

*Effect of Registered Partnership on Labor Earnings and Fertility for Same-Sex Couples: Evidence From Swedish Register Data*

**Lina Aldén, Lena Edlund, Mats Hammarstedt & Michael Mueller-Smith**

**Demography**

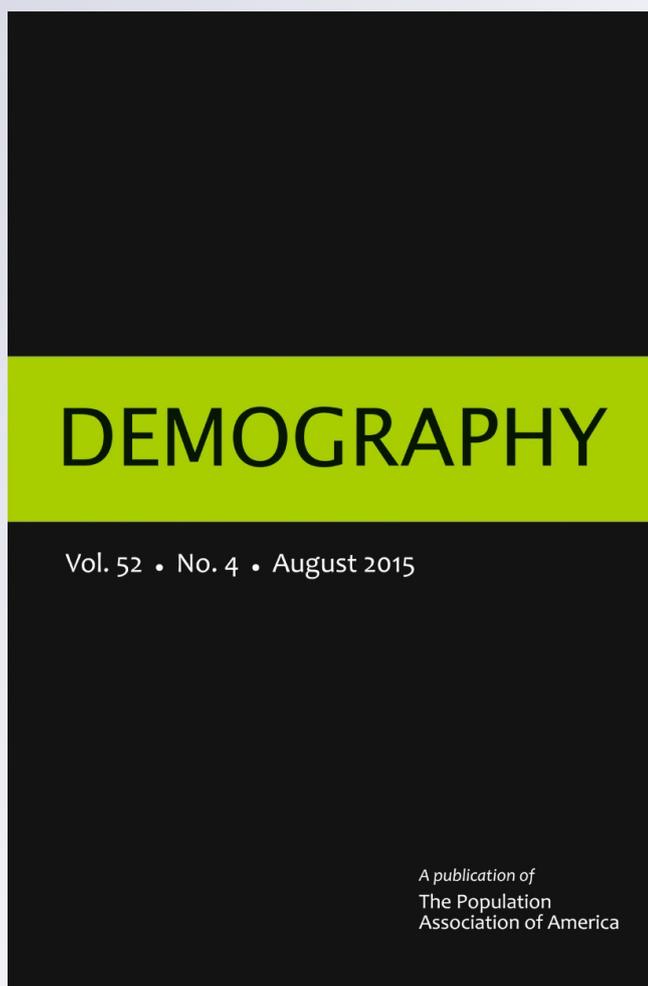
ISSN 0070-3370

Volume 52

Number 4

Demography (2015) 52:1243-1268

DOI 10.1007/s13524-015-0403-4



**Your article is protected by copyright and all rights are held exclusively by Population Association of America. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your article, please use the accepted manuscript version for posting on your own website. You may further deposit the accepted manuscript version in any repository, provided it is only made publicly available 12 months after official publication or later and provided acknowledgement is given to the original source of publication and a link is inserted to the published article on Springer's website. The link must be accompanied by the following text: "The final publication is available at [link.springer.com](http://link.springer.com)".**

# Effect of Registered Partnership on Labor Earnings and Fertility for Same-Sex Couples: Evidence From Swedish Register Data

Lina Aldén<sup>1</sup> · Lena Edlund<sup>2</sup> · Mats Hammarstedt<sup>1</sup> · Michael Mueller-Smith<sup>2</sup>

Published online: 1 July 2015

© Population Association of America 2015

**Abstract** The expansion of legal rights to same-sex couples is afoot in a number of Western countries. The effects of this rollout are not only important in their own right but can also provide a window on the institution of marriage and the rights bundled therein. In this article, using Swedish longitudinal register data covering 1994–2007, we study the impact of the extension of rights to same-sex couples on labor earnings and fertility. In 1994, registered partnership for same-sex couples was introduced, which conferred almost all rights and obligations of marriage—a notable exception being joint legal parenting, by default or election. The latter was added in the 2002 adoption act. We find registered partnership to be important to both gays and lesbians but for different reasons. For gays, resource pooling emerges as the main function of registered partnerships. For lesbians, registered partnership appears to be an important vehicle for family formation, especially after the 2002 adoption act. In contrast to heterosexual couples (included for comparison), we find no evidence of household specialization among lesbians. The lack of specialization is noteworthy given similar fertility effects of registered partnership (after 2002) and the fact that lesbian couples were less assortatively matched (on education) than heterosexual couples—children and unequal earnings power being two factors commonly believed to promote specialization.

**Keywords** Same-sex partnership · Marriage premium · Paternity presumption

---

✉ Lina Aldén  
Lina.alden@lnu.se

<sup>1</sup> Centre for Labour Market and Discrimination Studies, Linnaeus University, Växjö, Sweden

<sup>2</sup> Department of Economics, Columbia University, New York, NY, USA

## Introduction

In 1989, Denmark became the first country to legally recognize same-sex unions. Since then, some 30 countries have followed suit, with France being the latest to join the list. In the United States, more than one-half of its states allow same-sex marriage, and what rights and protections are afforded homosexuals is an ongoing debate. Advocates invoke equality, fairness, and human rights; opponents see a threat to family and society (Chamie and Mirkin 2011).

Despite growing demand, relatively little is known about the function of legal same-sex unions. What is it that legal status confers that cannot be achieved through private contracts or actions, such as cohabitation? Arguably, the same might be asked of opposite-sex marriage, an institution that has proven long-lived.

Still, what holds for opposite-sex unions need not carry over to same-sex ones. For instance, the returns to marriage in the Beckerian framework (Becker 1973) rest on returns to specialization—and same-sex couples appear to specialize less (Jepsen and Jepsen 2002). Long-term commitment is another celebrated function of marriage that may or may not translate to same-sex couples (Andersson et al. 2006). A potentially more thorny issue, however, is the so-called paternity presumption: that is, the husband is the presumed father of children borne by the wife (Appleton 2006). Paternity presumption has until now been a universal feature of marriage, and one that may even constitute its very core (Posner 1992). In fact, most same-sex unions carve out paternity presumption, but even when included, its application is far from straightforward because of the strong rights accorded to birth mothers. By default, the mother is the woman who gives birth. If a man in a same-sex partnership acknowledges paternity of a child born to an unmarried woman, will the child have three parents? And if parental rights are at the heart of legal unions, then what is its relevance to male-male—and thus sterile—couples?

This article seeks to shed some light on the practical implications for same-sex couples of greater access to legal rights formerly reserved for opposite-sex couples by studying an expansion of rights in Sweden. Starting in January 1995, same-sex couples could enter registered partnership, a contract that conferred almost the same rights and obligations as opposite-sex marriage. However, the paternity presumption was carved out in an innocuous-sounding exemption of rights extended to one sex only. It would be another eight years until same-sex partners gained the right to adopt jointly or as stepparents. The new adoption law was enacted in 2002 and took effect January 1, 2003.

In this article, we analyze Swedish administrative data covering 1994–2007. Derived from Swedish registers, these data are high quality, have universal coverage, and allow us to follow individuals. Using these administrative data, we identify and follow all individuals who entered into registered partnerships in 1995–2006 (to allow for a post- and pre-union year). For comparison, we include all who entered opposite-sex marriage in this period. The data contain detailed information on earnings and children living in the household, which enables us to shed new light on how entry into partnership/marriage affects labor market and parental outcomes. Our empirical strategy is to compare outcomes of earnings and presence of children before and after union entry, controlling for individual fixed effects so that the person serves as his/her own control group.

For ease of exposition, “marriage” in the text will refer to opposite-sex marriage unless otherwise noted. Registered partnership (RP) will be referred to as such, or abbreviated to partnership, context allowing.<sup>1</sup>

By exploiting longitudinal data, we can avoid the problem of selection into partnership (or marriage) that arises in cross-sectional comparisons. However, the possibility that partnership/marriage entry is timed to coincide with other life changes remains. Milestones such as graduation or steady employment may both trigger marriage and presage earnings growth, resulting in an upward bias. On the other hand, a downward bias would result if partnership/marriage were timed to coincide with a downshift in labor market attachment (e.g., because of parenthood or retirement). Therefore, our estimates provide a description of labor market and parenting responses to partnership/marriage entry but cannot isolate the causal effect of entry into partnership/marriage.

