner.

Ash and Badgett (2006) used data from the Current Population Survey and found that people with same-sex partners were two to three times more likely to lack health insurance than individuals married to different-sex partners even after controlling for observable determinants of health insurance coverage. Could legal recognition of same-sex relationships reduce such gaps? Dillender (2015) leveraged changes to the state-level availability of same-sex domestic partnerships and same-sex civil unions and found that they were associated with significant increases in the likelihood that women in same-sex couples in the Current Population Survey had employer-sponsored health insurance through their same-sex partner. In a related quasi-experimental study, Buchmueller and Carpenter (2012) examined the effects of enhancing the value of domestic partnerships in California to include all the same legal rights and responsibilities as marriage. A key provision of the new law was that it also required private employers in the state to treat same-sex couples equivalently to how they treated different-sex couples, including with respect to health insurance coverage of their employees and their employees’ partners. The authors found that the policy had no effects on sexual minority men but significantly increased the likelihood that lesbian women in partnerships had health insurance coverage relative to the associated change within the state for heterosexual women.

Some studies have also directly estimated the effects of full legal same-sex marriage availability on health insurance coverage of sexual minorities. For example, Gonzales (2015) studied the effect of New York State’s extension of legal same-sex marriage. He used data from the 2008 to 2012 American Community Survey—which includes information on whether an individual’s health insurance coverage is sponsored by the employer—before and after the state’s 2011 reform to show that legal availability of same-sex marriage was associated with significant increases in employer-sponsored health insurance coverage for men and women in same-sex couples relative to the associated changes for men and women in different-sex couples in the state over the same time period. Downing and Cha (2020) found a similar result using the 2008 to 2017 American Community Survey and variation in the rollout of legal same-sex marriage across the U.S. Carpenter et al. (2021) also studied the full rollout of legal same-sex marriage across the U.S. using data on individuals in same-sex households in the BRFSS and found that legal same-sex marriage was associated with significant increases in health insurance coverage for men in same-sex households.

Finally, a related open question in the literature that none of the prior studies could directly adjudicate is how same-sex marriage affected employer choices about health insurance benefits for sexual minority employees. This question has been difficult to study due to a lack of data on employer choices in these domains, but it is plausible that legal reforms affected private firms’ health insurance offerings. That is, as states increasingly adopted legal same-sex marriage, employers may have expanded spousal health insurance coverage and reduced coverage for unmarried domestic partners,

including for both same-sex unmarried partners and different-sex unmarried partners. Data from the 2013 National Compensation Survey fielded before nationwide marriage equality showed that 32% of unmarried same-sex partners and 26% of unmarried different-sex partners had healthcare benefits available through an employer (Bureau of Labor Statistics, 2013). Carpenter et al. (2023) studied this question quasi-experimentally using data from the Medical Expenditure Panel Study–Insurance Component, which asked a large number of employers whether they provided health insurance to the same-sex unmarried partners of their employees. They found that federal legal same-sex marriage in 2015 was associated with a significant *reduction* in the likelihood that private employers offered same-sex domestic partner health insurance benefits, and the effect was driven by firms with greater exposure to same-sex marriage legalization among their workforces. More research is needed on how employers treated same-sex spouses and whether these effects on health insurance offers by employers translated into predictable coverage changes among sexual minority individuals who chose to remain in unmarried partnerships.

Effects on physical and mental health

There are numerous channels through which legal recognition of same-sex relationships could affect physical and mental health, including most obviously the channels described above: employment and health insurance. Moreover, to the extent that legal same-sex marriage improves attitudes toward sexual minorities, there could also be a reduction in minority stress, that is, stress due to internalized homophobia, anticipated rejection, constant efforts to hide one's identity, and actual experiences of discrimination and violence. Minority stress is the key route through which anti-LGBTQ+ discrimination is thought to harm health (Meyer, 1995). Multiple studies have examined how legal access to same-sex relationship recognition is related to sexual minority health.¹⁸ Overall, while there seem to be improvements in physical health among sexual minority men following marriage equality, especially regarding sexually transmitted infections, the impacts on mental health seem to be more nuanced.