Our most noteworthy finding pertains to parenthood. Following the 2002 adoption law giving partners in an RP the right to joint or stepparent adoption, we see both a noticeable increase in lesbian partnership and children living with lesbians in partnership. The net effect of union entry on presence of children, especially after the 2002 reform, reveals similar effects of entry into legal union status for lesbian and opposite-sex couples—couples with at least one woman. These findings highlight the importance of a legal framework for parental rights; indeed, it underscores the role of joint legal parenting for fertility decisions.

The found fertility effects, however, are limited to unions with women. The absence of positive fertility effects among gays could be due to many factors, including lower demand for children. In addition, the route to joint parenthood is more difficult for partnered men. For stepparent adoption, the child’s mother’s rights need to be severed, which for practical purposes means that the child is motherless or is born to a gestational carrier. For regular adoption, the hurdle again is the supply of children. Many adoption agencies restrict adoptions to husband-wife couples or single persons.

Turning to earnings, we find a substantial decline in individual earnings for gay men (–12 %), whereas for lesbians, the effect is small (–2 %) and highly insignificant. As for couple earnings, the pronounced decline seen for gays is absent, suggesting a high degree of income buffering (or negative sorting). By contrast, among lesbians, the income reduction seen at the individual level is amplified after being viewed at the couple level, which is suggestive of within-couple positively correlated labor market responses to partnership entry. Within-couple earnings gaps change in a direction consistent with this interpretation. Among lesbians, there is a sizable (but statistically insignificant) reduction in the within-couple earnings gap; among gays, though, the effect on the gap is small and highly insignificant.

As a point of reference, we also look at heterosexual couples and find effects of marriage that are largely in line with what has been documented in the literature: fertility increases, women’s earnings decrease, and the within-couple earnings gap increases. Men earn substantially more after marriage than before, but we find no evidence of a marriage premium employing our within-individual comparison. Instead, we find a strong ramp-up of earnings in the years leading up to marriage. Given the negative marriage premium for

<sup>1</sup> In 2009, outside our sample period, registered partnership (RP) was replaced by same-sex marriage. However, other than the name, the principal change was to allow the ceremony to take place in the Swedish Church.

women and the absence of a positive premium for men, our finding that the combined earnings for the couple decline on marriage is perhaps unsurprising.

Taken together, these findings paint a picture of same-sex RP filling a different role for same-sex couples than marriage does for opposite-sex couples, and the roles are different for gays and lesbians. Generally speaking, as evidenced by the earnings gap, specialization on union entry is much more pronounced among heterosexual couples and, if anything, is higher among gays than lesbians. This is particularly noteworthy given the close-to-zero fertility effect among gays and similar fertility effects for women, whether in a same- or an opposite-sex union.

One possibility is that the specialization seen in opposite-sex couples stems from the fact that only one of the spouses—the woman—can bear children. If home production is defined as the bearing of children, then the inability of men in that department gives them infinite comparative advantage in market work—a candidate reason why the sexual division of labor remains qualitatively unchanged despite significant gains that women have made on men in the labor market in the last half-century.

In separate work, one of this article's authors has argued that marriage, because of paternity presumption, is a contract in which men gain paternity and obtain parental rights (Edlund 2006, 2013; Edlund and Korn 2002). The argument is based on twin observations: (1) that the act of giving birth assigns motherhood, and an unmarried mother is by default the child's only known parent and its sole custodian; and (2) that a married mother shares custody with her husband and presumed father of the child. In other words, an unmarried man has no guaranteed rights to either legal fatherhood or custodial rights regardless of biological parentage, whereas these rights are guaranteed a married man (again, regardless of biology). This "transfer of children" to men in marriage could form the basis for a transfer in the other direction: that is, unearned income to the woman (spousal earnings being a form of unearned income; e.g., Juhn and Murphy 1997).

Marriage, viewed through this lens, does not translate 1:1 to the same-sex context. Gay couples are sterile, and lesbian couples lack the asymmetry of opposite-sex couples: either party can bear a child, and neither party needs a formal union for legal recognition of the parent–child relationship established at birth.

## Background

Our study is in the tradition of the literature on the so-called marriage premium, which is estimated in the cross-section to be about 10 % for men—a robust but intriguing association (Antonovics and Town 2004; Cornwell and Rupert 1997; Dougherty 2006; Ginther and Zavodny 2001; Korenman and Neumark 1991; Krashinsky 2004). Our findings for heterosexual men are in line with those of Dougherty (2006), who analyzed the 1979 National Longitudinal Survey of Youth (NLSY) within a similar individual fixed-effects framework and found the marriage event to be largely indistinguishable from a smooth earnings profile. Zavodny (2008) studied the effect of cohabitation on earnings among U.S. homosexual men in a cross-sectional comparison using the General Social Survey and the National Health and Social Life Survey and found no evidence of a "cohabitation premium."

Turning to earnings and sexual orientation, a number of studies have found that gay men earn less than heterosexual men, whereas lesbians typically out-earn heterosexual women.<sup>2</sup>

Homosexuality—particularly, relations between men—has a long history of criminalization (see, e.g., Frank et al. 2010). While rarely stated in so many words, resistance to male homosexuality may lie in a suspicion that if allowed, men would willingly trade their role of breadwinning for a hedonistic existence, and women and children would suffer.<sup>3</sup> And while one father is considered better than none, how do two stack up? Does societal acceptance of same-sex unions reduce the interest in traditional marriage? Questions like these may speak to the controversy surrounding recognition of same-sex unions. Legal recognition of same-sex couples provides a unique opportunity to shed further light on issues like these.

Our article adds to a small but growing literature on marriage-like contracts for same-sex couples afforded by the recent expansion of such rights (Burn and Jackson 2014; Carpenter and Gates 2008; Dillender 2014, 2015; Langbein and Yost 2009; Trandafir 2015). Exploiting cross-sectional and time variation, a number of studies have found no evidence of the legalization of same-sex unions eroding traditional values as measured by marriage, divorce, or abortion rates.<sup>4</sup> In fact, for one outcome—namely, syphilis—legalization appears to have reduced the incidence, possibly by encouraging fidelity among same-sex partners, although the data cannot speak to whether the disease reduction stemmed from safer practices among same-sex or opposite-sex partners (Dee 2008).<sup>5</sup> Although the Swedish context does not allow for geographic and time variation, the expansion of rights to same-sex couples in Sweden coincided with an increase in both the propensity to enter, and the stability of, opposite-sex marriages (Andersson and Kolk 2011).

Burn and Jackson (2014) studied the marriage premium for gay men using a difference-in-difference-in-difference approach that compared the earnings growth of men in same-sex couples relative to married men over the 1990–2011 period. They found that the earnings growth had been substantially higher for men in same-sex couples relative to heterosexually married men in the six U.S. states that had legalized same-sex marriage compared with such men living in states that had not legalized same-sex marriage.<sup>6</sup>

Consistent with the idea that children are important reasons for formal unions and with the limited fertility of gay couples, Carpenter and Gates (2008) found in their study of homosexual Californians that lesbian couples

<sup>2</sup> For the United States, see Allegretto and Arthur (2001), Badgett (1995, 2001), Black et al. (2008), Carpenter (2004, 2005), Clain and Leppel (2001), and Klawitter and Flatt (1998). For Australia, see Carpenter (2008). For the UK, see Arabshuibani et al. (2004, 2005). For the Netherlands, see Plug and Berkhout (2004). For Greece, see Drydak (2011). For Sweden, see Ahmed and Hammarstedt (2010), Ahmed et al. (2011, 2013), and Hammarstedt et al. (2015).