Nikolaou (2023a) studied the rollout of legal same-sex marriage in the U.S. using data from 2000 to 2019 and found that legal access to same-sex marriage was associated with significant reductions in syphilis and HIV rates, specifically for HIV contracted through men having sex with men. These findings were robust to the empirical concerns over staggered policy adoption and consistent with the idea that legal access allowed sexual minority men to make longer-term investments in relationships and sexual health, thus reducing sexually transmitted infections. Francis et al. (2012) studied earlier state policies that *banned* same-sex marriage, finding some evidence that they were associated with increases in syphilis rates, again suggesting more risky sexual activity among sexual minority men when same-sex marriage is prohibited. Outside of sexually transmitted infections, other research has examined risky and preventive health behaviors: Carpenter et al. (2021) did not find that legal access to same-sex marriage in the U.S. from 2000 to 2018 was systematically related to self-rated health, substance use, or preventive services take-up such as flu shots or recommended cancer screenings for men or women in same-sex households.

Research has also examined the effects of legal access to same-sex marriage on mental health of youths and adults. Raifman et al. (2017), for example, used data from the CDC's Youth Risk Behavior Survey from 1999 to 2015 and found that legal same-sex marriage in a child's state was associated with fewer suicide attempts among high school students, with effects concentrated among young adults who identified as sexual minorities. Anderson et al. (2021), however, used the same data extended through 2017 and did not find evidence that legal same-sex marriage reduced suicidality among teens; in fact, they found some evidence of worsening mental health for LGBTQ+ youths in states that were subject

¹⁸ We do not review here a large literature in public health that documents physical and mental health disparities associated with minority sexual orientation and/or gender identity, including across the life course from adolescence to adulthood and older age. Most studies are descriptive, and other comprehensive reviews cover this territory well (Institute of Medicine, 2011; Patterson et al., 2020).

to court-ordered same-sex marriage legalization, which they interpret as due to failed expectations or social backlash.¹⁹ For adults, Carpenter et al. (2021) did not find consistent evidence of improvements in mental health for men or women in same-sex households following legal availability of same-sex marriage.²⁰ These studies have not examined robustness to recent advances in the difference-in-differences literature, which is an important avenue for future research to verify the validity of these findings.

Effect on migration and residential location

Multiple studies have examined how legal availability of same-sex marriage affected migration decisions. Notably, most states that adopted legal same-sex marriage in the early and mid-2000s did not have residency requirements for couples who chose to get married, though whether such marriages would be recognized in other states was often legally uncertain. Beaudin (2017) used data from the 2001 to 2014 American Community Survey and found that all heads of households were more likely to leave states without marriage equality, with significantly larger effects for individuals in same-sex relationships, especially men in same-sex relationships. Marcén and Morales (2022b) found a similar result using American Community Survey data from 2001 to 2015, though they showed that the migration effect was transitory with no permanent effect on the spatial distribution of individuals in same-sex couples. Sansone (2019a) used American Community Survey data from 2008 to 2016 and did not find systematic evidence of migration of same-sex couples following same-sex marriage legalization. It is possible that the different findings across these studies are due to methodological differences or to the possibility that the migration effects from early reforms to same-sex marriage became more muted as marriage equality spread across the U.S.

Since immigration rights (i.e., the ability to sponsor a same-sex partner for permanent residency in the US) were among the tangible federal benefits of legal same-sex marriage, research has also examined how legal access to same-sex marriage affected mixed-citizenship coupling, which is related to migration. Specifically, Redpath (2022) studied the end of the Defense of Marriage Act brought about by *United States v. Windsor* in 2013. Using data from the American Community Survey, the author found that this policy increased mixed-citizenship coupling by 36% and mixed-citizenship marriages by 78%.

Effects on family formation and childrearing

An important nuanced point regarding the literature on whether sexual minorities took up legal same-sex marriage is whether the availability of legal same-sex marriage affected romantic coupling among sexual minorities. Unions could have plausibly formed or dissolved in response to legal same-sex

¹⁹ To reconcile the different findings, Anderson et al. (2021) suggested that interacting control variables with an indicator for minority sexual orientation reduces the estimated effect of legal same-sex marriage on mental health, especially interactions between year fixed effects and the sexual minority indicator which are strongly jointly significant predictors of youth mental health. This is possibly consistent with a period of rapid social change on sexual minority issues.