<sup>3</sup> Alternatively, it may be the result of the majority seeking control over resources in times of scarcity. Eleventh century Europe saw increasing scarcity of land as population growth picked up following improved agricultural practices. In that period, State-sanctioned persecution of Jews, lepers, male homosexuals, and heretics emerged to form what Moore (2007) coined “the prosecuting society.”

<sup>4</sup> For the United States, see Langbein and Yost (2009) and Dillender (2014). For the OECD, see Trandafir (2015).

<sup>5</sup> Syphilis is a sexually transmitted disease that is “relatively common among men who have sex with men” (Dee 2008:1056).

<sup>6</sup> The states are Massachusetts (2004), Connecticut (2008), Vermont (2009), Iowa (2009), Washington, DC (2010), and New Hampshire (2010).

are more prone to “legalizing” their relationship. This finding was echoed in Sweden after 2002 (Statistics Sweden 2009).

The research perhaps closest to our study is that of Dillender (2015), who found that access to same-sex marriage reduced the labor market participation of lesbian couples, shifting these families from dual- to single-earner households—a change that Dillender attributed to access to partner’s health insurance benefits.

Last—and not strictly about same-sex marriage—Rosenfeld (2010) found that same-sex couples were equally effective in raising children, as measured by the children’s educational attainment. However, Allen et al. (2013) and Allen (2013) questioned Rosenfeld’s results. Allen et al. (2013) reevaluated Rosenfeld (2010) by using the same U.S. data set but other comparison groups and other sample restrictions. They found that children raised by same-sex couples were significantly less likely than children raised by married couples to make normal progress through school. Using Canadian census data to examine the association between household type and children’s graduation rates from high school, Allen (2013) showed that children living with gay and lesbian parents were less likely to graduate from high school than those children living with opposite-sex parents. Girls with same-sex parents fared considerably worse than boys with same-sex parents, and graduation rates were especially low among daughters of gay parents.

## Theoretical Framework

Registered partnership may be an important institution for reasons similar to marriage. In this section, we discuss some possible channels to entry into RP and possible effects on labor earnings and fertility for same-sex couples. We start by juxtaposing two theories of marriage and their respective implications for labor market effects. We then turn to the specific institutional context in Sweden in which income and asset pooling is the default. Because resource pooling can impact observed labor market behavior, it merits our attention. However, resource pooling is a function that could be achieved by private contracting. For example, if  $X$  owns an asset, s/he can make  $Y$  a joint owner. This can be achieved through pension and life insurance, which allow individuals to designate beneficiaries, and through wills that allow for the designation of beneficiaries. Although resource pooling may be mandated by marriage or partnership, it does not define these institutions; therefore, we discuss resource pooling separately. Finally, we discuss the role of social recognition.

### *Theories of Marriage*

In this section, we discuss two theories of marriage and their respective relevance and predictions for RP: (1) Becker’s (1973) canonical theory, and (2) a more obscure theory advanced by one of this article’s authors in separate work (Edlund 2006, 2013; Edlund and Korn 2002). In brief, the gains from marriage in Becker’s theory are realized through intrahousehold specialization—that is, one person specializing in market work and the other person specializing in nonmarket production. This fundamentally gender-neutral theory could be eminently applicable to same-sex couples, assuming the presence of a “household commodity.” Edlund’s theory, by contrast, hinges on biological asymmetries in reproduction, and marriage is viewed as a contract that effectuates

trade in children. Viewed from this vantage point, opposite-sex marriage serves as a poor template for same-sex unions. In fact, same-sex unions may help separate the two theories.

**Household commodity** In his seminal work, “A Theory of Marriage,” Becker (1973) advanced the notion of a household commodity produced using nonmarket time and market goods. Household commodities are “not marketable or transferable among households, although they may be transferable among members of the same household . . . [examples include] quality of meals, the quality and quantity of children, prestige, recreation, companionship, love and health status” (Becker 1973:816).

The theory is essentially gender-symmetric, and within-couple specialization arises from the need for nonmarket time—a need that could be circumvented if the good were transferable between households, but it is not. As the preceding quote from Becker makes clear, the household commodity is not marketable or transferable among households. These are important distinctions for (at least) two reasons. First, they separate the person providing the nonmarket time from hired help: for example, the wife from the maid. Second, they drive the case for negative sorting on wages—one of the most criticized predictions of the theory (e.g., Lam 1988). To see why this prediction has been criticized, note that negative sorting requires not only that the high-wage man marry the low-wage woman (which is known to have happened) but also that the low-wage man marry the high-wage woman (less often observed). This prediction is all the more jarring today when women are increasingly both well-educated and attached to the labor force, resulting in a sizable group of women with high wages and whose family-formation mores can be observed.

Although Becker did not limit the notion of household commodities to children, children are of particular salience among the examples he listed, because of both their importance and their lack of marketability.<sup>7</sup>

**Paternity presumption** For Edlund (2013), children are at the heart of marriage; and unlike Becker’s theory, Edlund emphasized formality.<sup>8</sup> Her view of marriage focuses on formal marriage as a contract on children, wherein women sell and men buy. The rationale for this characterization lies in the asymmetries of reproduction. Although everybody has exactly one mother and one father, the woman’s contribution is more critical. Women are not only bottlenecks in reproduction, but they are also the only readily identifiable parent.

It is perhaps then not surprising that in the vast majority of jurisdictions, the woman who gives birth is also the default mother; and if she is unmarried, by default she is also the child’s sole custodian, and the father is unknown. It is very difficult for a man to claim paternity against the will of the mother unless the mother is also his wife, which brings us to paternity presumption.

<sup>7</sup> Of the examples Becker listed, markets exist for quality of meals, prestige, recreation, and health status. Companionship and love may not have markets, but it is also hard to see how they depend on marriage or could be produced through specialization or be transferable between spouses.

<sup>8</sup> Becker (1973:815–816) abstracted from formal marriage “. . . two persons, *M* and *F*, who must decide whether to marry each other or remain single. For the present, ‘marriage’ simply means that they share the same household.”

If the mother is married, the husband is the presumed father, and his guaranteed paternal rights exceed those of an unmarried father. This “paternity presumption” is a universal feature of marriage and is also a unique feature of marriage. Formality is needed because a private contract would amount to conducting *de facto* trade in children as a commodity and would lack legal standing in jurisdictions that do not allow contracts on rights in people (the vast majority, that is).

Marriage, thus conceptualized, amounts to a contract whereby a husband hires a wife to produce children—and even though the wife needs to be a woman, the “husband” can be of either sex. Many traditional African societies have allowed barren women to take wives, amounting to an early form of same-sex marriage (Evans-Pritchard 1951). In fact, Appleton (2006) has argued that same-sex marriage, including paternity presumption, should be reserved for women based on the complication mentioned in the introduction: namely, that male same-sex marriage could easily result in three legal parents, a concept that (for now, at least) is alien to Western society. (However, as cross-racial adoptions illustrate, biological plausibility is not a *sine qua non* for legal parent–child relations.)

Marriage is commonly conceptualized as a transfer of resources from the man to the woman (e.g., Akerlof et al. 1996). What is transferred the other way is, however, often not articulated or justified as stemming from an inability of women to support themselves. However, if marriage is the transfer of parental rights from the wife to the husband, material transfers in the opposite direction may be endogenous to the transfer in parental rights. The sexual division of labor commonly observed could arise from comparative advantage but could equally be the result of women’s unearned income. Furthermore, negative sorting does not arise as readily as in the Beckerian theory given that negative sorting would require the pairing of a high-wage seller and a low-wage buyer. Thus, the paternity presumption offers an explanation (other than gender roles) for why high-wage women would rather remain single than marry low-wage men.

**Predictions, general** Turning to the predictions of the two theories for same-sex RP, it may be useful to distinguish between children and other household commodities. Excluding children, the Beckerian theory predicts negative sorting and specialization. By contrast, a theory of marriage based on paternity presumption does not apply in a world without children.

If the household commodity is indeed children (which seems reasonable given Becker’s definition, his other examples notwithstanding), the two theories have observationally different predictions for same-sex and opposite-sex couples. Again, Becker’s theory predicts specialization: one person specializing in market work and the other person providing nonmarket time for the household commodity, regardless of whether the couple is same sex or opposite sex.

By contrast, Edlund’s theory predicts less specialization for same-sex than for opposite-sex couples because marriage amounts to trade in children, from the woman to the man. The resulting compensation from the man to the woman allows women to enjoy more leisure, which is observationally equivalent to reduced labor market attachment. However, in the context of same-sex couples, the basis for this payment is moot. Either or none of the partners can bear children.

Registered partnership in Sweden carved out paternity presumption (a carveout that remains for same-sex marriage, RP’s 2009 incarnation). Thus, to the extent that the

effects of marriage are tied to the transfer of parental rights, they may not carry over to partnership. This carveout is common to same-sex legal unions but is not universal, (e.g., Anderson 2006). The legal landscape is changing rapidly, however. Whereas paternity presumption tends to remain carved out, legal unions are recognized and granted by an increasing number of jurisdictions and may pave the way for greater parental rights. For instance, in France, the discussion of same-sex marriage has precipitated a discussion of same-sex adoption of children.

In Sweden, lesbians entering RP do not automatically share parental rights to children borne by the partner. That is, if one of the women becomes a mother, her partner does not automatically also become a mother, and custody is not joint. Since the 2002 adoption law, however, those in an RP have the right to adopt jointly or as a stepparent. Furthermore, in 2005, lesbian women gained the right to artificial insemination under the auspices of the national health care system. (Its significance for fertility can be questioned on *a priori* grounds, however.)

Assuming that children are the main household commodity, both theories of marriage predict a rise in lesbian partnership entry as well as higher fertility, following the 2002 adoption law. (The effects of the 2005 law cannot be examined with our data given that our last year is 2007, allowing for at most one “treated” year.)

Although the situation for gays is legally the same as for lesbians, the 2002 adoption law has little practical significance. For the law to be applicable, a child is needed, and a man not married to a woman lacks default parental rights. Absent that, gay couples’ options are limited to adoption or surrogacy. The supply of children for adoption is limited, and many countries do not allow same-sex couples to adopt. Although not illegal, surrogacy contracts are typically not enforced. This legal gray zone makes surrogacy emotionally and financially taxing and unpractical for most couples.<sup>9</sup> Thus, for all practical purposes, gay couples may be sterile, removing an important reason for household specialization.

Given the difficulty gay men face in obtaining children, lesbian couples emerge as a testing ground of particular interest. Does the possibility of joint legal parenting boost partnership entry? Is partnership entry associated with more children for lesbians than is nonpartnership? If so, do lesbian couples specialize?

### *Financial Motives/Income Pooling*

A number of financial incentives and programs are organized around the institution of marriage. However, there are few financial benefits tied to marriage in Sweden today. For instance, tax filing status is strictly individual, and all residents are covered by national health insurance. Additionally, the public retirement pension is not inherited by the surviving spouse, and there is no gift or inheritance tax.

The main financial consequences of RP (and marriage) are these: (1) all assets are treated as marital property (individual ownership but restrictions on disposal) unless otherwise specified in a prenuptial agreement or given as a gift expressly designated to be individual property; (2) all assets accumulated during the partnership (or marriage)

<sup>9</sup> The red tape, uncertainty, and high cost surrounding adoption and surrogacy can be traced to their being conceptually close to contracts on children.

are community property; (3) partners (spouses) have the right and obligation of mutual support and specifically have the right to the same standard of living; and (4) the surviving partner (spouse) has default inheritance rights.

Thus partnership (and marriage) entails a resource transfer to the financially weaker partner. This could dull work incentives for both the higher and the lower earner in the couple. For the higher earner, pooling amounts to a tax. For the lower earner, pooling amounts to unearned income. Furthermore, income pooling offers insurance and therefore reduced incentives to earn enough to maintain a buffer (potentially reducing the fiscal benefits of same-sex partnership recognition; see, e.g., Stevenson 2012).

For these reasons, we expect partnership (or marriage) to reduce earnings, *ceteris paribus*. Although reduced earnings have been widely documented for women upon marriage entry, the same cannot be said for men, suggesting that other factors are at play. As discussed in the preceding section, children are a candidate explanation. Both theories of marriage predict that marriage will boost earnings of one party (in Becker's theory, the person specializing in market work; in Edlund's theory, the person who acquires parental rights through marriage).

Whether work disincentives or work incentives dominate is an empirical question, but one simple prediction presents itself: for childless partnerships, lowered incentives to earn dominate (the sole mechanism). For the reasons discussed earlier, gay couples are more likely to be childless; if so, we may expect partnership to result in lower earnings for gays.

### *Recognition and Social Acceptance*

Since the 1970s, Western societies have seen the improved ability of unmarried fathers to establish paternity and obtain parental and other rights formerly reserved for marriage, as well as increasing acceptance and incidence of nonmarital cohabitation and fertility (see, e.g., Perelli-Harris and Sanchez Gassen 2012; Waaldijk 2005). As a result, the practical and social significance of marriage has been reduced. Increasingly, marriage is viewed as a choice rather than a necessity and has emerged as a marker of prestige (Cherlin 2004; Holland 2013).

Social acceptance and prestige may be one reason for the demand for same-sex marriage. Legal acknowledgment of ongoing commitment may translate into broad social acceptance of homosexual unions among friends, family, and coworkers, thus bestowing nonpecuniary benefits. Advocates of this idea focus on the importance of common institutions (i.e., marriage rather than RP) to promote the idea that homosexual relationships are no different from heterosexual relationships.

According to this view, partnership entry may boost mental and physical health. In the preliminary analysis, we explored the uptake of health-related benefits in our administrative data. However, our data did not reveal a detectable effect of partnership entry (not reported).

### **Institutional Background**

We analyze Swedish administrative data spanning 1994–2007, a period during which several rights were extended to homosexuals. The date in italic type indicates when the legal change took effect.

1995

The Partnership Act of 1994 took effect January 1, 1995. It grants all rights provided to married couples, with an important exception for paternity presumption. Savolainen (2003:28) stated:

... the presumption of paternity does not apply where a female partner gives birth to a child. The other partner does not become the legal parent of the child or acquire any parental rights or duties at the birth of the child by operation of law as is the case in respect of a child born in wedlock. These [Finnish and Swedish Partnership] Acts do not know any special procedure, agreement, consent or 'recognition of parenthood' whereby a partner could become a legal parent of a child produced by the other partner."

Savolainen (2003) noted that this arguably important carveout is buried in an exception for rights conferred by marriage to one sex but not the other (Swedish Partnership Act, Chapter 3, section 3).

Registered partners could neither jointly adopt a child nor adopt as stepparents, with these forms being open to married couples only (Savolainen 2003).<sup>10</sup> The Partnership Act did, however, expand parenting ability by allowing for parental leave accorded one partner to be shared between partners.

1999

In 1999, workplace discrimination based on sexual orientation was banned, and an ombudsman office was introduced. This law strengthened the 1987 law banning discrimination based on sexual orientation.

2003

The 2002 adoption law gave RPs the right to adopt jointly or as stepparents.<sup>11</sup>

In Sweden, married couples can adopt only jointly, and a man and woman must be married before they can adopt as a couple. Likewise, following the 2002 adoption law, same-sex couples in a partnership can adopt only jointly. Because some countries do not allow adoption by same-sex couples, the 2002 adoption law may be an impediment to partnership entry. A limited number of children are available for adoption. Therefore, the right to adopt as a stepparent may be the empirically more-relevant right. Moreover, this right is more likely to be of use to lesbian couples than to gay couples.