²⁰ Another study worth noting is Hatzenbuehler et al. (2012), who used a sample of sexual minority men in Massachusetts before and after the 2004 adoption of same-sex marriage in the state. They found that mental health visits and costs fell for this sample, and these effects were not moderated by partnership status. This suggests that same-sex marriage improved mental health for all sexual minorities in their sample, though there was no heterosexual control group. Other studies have examined the indirect effects of same-sex marriage related debates and policies on mental health of sexual minorities. For example, Flores et al. (2018) exploited the fact that several media markets span state lines to show that greater exposure to more television advertisements about state-level same-sex marriage referenda was associated with more psychological distress among LGBT people living in states that did not face the referenda but who were exposed to the public debate over same-sex marriage rights through media spillovers. Relatedly, Hatzenbuehler et al. (2010) studied the effects of state constitutional bans on same-sex marriage in 2002 and 2004 using longitudinal data from the National Epidemiologic Survey on Alcohol Related Conditions. They found significant increases in mood disorders, anxiety disorders, alcohol use disorders, and psychiatric comorbidities for sexual minorities (but not heterosexual individuals) living in states that adopted such constitutional bans, with no effects for sexual minorities in other states.

marriage availability, though there is little direct evidence for either of these effects. For example, Carpenter (2020) showed that although Massachusetts's 2004 reform significantly increased the likelihood of being "married" among sexual minorities, there was no meaningful change in the likelihood of either being married or being a member of an unmarried couple (i.e., no effects on a proxy for the likelihood of being in any romantic relationship) because the probability of being in an unmarried couple fell for sexual minorities relative to heterosexual individuals. This is consistent with most of the increase in marriage among sexual minorities arising from the fact that longer-term committed couples took up legal marriage. Similarly, Carpenter et al. (2021) found no significant relationship between the rollout of legal same-sex marriage availability in a state and the likelihood a household contained exactly two adult men or exactly two adult women, again suggesting that the policy did not directly affect romantic coupling and same-sex cohabitation behavior in the short term.

Another question concerns the influence of marriage on childrearing. Social science research has long found that same-sex couples were much less likely to be raising children, especially male same-sex couples (Badgett et al., 2021, 2024). These gaps remained even after accounting for the differences in observed characteristics. The literature has not yet detected an impact of the right to marry on childrearing. Sansone (2019a) and Hansen et al. (2020) both examined family structure and childrearing directly in the Current Population Survey and the American Community Survey, respectively. Neither study found meaningful changes in the presence of children in families headed by same-sex couples associated with the rollout of legal same-sex marriage.

An important exception to the null findings on family structure and presence of children is Martin and Rodriguez (2022) who found that legal same-sex marriage was associated with a 3.8% to 5.9% increase in the total number of adoptions. Using methods robust to concerns about staggered treatment timing, they found that this increase reflected a shift away from adoptions by unmarried couples and single women and toward adoptions by married individuals, though their data do not let them directly identify individuals in same-sex marriages. Taken together, the studies relying on variation in legal access to same-sex marriage have not found meaningful short-term changes in household or family composition, though there is some evidence that adoptions increased.

Much of the literature on same-sex parenting and its effect on child development from sociology and other relevant fields suggest that children in same-sex households do as well in school as children in different-sex couples under the assumption that the students have similar previous experiences of family disruptions (A. E. Goldberg, 2010; W. D. Manning et al., 2014; Patterson, 1992; Potter, 2012; Rosenfeld, 2010, 2013). Some papers even find better outcomes for the children of same-sex parents (Andresen & Nix, 2022; Boertien & Bernardi, 2019; Kabátek & Perales, 2021; Mazrekaj et al., 2020; Watkins, 2018). Conceptually, we would expect that the legalization of same-sex marriage and increased likelihood of adoption and in-vitro fertilization may reduce the likelihood that children in same-sex households experience family disruptions, which may improve their outcomes relative to their counterparts in different-sex households. Empirically, it is too early to measure these effects overall due to the relative recency of the policy change, although the demand for such evidence is clear by the heavy focus on outcomes of children raised by same-sex parents in several marriage equality court cases.