Consider a lesbian couple in which one of the women is pregnant. The other woman could adopt her stepchild. Granted, the father of the child would need to relinquish his parental rights, but that could be side-stepped if the mother declared the father unknown. Interestingly, the possibility of one woman bearing a child by an

<sup>10</sup> For more information on the Swedish Partnership Act of 1994, see the legislative text (in Swedish), available online (<http://www.notisum.se/rnp/sls/lag/19941117.HTM>).

<sup>11</sup> An overview of the Swedish Adoption Law is available online (<http://www.adoptionpolicy.org/pdf/eu-sweden.pdf>).

unknown father and raising it jointly with her partner precedes the ability to do so as joint legal parents. Thus, any effects of partnership combined with this legal right on fertility would be testimony to the importance of the designation of parental rights.

For men, these rights are likely less consequential. If a man has a child (say, from a previous marriage), the mother would need to surrender her parental rights for a stepparent adoption to take place. Note that the paternity presumption makes the wife's spouse a parent, not the husband's spouse. In other words, if a married man acknowledges paternity of a child born to a woman who is not his wife, that does not make the wife a mother.

These adoption rights allow partnership to be potentially at par with marriage. However, unlike marriage, it is an add-on requiring both partners' consent. If same-sex partners are both legal parents, they have joint custody during partnership, and this is also the default custody arrangement on dissolution of the partnership.

2003

The cohabitation law (*sambolag*) makes the joint residence communal property, and in 2003, it was extended to same-sex couples. However, because there is no court-verifiable action that designates a couple as cohabitants, the protection offered by this law is weak. For opposite-sex couples, the focal event is the birth of a child on whose birth certificate both partners are listed under the same address. For same-sex couples, there is no similar event because joint parenthood is predicated on partnership. When unmarried parents separate, the default custody arrangement is for the mother to retain sole custody.

2005, July 1

Women in a partnership gain the right to artificial insemination or *in vitro* fertilization (IVF) treatment through the national health care system, a right previously reserved to married or cohabiting women. (Single women are still denied.)

2009, November 1

Although outside our sample period, same-sex marriage replaced same-sex partnership in 2009. Couples in a same-sex partnership can convert their partnership into a same-sex marriage (or remain in the partnership). The change from partnership to marriage was mainly cosmetic because the chief additional right was the right to marry in the Church of Sweden.<sup>12</sup> The Swedish Church used to be the State Church of Sweden, and it remains the dominant religious institution. Thereby, the blessings, tradition, liturgy, and venues administered by the Swedish Church were made available to same-sex couples. Paternity presumption remains excluded from same-sex marriage.

<sup>12</sup> Details are available online (<http://www.rfsl.se/?p=420>).

## Data

We use data from the Longitudinal Integration Database for Health Insurance and Labour Market Studies (LISA), a register-based longitudinal database developed by Statistics Sweden. Coverage is universal and includes demographic characteristics, labor market characteristics, and use of social benefits. Our analysis data set covers 1994–2007. To compare labor market outcomes before and after entry into partnership or marriage, we restrict the sample to individuals who entered partnership or marriage in the period 1995–2006. All individuals who have entered an RP are defined as homosexual, and all opposite-sex couples who have entered marriage are defined as heterosexuals, following Ahmed and Hammarstedt (2010), Ahmed et al. (2011, 2013), and Hammarstedt et al. (2015).

We are interested in the effect of partnership entry; and arguably, entry into first marriage corresponds most closely to partnership entry. For greater homogeneity, we also restrict attention to couples for which it is the first union for both. Furthermore, we restrict the sample to couples in which both partners were between the ages 20 and 64 at the time of union entry.<sup>13</sup> After these restrictions, our sample consists of 672 female and 709 male homosexual couples, and 267,264 heterosexual couples. The panel is not completely balanced, but the vast majority of couples were observed for all years (1994–2007).

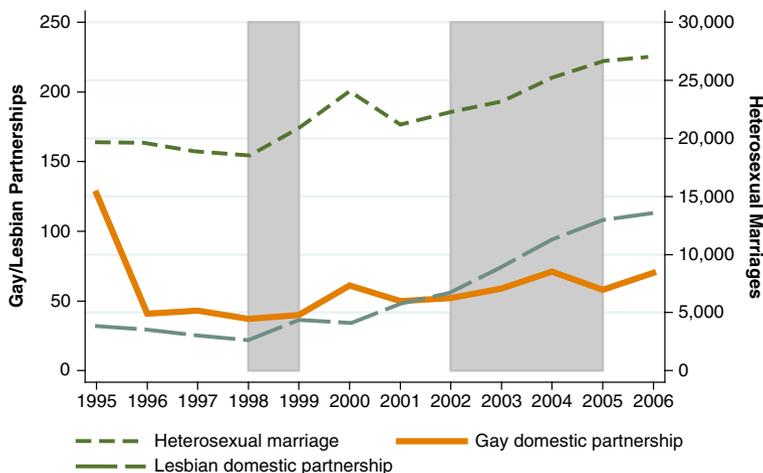
We focus on the following labor market outcomes: individual and couple annual labor earnings, the within-couple earnings difference, and the number of coresiding children. Annual labor earnings comprise earnings from wage employment and self-employment, as well as other work-related benefits.

Figure 1 shows the number of heterosexual and homosexual marriages by year of union entry for our sample. The number of gay partnerships averages between 50 and 75 per year, except for the first year (1995), in which 127 gay couples entered partnership. Lesbian partnership, on the other hand, did not spike in the first year: it was flat, at around 40 per year until 2000, after which it steadily increased. In the last year for partnership entry for our sample (2006), about 120 lesbian couples entered partnership. The difference in pent-up demand for legal union status between gays and lesbians is intriguing. Can it be that men marry for retrospective reasons more than women—and if so, why? One possibility is that gays enter partnership for income pooling and estate planning, whereas lesbians are drawn to registered partnership for the joint parenting possibility—a motive that, at least viewed from the perspective of the daily juggle, loses its relevance after children are grown.

The shaded areas show the years of parliamentary legislation against workplace discrimination based on sexual orientation (enacted in 1998) and the right to adopt jointly or as a stepparent (enacted in 2002).<sup>14</sup> Partnership entry is a public act that reveals sexual orientation; and in principle, the 1998 law offering greater workplace protection could have encouraged partnership entry. However, no such response is evident in Fig. 1. It is possible that the law was toothless. Alternatively, workplace discrimination may have been negligible or irrelevant for the partnership decision.

<sup>13</sup> Retirement is mandatory at age 65. Employment beyond that is at the employer's discretion, and extensions are easy for the first two years. The self-employed are exempt.

<sup>14</sup> Generally, laws take force January 1 of the year following enactment.



**Fig. 1** Union entry, by year. In-sample year of union entry. These numbers differ from official statistics because of the sample restrictions we have imposed

Whether the 2002 adoption law enabling joint or stepparent adoption boosted partnership entry by lesbians can be debated, but in that year, the number of lesbian partnerships overtook the number of gay partnerships, and the gap widened every subsequent year. We also present the number of heterosexual marriages (right scale) for reference, and the most noteworthy feature is a spike in 2000. We are not aware of any particular event directly linked to family formation that can explain this increase in marriages. The spike may simply be related to the salience attached to the number “2000” (e.g., see Ohlsson-Wijk 2014).

## Descriptive Statistics

Tables 1 and 2 present descriptive statistics for our samples. Homosexuals in our sample are older (because of sample construction and older age at union entry) by three years for women and nine years for men, with an average age of 34 years for lesbians and 42 years for gays. Homosexuals earn more than the heterosexuals in our sample, which is not surprising given the age and education differences. Whereas 42 % of heterosexual women have a college degree, this is true of 52 % of lesbian women. The numbers for men are 37 % and 47 %, respectively. These findings remind us that by conditioning on partnership/marriage entry in a country where a high proportion of couples chose informal cohabitation, we are dealing with a (positively) selected sample. The extent to which this is more true of the homosexual sample is hard to ascertain because the underlying population is unknown, but this conjecture would be consistent with the literature (Badgett et al. 2008).