INTERNATIONAL EVIDENCE ON THE EFFECTS OF LEGAL ACCESS TO SAME-SEX MARRIAGE

Most of the research reviewed above is based in the U.S., which provides a fertile "states as policy laboratories" setting to study the rollout of legal access to same-sex marriage. Notably, however, several European countries and high-income and middle-income countries elsewhere such as Canada, New Zealand, and Argentina legalized same-sex marriage well before the U.S., and those international comparisons provide some instructive lessons. As noted in an earlier section, registered partnerships (and civil unions) in many of those other countries were generally quite different than the associated

statuses in the U.S., in that they were usually much closer to full legal marriage with respect to rights and responsibilities than in most U.S. states, particularly because U.S. state-level statuses were not recognized by the federal government until 2013.

Studies from the European context provide some important results for understanding same-sex marriage. Most of that evidence broadly points in the same direction as evidence from U.S. studies, with some important exceptions. For example, the spread of legal same-sex registered partnerships across Europe has been linked to improved attitudes toward sexual minorities in multiple peer-reviewed studies (Abou-Chadi & Finnigan, 2019; C. G. Aksoy et al., 2020; Blasco et al., 2021), which accords with evidence from the U.S. (Flores & Barclay, 2016). We know less about the take-up of legal same-sex marriage in other countries mainly due to the lack of large surveys with individual-level information on minority sexual orientation. In contrast, however, administrative data in several European countries—especially the Nordic countries—provide very clear evidence on the prevalence and characteristics of individuals who took up legal same-sex marriage or registered partnerships.

For example, Noack et al. (2005) studied characteristics of individuals in same-sex registered partnerships in Norway following the country's 1993 reform that created a legal status very similar to full legal same-sex marriage. They found that there was more demand for same-sex registered partnerships among men than among women, unlike the U.S. experience mentioned earlier. Moreover, among those who took up same-sex registered partnerships between 1993 and 2001, those who did so within the first year were older, had a smaller within-couple age gap, were more likely to be living in the capital, were more likely to have been previously married, and were less likely to be in cross-national partnerships than those who took up same-sex registered partnerships after the first year. Andersson et al. (2006) extended this work to examine Sweden—which instituted a similar reform in 1995—in addition to Norway, and they also included comparisons to people who took up different-sex marriages in Sweden over the same time period. As in Norway, they found that men took up same-sex registered partnerships more than women in Sweden. They also found that individuals in same-sex registered partnerships were older on average and had a larger within-couple age gap than comparable individuals who took up different-sex marriages. This was especially true for men in same-sex registered partnerships. They also found that individuals in same-sex registered partnerships were more highly educated, more likely to live in cities, and more likely to be in cross-national partnerships than comparable individuals who took up different-sex marriages over the same time period. Meslay (2019) performed a similar analysis for France before and after the country's legalization of same-sex marriage in 2013. Like the experience of Norway and Sweden—but different from the U.S.—the author found larger take-up of same-sex marriage among men in same-sex couples than among women in same-sex couples. The author also found, as in the case for Sweden, that men who took up same-sex marriage were older on average than women who took up same-sex marriage, and the within-couple age gap among men in same-sex marriages was larger than the associated gap for women in same-sex couples.

Another European study relying on administrative records of people in officially registered relationships in the Netherlands found same-sex marriage legalization in the country caused long-term partnerships to convert to marriages that had a substantially lower separation rate than other relationships. This is consistent with a symbolic effect of marriage stabilizing partnerships since the registered partnerships that were available to same-sex couples in the Netherlands prior to the reform were “strong”, conferring nearly all the same rights and responsibilities as marriage (Chen & van Ours, 2020). Regarding effects of legal same-sex marriage availability on outcomes for heterosexual people, Trandafir (2015) used administrative data from the Netherlands and across OECD countries and, using synthetic control and difference-in-differences methods, found no evidence that same-sex marriage availability affected different-sex marriage rates, divorce rates, or extramarital births within OECD countries. This null finding is similar to those for the U.S. (Dillender, 2014; Langbein & Yost, 2009).

Regarding employment and other social outcomes, there is significantly less research from outside the U.S. Of course, in most other countries, effects on health insurance coverage are less plausible or

relevant than in the U.S. given universal or nearly-universal healthcare in most of the other countries that have adopted legal same-sex marriage. Aldén et al. (2015) used administrative longitudinal data on individuals in same-sex and different-sex couples to examine Sweden's strong registered partnership policy that closely resembled full legal same-sex marriage. They found that availability of same-sex partnership significantly reduced individual earnings of men in same-sex relationships, increasing household specialization because of the availability of resource pooling. In contrast, they found that the main effect for women in same-sex relationships was to increase fertility. Another exception is Dilmaghani and Dean (2020), who studied homeownership in Canada for individuals in same-sex couples coincident with legal same-sex marriage in the country. They found that legal same-sex marriage increased homeownership, with larger effects for men in same-sex couples than for women in same-sex couples.

Finally, research from Europe on the health effects of legal availability of same-sex partnerships and marriages has produced broadly similar patterns to those from the U.S. For example, Dee (2008) used data on sexually transmitted infections and variation across European countries in the timing of legal same-sex registered partnerships, finding that legal access to same-sex registered partnerships in Europe was associated with significant reductions in syphilis rates, which is most commonly transmitted through same-sex contact between men. Nikolaou (2023b) studied legal access to same-sex marriage in Europe from 1990 to 2018 using methods robust to staggered treatment timing concerns and found that legal same-sex marriage was associated with reductions in syphilis, gonorrhea, and HIV/AIDS rates in the country, with larger effects of legal access to same-sex marriage than legal access to same-sex registered partnerships.

Regarding mental health, studies in Europe provide clearer evidence of improvements following same-sex marriage legalization than in the U.S. Indeed, Chen and van Ours (2022) found that same-sex marriage legalization in the Netherlands improved mental health of sexual minority adults, and this result was observed for both married and single sexual minorities. Similar improvements were observed by Boertien and Vignoli (2019), who studied the effects of legal same-sex marriage in England and Wales in 2014 on subjective well-being (anxiety, happiness, worthiness, and satisfaction with life) using data from the 2011 to 2016 Annual Population Surveys in the UK.²¹

SUMMARY OF THE EVIDENCE

Taken together, the evidence reviewed above regarding the effects of legal access to same-sex marriage in the U.S. and internationally provides several key takeaways. First, the clearest and most consistent evidence in the literature regards marriage demand: sexual minorities take up legal marriage when it is available. This is true even when the federal legal status of same-sex marriage is absent or uncertain, even when very similar “marriage-like” alternatives are available, and even when same-sex couples have to travel to a different jurisdiction to obtain a same-sex marriage. Rates of marriage take-up among same-sex couples remain lower than among different-sex couples, but the take-up effect is statistically and economically significant. Second, there is no evidence that availability of legal same-sex marriage and other alternative statuses for same-sex couples changed the likelihood of being in a different-sex marriage, and in fact multiple studies find that same-sex relationship recognition—if anything—was associated with increases in different-sex marriage. Third, evidence on the effects of legal same-sex marriage availability on a range of downstream social outcomes such as attitudes toward LGBTQ+ people and employment choices of sexual minorities is mixed. Fourth, there is strong evidence that legal same-sex marriage increased health insurance coverage for individuals in same-sex

²¹ While not an evaluation of legal same-sex marriage availability, another study worth noting is Saxby et al. (2020), which used variation across areas in the vote margin for same-sex marriage in Australia to show that, controlling for individual and community factors, mental health related prescription drug use was greater among men and women in same-sex couples in areas with more structural stigma as measured by votes against legal same-sex marriage. They also found that this measure of stigma was related to reduced physician visits among individuals in same-sex couples.

couples in the U.S. where most people's health insurance is tied to employment. Finally, while there is mixed evidence on the effects of legal same-sex marriage availability on mental health of sexual minorities, there is consistently strong evidence that it was associated with economically and statistically significant improvements in sexual health among men who have sex with men. One interpretation of this finding on sexual health is that same-sex marriage increased relationship quality among sexual minorities and increased marital commitment. Overall, the evidence in the literature indicates that legal availability of same-sex marriage meaningfully transformed the lives of same-sex couples specifically and sexual minorities more generally without having systematic effects on other groups.