Homosexuals have very few children living with them before partnership entry, which is perhaps unsurprising given that we exclude the previously married. By contrast, heterosexuals have, on average, “one-half” a child living with them before marriage. (The average is for all years before marriage. So, for instance, if we observed a person for four years before marriage, and a child appears in year 3, that would show up as 0.5 children.) The number of children after union entry stays at close to 0 for gay men but increases among the other groups, with the greatest increase among heterosexual couples.

**Table 1** Characteristics of individuals entering marriage or partnership in Sweden in 1994–2007

	Female		Male	
	Homosexual	Heterosexual	Homosexual	Heterosexual
Labor Earnings <sup>a</sup>				
Before union <sup>b</sup>	148.99	127.48	226.45	199.02
After union	228.15	193.61	267.18	320.69
Labor Earnings >0 (%)				
Before union	89	90	92	93
After union	90	92	86	96
Parental Leave Uptake (%)				
Before union	4	26	0	20
After union	20	67	1	56
Age	33.61	30.52	41.74	32.61
Metropolitan (%)	60	41	74	41
Primary School (%)	12	10	13	11
Secondary School (%)	36	48	39	52
University Degree (%)	52	42	47	37
Unknown (%)	0	0	1	0
Years of Schooling				
Before union	12.71	12.39	12.59	12.31
After union	13.38	13.11	13.10	12.73
N Individuals	1,418	267,264	1,344	267,264

Notes: The variables are averaged across all years, 1994–2007.

<sup>a</sup> Annual 2007 Swedish Krona (SEK) '000.

<sup>b</sup> Registered partner or marriage.

We are also interested in couple-level outcomes. We treat the persons who enter a union in our sample as a couple throughout the period we observe them, although strictly speaking, they may not actually be a couple for the entirety of the period. Table 2 shows couple-level characteristics. Joint earnings are highest for gay couples, closely followed by heterosexual couples (after marriage). Lesbian couples have the lowest joint earnings, perhaps unsurprisingly.

The pronounced earnings advantage of homosexual gay couples before union entry (453,000 SEK vs. 326,000 SEK for heterosexual couples) is attenuated after union entry. There is also a noticeable decline in employment among homosexual couples. Whereas some 86 % of gay couples were dual earners before union entry, this number falls to 77 % after union entry. By contrast, the percentage of dual earners increases among both heterosexuals and lesbians, from 85 % to 89 % among heterosexuals and from 81 % to 84 % among lesbians. The couple earnings gap increases on union entry for all types but is more muted among homosexuals.

Turning to educational sorting, homosexual couples are less assortatively matched, the gap being the greatest for gays, with an average of almost two years of schooling separating partners compared with 1.3 years among heterosexuals. Union entry does

**Table 2** Couple characteristics of individuals entering marriage or partnership in Sweden in 1994–2007

	Homosexuals		Heterosexuals
	Females	Males	
Couple Earnings <sup>a</sup>			
Before union <sup>b</sup>	297.98	452.89	326.50
After union	456.31	534.37	514.30
Couple Earnings Gap			
Before union	97.99	144.20	113.15
After union	125.74	174.34	169.72
Dual Earner (%)			
Before union	81	86	85
After union	84	77	89
Couple Schooling Gap (years)			
Before union	1.48	1.97	1.29
After union	1.36	1.85	1.31
Couples With Children (%)			
Before union	12	1	48
After union	43	2	91
Number of Children at Union Entry <sup>c</sup>	1.16	1.25	1.69
<i>N</i> couples	672	709	267,264

<sup>a</sup> Annual 2007 Swedish Krona (SEK) '000.

<sup>b</sup> Registered partnership or marriage.

<sup>c</sup> Conditional on having children.

not appear to change that much, which is perhaps unsurprising given that our sample catches people in their 30s and 40s. Although a higher share of married and lesbian couples are dual earners after union entry, there is a pronounced drop in dual-earning couples among gay households (from 86 % to 77 %).

To control for the effect of time-varying characteristics, we now turn to regression analysis to parse the role of union entry. Motivated by the findings of Andersson et al. (2006), who showed substantial differences on observable factors by the sex composition of the couples (as well as union stability), we estimate our models on gay, lesbian, and heterosexual couples, respectively, rather than pool our samples.

### Econometric Analysis

Exploiting panel data for the years 1994–2007, we estimate the within-individual effect of partnership using a model of the following form:

$$y_{it} = \beta UNION_{it} + \mathbf{X}_{it} + \phi_i + \phi_t + \varepsilon_{it}, \tag{1}$$

where  $y_{it}$  is the outcome variable of interest: individual or couple earnings (logged); within-couple earnings gap (logged); and the number of coresiding children. Thus, the

unit of observation is either the individual or the couple. We will refer to the pair formed by the two individuals who enter RP or marriage during our study period as a couple, even if they are not a couple for the entire period (before union entry or after union entry because of divorce, the term used by Statistics Sweden for same-sex and opposite-sex couples equally).  $UNION_{it}$  is a dummy variable that is 1 from the year of union entry onward. That is, if  $t^*$  denotes the year of union entry, then

$$UNION_{it} = \begin{cases} 1 & \text{if } t \geq t^* \\ 0 & \text{if } t < t^* \end{cases}$$

The parameter  $\beta$  can be interpreted as the effect of partnership/marriage on the outcome variable. In Sweden, the vast majority of marriages are preceded by cohabitation, and therefore marriage or partnership effects likely isolate effects of change in legal status.

$\mathbf{X}_{it}$  is a vector of time-varying individual or couple characteristics and includes dummy variables for age (average age, in the case of a couple), year, county, divorce, receipt of disability pension (self, one partner in the couple, both partners in couple), and age >65 (self, one partner in the couple, or both partners in couple). The reason for including divorce is that the effects of union entry may conceivably extend beyond divorce, and therefore couples who divorce remain in our analysis sample; at the same time, however, there are fewer reasons to expect specialization following divorce. A reason for including disability pension is that it clearly affects earnings, and the same can be said for reaching the mandatory retirement age of 65.

In our preliminary analysis, we also included education as a control variable (despite it being potentially endogenous). We present results without controlling for education because the changes it produced were small, and its inclusion had a minimal impact on results.

The presence of children, on the other hand, changed significantly upon union entry. Therefore, we present results with and without controlling for children (despite this variable being even more endogenous to union entry than education). We present the results controlling for children to provide a sense of the extent to which earnings effects are mediated by the presence of children. Heterogeneity across individuals (couples) is captured by individual (couple) fixed effects,  $\phi_i$ . Year-specific effects,  $\phi_t$ , capture the earnings growth common to all individuals (households). To allow for within-individual (couple) correlation, we cluster the error term  $\varepsilon_{it}$  at the individual (couple) level.

Union entry is, at least in the case of marriage, a decision that is often many years in the making, preceded not only by an engagement but in many cases cohabitation and, to a lesser extent, joint children. To drill down on the question of dynamics surrounding union entry, we estimate a version of Eq. (1) that allows for both lead and lag effects of union entry on earnings:

$$y_{it} = \sum_{k=-3}^{3+} \beta_k UNION_{k_{it}} + \mathbf{X}_{it} + \phi_i + \phi_t + \varepsilon_{it}, \tag{2}$$

where

$$UNION_k = \begin{cases} 1 & \text{if } t = t^* + k \\ 0 & \text{if otherwise} \end{cases}$$

The reference period is four years or more before union entry. Years 3 and higher are treated as one group (3+).