CHALLENGES FOR LEGAL SAME-SEX MARRIAGE AND LGBTQ+ RIGHTS

Although legal same-sex marriage is the current law of the land in the U.S., it is worth being explicit about the multiple ways the policy could be overturned, diluted, or otherwise rendered ineffective. The first and most direct risk for nationwide marriage equality in the U.S. is if the U.S. Supreme Court were to rule that *Obergefell* was wrongly decided and that there is no Constitutional right to legal same-sex marriage. This is what Justice Thomas's concurring opinion in the 2022 *Dobbs* case explicitly calls for. Such reversals are not uncommon. *Dobbs* explicitly overturned *Roe* in the context of reproductive rights, and *Lawrence* itself was a decision that explicitly overturned a previous 1996 case in *Bowers v. Hardwick*. Thus, a Supreme Court reversal would be the most direct threat to legal nationwide same-sex marriage.

What would happen to same-sex marriage policy if *Obergefell* were overturned? One possibility is that states would revert to what existed prior to *Obergefell*, returning to a patchwork map of potentially conflicting state policies on legal same-sex marriage, in a manner very similar to how abortion availability changed sharply following *Dobbs* based on state policies. In the context of same-sex marriage, many states—especially Southern states—had explicit bans on same-sex marriage in their state constitutions.²² A key difference with reproductive rights, however, is that the U.S. Congress adopted the Respect for Marriage Act in 2023, a potential backstop to legal same-sex marriage rights were *Obergefell* to be overturned. This law—which repealed the 1996 Defense of Marriage Act—requires the federal government and states to recognize valid same-sex marriages (and interracial marriages) performed in other states. Notably, the Respect for Marriage Act does *not* require all states to perform same-sex marriages; they just have to recognize them as legal and valid marriages if they were performed in a state where such marriages were legal.

Even if *Obergefell* is not directly overturned, there are other ways in which the right to marry could be reduced or effectively diluted for same-sex couples. For example, companies and individuals are claiming that recognizing or serving same-sex couples violates their fundamentally held religious convictions, and some of these plaintiffs have won high-profile victories at the U.S. Supreme Court. Religious freedom advocates praised (and LGBTQ+ rights advocates lamented) Supreme Court decisions in *Masterpiece Cakeshop v. Colorado* in 2017, *Fulton v. City of Philadelphia* in 2021, and *303 Creative LLC v. Elenis* in 2023, all of which addressed the rights of married or soon-to-be-married same-sex couples and were seen as circumscribed wins for religious liberty interests. The most recent case in *303 Creative* involved a website designer in Colorado who did not want to create wedding websites for same-sex couples due to her religious beliefs. The U.S. Supreme Court ruled that Colorado's nondiscrimination law violated the website designer's free speech rights.

²² After *Obergefell*, some states such as Virginia and Nevada proactively removed state bans on same-sex marriage (Povich, 2022). In contrast, other states have considered adopting laws that explicitly reject *Obergefell* and related court decisions granting same-sex marriage. For example, Tennessee's Natural Marriage Defense Act would define marriage as between one man and one woman in the state regardless of any court rulings. That law was introduced in 2017 and has not yet been adopted as of November 2023.

These religion-based arguments may give legal standing for governments and firms to treat legally married same-sex couples differently from different-sex couples with respect to tangible benefits of marriage.²³ One particularly relevant example is health insurance benefits. As already mentioned, a large body of work demonstrates that sexual minorities and individuals in same-sex couples have lower insurance rates than otherwise similar heterosexual people and individuals in different-sex couples, and access to a spouse or partner's employer-provided health insurance plan is common. If firms with religiously held beliefs against homosexuality are permitted to treat the same-sex spouses of their employees differently from the different-sex spouses of their employees, this has the potential to effectively undo some of the valuable benefits of legal same-sex marriage. Indeed, there are several examples of firms and government institutions choosing to treat same-sex spouses differently than different-sex spouses with respect to workplace benefits such as health insurance coverage (Cousins, 2021; Ura, 2017). Access to retirement, pensions, adoptions, and other marriage-related benefits are also plausibly at risk.

Notably, anti-LGBTQ+ efforts in the U.S. have in the past few years focused sharply on transgender related issues as opposed to lesbian, gay, and bisexual issues (American Civil Liberties Union, 2023; Movement Advancement Project, 2023). For example, while there were 19 anti-transgender bills considered in the U.S. in all of 2019, there were 586 from January to November, 2023 (Trans Legislation Tracker, 2023). Possibly recognizing that American public opinion on topics such as marriage equality is so overwhelmingly supportive, anti-equality advocates have introduced and adopted numerous laws that disproportionately affect transgender people and especially transgender youth, including: restricting bathroom and locker room access; banning gender affirming care for minors, sometimes with criminal penalties for parents and/or healthcare providers; prohibiting transgender women and girls from competing in women's sports; making it more difficult to update government and legal documents with one's affirmed gender; and codifying "sex" in state law to refer to immutable biological sex characteristics (Nagourney & Peters, 2023). To be clear, there are also broad anti-LGBTQ+ efforts in state legislatures as well, including the notorious "Don't Say Gay" law in Florida; banning books and teaching about sexual orientation and gender identity; and pre-emption laws that prohibit cities from adopting more progressive LGBTQ+ rights policies. But the majority—and the most visible—of anti-LGBTQ+ efforts in the recent past in the U.S. have focused much more on the transgender community than on lesbian, gay, and bisexual people. This pattern stands in contrast to recent research showing that a sizable majority of Americans support non-discrimination policies protecting gender minorities (B. Aksoy et al., 2022; Doan et al., 2022).

What this will mean for the future of legal same-sex marriage policy specifically and LGBTQ+ rights more generally in the U.S. is not obvious. One factor that does seem clear is that the efforts to undo or dilute legal same-sex marriage in the U.S. are increasingly focused on the judiciary where a large number of more conservative-leaning judges were appointed from 2016 to 2020, while most of the challenges to transgender rights have been focused on state legislatures. Much more research is needed by political scientists, public administration scholars, and policy researchers to understand the political dynamics of legal same-sex marriage in the broader context of LGBTQ+ rights debates.

DIRECTIONS FOR FURTHER RESEARCH ON SAME-SEX MARRIAGE

Although the literature on legal same-sex marriage has increased significantly over the recent past, there are still numerous avenues for future work in this area. First, we are not aware of any research on

²³ While not directly related to marriage, state courts have also ruled that private employers can choose not to cover PrEP, or pre-exposure prophylaxis, which prevents transmission of HIV and is disproportionately used by gay men and men who have sex with men. The Affordable Care Act required coverage of this medication, but plaintiffs sued, claiming that they did not want to cover medications that "promoted homosexual behavior" due to their religious beliefs (Aubrey, 2022). In another parallel to reproductive rights, the Supreme Court ruled in a 2014 case in *Burwell v. Hobby Lobby Stores, Inc.* that a private company did not have to abide by an Affordable Care Act rule to cover contraception in health insurance plans if it violated their religious beliefs about abortion.

how legal same-sex marriage affected gender diverse populations, including transgender and non-binary individuals. It is possible that the improvement in attitudes toward sexual minorities that coincided with legal same-sex marriage also improved conditions for gender minorities, though we are aware of no research on this topic. Related to this, we also know very little about how legal same-sex marriage affected bisexual individuals, a group who we know from prior work is disproportionately likely to be in different-sex relationships (Badgett et al., 2021). Whether legal same-sex marriage influenced partner selection among this population is an interesting possibility.

Second, due to the recency of the reforms to legal same-sex marriage, we do not have evidence on the medium and longer-term effects of these policies. For example, it is possible that youths who were exposed to more years of legal same-sex marriage in childhood will grow up with more progressive views on LGBTQ+ issues, which would be an interesting question for future study on their education, labor, and marriage choices. This is particularly important given the existing disparities by sexual orientation and gender in education and labor market outcomes, as well as in the marriage market (Badgett et al., 2021, 2024; Sansone, 2019b). The medium and longer-term direct effects of legal same-sex marriage on individuals in same-sex marriages are also of interest.