For fertility outcomes, we are also interested in the possibility of the 2002 adoption law affecting fertility for same-sex couples—lesbians, in particular. To that end, we include an interaction term allowing for a differential effect after the 2002 adoption law, but we drop lead effects in order to keep the specification tractable. That is, we estimate a regression model of the following form:

$$y_{it} = \sum_{k=0}^{3+} (\beta_k + \gamma_k 1(t^* > 2002)) UNION_{kit} + \mathbf{X}_{it} + \phi_i + \phi_t + \varepsilon_{it}, \quad (3)$$

where  $y_{it}$  is the number of children living with couple  $i$  in year  $t$ ;  $1(t^* > 2002) = 1$  if  $t^* > 2002$ , and 0 otherwise. The reference period is the year before union entry; years 3 and higher are treated as one group (3+).

## Earnings

Table 3 shows the results from estimating Eqs. (1) and (2) for (log) individual earnings. Unlike the raw before-and-after difference, union entry does not have a positive effect; and for heterosexual women and gays, the negative effect is both statistically and economically significant at 16 % and 12 % earnings reduction, respectively (panel A). Our main specification does not control for children, but we now turn to how including the number of children affects results. The inclusion of children attenuates the effect for heterosexual women, which is consistent with women reducing earnings in response to children. However, the 12 % negative effect for homosexual men remains, which is perhaps unsurprising given the low presence of children among this group (panel B).

Panel C shows the results from estimating lag and lead effects per Eq. (2). The reference period is four or more years before union entry, and we exclude controls for children because of their endogenous nature. The results for homosexuals remain largely unchanged, although the negative effect for gays loses statistical significance in this specification. For heterosexuals, we see a ramp-up of male earnings in the years leading into marriage, which may account for the lack of positive marriage premium usually found in the literature. One possibility is that the ramp-up itself can be attributed to anticipated marriage, in which case we underestimate the marriage premium. Alternatively, the ramp-up may be a response to greater familial responsibilities (children, cohabitation), with the formalization of the union being of little additional significance. The findings for heterosexual women are qualitatively in line with the previous literature: earnings dip markedly with marriage entry—a reduction that is attenuated after the number of children is controlled for (not reported).

In Table 4, we turn our attention to joint earnings and the earnings gap, where the unit of observation is the couple. The estimated effect of union entry is negative for all groups but is statistically significant only for heterosexual couples. The latter is perhaps unsurprising given the absence of a positive marriage premium for men and the substantial marriage penalty for women (c.f. Table 3).

For gays, the pronounced decline found for individual earnings is absent after earnings are measured at the couple level, suggesting a high degree of income buffering (or negative sorting). By contrast, among lesbians, the income reduction seen at the individual level is amplified after viewed at the couple level, suggestive of within-couple positively correlated labor market responses to partnership entry. Within-couple

**Table 3** Individual earnings effects of partnership or marriage entry

	Female		Male	
	Homosexual	Heterosexual	Homosexual	Heterosexual
Panel A. Not Controlling for the Number of Children				
Union <sup>a</sup>	-0.0246 (0.0625)	-0.1577** (0.0042)	-0.1161* (0.0525)	-0.0024 (0.0033)
Adjusted R <sup>2</sup>	.201	.167	.205	.220
Panel B. Controlling for the Number of Children				
Union	-0.0026 (0.0634)	-0.0806** (0.0041)	-0.1167* (0.0524)	0.0004 (0.0033)
Adjusted R <sup>2</sup>	.201	.183	.205	.220
Panel C. Leads and Lags, Reference Period: 4+ Years Before Union (no child controls)				
Union, years since				
-3	0.0437 (0.0635)	0.0226** (0.0046)	0.0757 (0.0563)	0.0496** (0.0039)
-2	0.0686 (0.0790)	0.0242** (0.0055)	0.0779 (0.0710)	0.0658** (0.0046)
-1	0.1339 (0.0888)	-0.0019 (0.0062)	0.0091 (0.0795)	0.0840** (0.0052)
0	0.1143 (0.1034)	-0.0517** (0.0070)	-0.0399 (0.0902)	0.0831** (0.0057)
1	0.0679 (0.1157)	-0.1559** (0.0077)	-0.0914 (0.0995)	0.0613** (0.0063)
2	-0.0264 (0.1353)	-0.2967** (0.0088)	-0.1045 (0.1126)	0.0378** (0.0071)
3+	-0.0529 (0.1526)	-0.3346** (0.0101)	-0.1964 (0.1304)	-0.0038 (0.0085)
Adjusted R <sup>2</sup>	.202	.169	.205	.220
Observations	17,860	3,609,338	18,498	3,609,338

Notes: Standard errors, clustered at the individual level, are shown in parentheses. All regressions include individual fixed effects; dummy variables for age, year, and county; and dummy variables indicating legally separated, receipt of disability pension, and age >65.

<sup>a</sup> Marriage or partnership.

\* $p < .05$ ; \*\* $p < .01$

earnings gaps change in a direction consistent with this interpretation. Among lesbians, there is a sizable (but statistically insignificant) reduction in the within-couple earnings gap. Among gays, however, the effect is small and highly insignificant.

The lack of evidence of specialization among lesbians could be the result of greater similarity pre-partnership. However, as seen in the descriptive statistics, that is not the case. Lesbians are, if anything, less positively matched on education than the men and women in our heterosexual sample. The absence of specialization among lesbians is

**Table 4** Couple earnings effects of partnership or marriage entry

	Homosexuals		Heterosexuals
	Female	Male	(Males + Females)
<b>A. Joint Earnings</b>			
Without controls for number of children			
Union <sup>a</sup>	-0.0703 (0.0575)	-0.0075 (0.0377)	-0.0365** (0.0021)
Adjusted <i>R</i> <sup>2</sup>	.275	.295	.333
With controls for number of children			
Union	-0.0623 (0.0573)	-0.0075 (0.0377)	-0.0160** (0.0021)
Adjusted <i>R</i> <sup>2</sup>	.275	.295	.336
<b>B. Earnings Gap</b>			
Without controls for number of children			
Union	-0.0742 (0.0662)	0.0132 (0.0540)	0.0318** (0.0027)
Adjusted <i>R</i> <sup>2</sup>	.067	.119	.104
With controls for number of children			
Union	-0.1019 (0.0656)	0.0138 (0.0541)	-0.0004 (0.0027)
Adjusted <i>R</i> <sup>2</sup>	.068	.120	.109
Observations	8,930	9,249	3,609,338

*Notes:* Standard errors, clustered at the couple level, are shown in parentheses. All regressions include couple fixed effects; dummy variables for age, year, and county; and dummy variables indicating legally separated, receipt of disability pension (one partner, both), and age >65 (one partner, both).

<sup>a</sup> Marriage or partnership.

\*\**p* < .01

also noteworthy in view of partnership entry's effect on fertility, the topic to which we now turn.

### Children

We now turn to parenthood. As discussed earlier, the exclusion of paternity presumption from the Partnership Act of 1994 means that the birth of a child to one partner does not make the other partner a parent and consequently cannot confer any parental rights to that partner. The 2002 adoption law, however, allowed RPs joint or stepchild adoption. This right may have been of little practical importance for gay couples given that a child is still required. A man may father a child and be the legal father, but in the vast majority of cases, the child would have a legal mother who would have to surrender her parental rights in favor of the father's partner in order for an adoption to take place. The child of an unmarried woman, however, is by default fatherless, and Swedish praxis is not to pursue positive paternity claims (cases pressed by men).

Thus, an unmarried woman who declared the father unknown would be the sole legal parent and custodian. With the possibility of partners to jointly adopt, she also has the capacity to bestow parenthood on her partner (in an RP). Thus, one reason for analyzing the fertility response of partnership, especially after the 2002 adoption law, is that it may help unpack the demand for RPs. Fertility response to partnership may also help clarify the channels through which partnership impacted earnings for men and women in partnerships.