Third, much more research is needed on how legal same-sex marriage affected the household division of labor, fertility, and child-rearing outcomes for sexual minorities. Sansone (2019a) and Hansen et al. (2020) found no short-term effect of legal same-sex marriage on fertility, but more research is needed to estimate the long-term effects of same-sex marriage legalization and to understand how legal relationship recognition is related to family formation broadly defined, including adoption and foster parenting. Related to this, as is natural in the study of marriage, it will be important to understand how legal same-sex marriage is related to same-sex separation, uncoupling, and divorce.²⁴ More and better data—possibly administrative data—will be needed to study these important life course transitions.

Fourth, as noted in the prior section, more political economy research on same-sex marriage is warranted. For example, how do legal reforms to same-sex relationship recognition diffuse across states, countries, and cultures? What are the correlates and predictors of expanded access to legal same-sex marriage, and how have these relationships changed over time? And, as countries begin to seriously debate revoking same-sex marriage rights—Bermuda was the first country to do so in 2018, and Supreme Court Justice Clarence Thomas explicitly referred to the *Obergefell* ruling as wrongly decided—research may be needed to understand the causes and consequences of legal efforts to take away relationship recognition rights from same-sex couples.

Fifth, future research will need to wrestle more directly with econometric issues related to staggered adoption, effects of heterogeneous treatment timing, and small or non-representative samples. This is true for studies of the U.S.-based rollout of legal same-sex marriage as well as in other contexts such as Europe where legal access was granted at different times across countries. We caution, however, that this call may be in tension with studying historically hard to reach and measure subpopulations such as transgender and nonbinary people, older sexual and gender minorities, and LGBTQ+ people of color. The important goal of robust statistical inference should not come at the cost of inclusion of communities in research that have historically been underrepresented, marginalized, and actively erased. Descriptive and correlational analyses that establish new facts about legal same-sex marriage and outcomes are important for laying the groundwork for the more internally-valid design-based work that policy researchers value.

Finally, sexual and gender minority individuals remain largely invisible in low and middle-income countries. And yet, policymakers in those countries frequently enact laws and implement policies directly affecting LGBTQ+ individuals and their relationships. For instance, India repealed its sodomy laws criminalizing same-sex sexual activity in 2018, but its Supreme Court declined to legalize same-sex marriage in 2023; Taiwan became the first country to legalize same-sex marriage in Asia in 2019;

²⁴ A handful of studies use population register data from European countries to describe relationship dissolution and legal divorce prevalence and risk factors among individuals in same-sex couples (Aarskaug Wiik et al., 2014; Andersson et al., 2006; Kolk & Andersson, 2020), but more work on these topics is needed.

Cuba and Chile were two of the latest countries to legalize same-sex marriage in 2022; and Nepal's Supreme Court ordered the government to legalize same-sex marriage and allow same-sex couples to marry in the interim in 2023, de jure legalizing same-sex marriage. In contrast, countries such as Uganda, Russia, and Hungary continue to pass anti-LGBTQ bills. As same-sex marriage is legalized in some of these countries, while others increase their attacks against the LGBTQ+ community, it is vital to understand the socio-economic effects of these policies in places where LGBTQ+ people may be particularly vulnerable.

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AUTHOR BIOGRAPHIES

M. V. Lee Badgett is a Professor in the Department of Economics at the University of Massachusetts – Amherst, 319 Crotty Hall, Amherst, MA 01003 (email: lbadgett@econs.umass.edu).

Christopher S. Carpenter is E. Bronson Ingram University Distinguished Professor in the Department of Economics at Vanderbilt University, 2301 Vanderbilt Place, Nashville, TN 37235-1819 (email: christopher.s.carpenter@vanderbilt.edu).

Maxine J. Lee is an Assistant Professor in the Department of Economics at San Francisco State University, HSS Building Rm 144, 1600 Holloway Avenue, San Francisco, CA 94132 (email: mclee@sfsu.edu).

Dario Sansone is a Lecturer (Assistant Professor) in the Department of Economics at the University of Exeter, Rennes Drive, Exeter, EX4 4PU, UK (email: d.sansone@exeter.ac.uk).