We now turn to children raised by the couple. In the absence of natality data, we use information on the number of coresiding children younger than 18 years (a number that can change in either direction, with aging and moving out being the most important drivers of reductions). For brevity, we will refer to this measure as “fertility,” although strictly speaking, it is not. We are particularly interested in investigating any fertility effects of the 2002 law that allowed for joint or stepparent adoption by individuals in registered partnership.

The results are presented in Table 5. Column 1 presents results from estimating a version of Eq. (3) in which we focus on children that follow union entry: that is, we ignore lead effects, and the reference period is the time before union entry. We see a clear fertility effect of partnership among lesbians (panel A) but not among gays (panel B).

We next turn to the importance of the 2002 adoption law allowing joint or stepparent adoption for same-sex couples. Column 2 presents results that allow for a trend break that reflects this law. For women (panel A, column 2), there is a strong and positive fertility effect after 2002. Columns 3 and 4 present the analogous results for heterosexual couples, and we see that fertility actually decreased after 2002. The pronounced effect of the 2002 adoption law among lesbian women is notable and points to the role of joint legal parenting, as opposed to joint *de facto* parenting (RPs have had the right to share parental leave since 1995). Although lesbians also gained the right to artificial insemination, women's free access to sperm arguably precedes its coverage by national health insurance. Incidentally, 2003 marks the year that partnership entry by lesbians overtook that of gays (Fig. 1).

For gays, columns 1 and 2, partnership is if anything associated with a (small) reduction in the number of children, possibly reflecting that gay men are almost 10 years older than heterosexual men and consistent with entering into an RP for reasons other than joint parenting.

In sum, we see strong fertility effects of partnership entry among lesbians—stronger than for heterosexual women after same-sex joint adoption is allowed. The stronger effect is consistent with RP being a legally more-enabling contract with respect to parental rights for same-sex couples than marriage is for opposite-sex couples. A man and a woman seeking joint parental rights can achieve that without marriage (through paternity acknowledgment and custody assignment).

## Health Outcomes

There may also be less-tangible benefits from social recognition of union status. Homosexual individuals have been identified as suffering worse health outcomes (Cochran 2001; Gilman et al. 2001; Herrell et al. 1999; Sandfort et al. 2001).

Although our data are not particularly suited to look at mental or physical health outcomes, we have information on uptake of unemployment, disability, and sickness

**Table 5** Fertility effects

	Homosexual		Heterosexual	
	(1)	(2)	(3)	(4)
<b>A. Women</b>				
Years since union <sup>a</sup>				
0	0.1522** (0.0136)	0.1385** (0.0196)	0.0497** (0.0012)	0.0707** (0.0016)
1	0.2114** (0.0160)	0.1757** (0.0211)	0.2066** (0.0016)	0.2372** (0.0020)
2	0.2722** (0.0203)	0.2338** (0.0265)	0.3112** (0.0020)	0.3431** (0.0023)
3+	0.3597** (0.0257)	0.3242** (0.0284)	0.4996** (0.0026)	0.5222** (0.0027)
Years × I (post-2002)				
0		0.0245 (0.0285)		-0.0432** (0.0024)
1		0.0765* (0.0334)		-0.0751** (0.0029)
2		0.0934* (0.0437)		-0.0910** (0.0035)
3+		0.1893** (0.0592)		-0.1720** (0.0044)
Observations	17,860	17,860	3,609,338	3,609,338
Adjusted R <sup>2</sup>	.246	.250	.552	.552
<b>B. Men</b>				
Years since union <sup>a</sup>				
0	0.0010 (0.0030)	-0.0014 (0.0030)	0.1238** (0.0014)	0.1420** (0.0018)
1	-0.0026 (0.0033)	-0.0037 (0.0032)	0.2836** (0.0018)	0.3093** (0.0022)
2	-0.0055 (0.0033)	-0.0039 (0.0034)	0.3890** (0.0022)	0.4148** (0.0025)
3+	-0.0010 (0.0044)	-0.0011 (0.0046)	0.5680** (0.0028)	0.5867** (0.0029)
Years × I (post-2002)				
0		0.0066 (0.0072)		-0.0375** (0.0027)
1		0.0029 (0.0068)		-0.0629** (0.0032)
2		-0.0055 (0.0045)		-0.0731** (0.0038)
3+		0.0009 (0.0054)		-0.1422** (0.0047)

**Table 5** (continued)

	Homosexual		Heterosexual	
	(1)	(2)	(3)	(4)
Observations	18,498	18,498	3,609,338	3,609,338
Adjusted $R^2$	.005	.005	.506	.506

*Notes:* Standard errors, clustered at the individual level, are shown in parentheses. All regressions include individual fixed effects; dummy variables for age, year, and county; and dummy variables indicating legally separated, receipt of disability pension, and age >65. (The indicator variable for whether the partnership/marriage was entered after 2002 is omitted because it is a constant for the couple.)

<sup>a</sup> Marriage or partnership.

\* $p < .05$ ; \*\* $p < .01$

benefits. Estimating Eq. (1) with unemployment or disability pension as the left-side variable, we find no effects for homosexuals (but slight negative effects for heterosexuals).<sup>15</sup> These are crude measures of mental or physical health but, when taken at face value, do not suggest health benefits of partnership.

## Conclusion

Whether to allow same-sex couples to enter marriage-like legal unions is a contested issue that is currently on the legislative agenda of a number of countries and U.S. states. Despite the heated debate, the need for such unions is rarely articulated. Rather, it is often assumed that the benefits of marriage would carry over to the same-sex setting. In this article, we exploited legal reforms in Sweden to study the impact of an extension of rights to same-sex couples. In 1994, the Swedish parliament passed the Registered Partnership Act to give same-sex couples entering an RP the same rights and obligations of marriage except in one sphere: joint parenting. Paternity presumption, the keystone of marriage, was carved out. Furthermore, joint legal parenthood through adoption was not possible. A step toward joint legal parenthood was taken with the enactment in 2002 of an adoption law giving those in an RP the right to joint or stepparent adoption.

Using registration data, we created a panel of all individuals who entered an RP in the period 1995–2006 and studied their earnings and fertility outcomes. For comparison, we also created a similar panel of individuals who entered marriage in the same period. Our analysis sample thus contains men and women who entered either partnership or marriage, and the effect of union entry is measured using a before-and-after comparison controlling for time-varying characteristics: notably, age.

Our results show that RP is important to both gays and lesbians, but for distinctly different reasons. The overhang of gay couples entering partnerships in the first year allowed, the reduction in the combined earnings and the couple earnings gap, and the virtual absence of children before and after union entry suggest that the main function of RP for gays is resource pooling.

<sup>15</sup> Not reported; available from the authors on request.

For lesbians, on the other hand, the right to joint or stepparent adoption allowed in 2002 raised fertility and possibly entry into partnership. Although the trend precedes the 2002 law, 2002 marks the year that more women than men enter RPs, and the gap has continued to widen. These findings underscore both the centrality of the woman for family formation and the importance of legal parenthood. Thus, for lesbians, low initial uptake, the decrease in combined earnings and narrowing of the couple earnings gap, and fertility effects of union entry comparable to heterosexual couples (especially after the 2002 reform) point to RP being an important vehicle for family formation.

The lack of specialization among lesbians is largely consistent with the literature finding that same-sex couples are less traditional in their division of labor than opposite-sex married couples (e.g., Grossbard and Jepsen 2008; Rothblum 2009). However, it is at odds with Dillender's (2015) finding that access to legal marriage leads to more single-earner families among female same-sex couples. The explanations of the different findings may lie in institutional differences in the respective countries. Unlike the United States, Sweden has universal health insurance coverage. Another difference is that childcare is highly subsidized and all but universal after the child reaches age 1. Before that, generous parental leave policies enable parents to stay home. Although these are policies that apply to same-sex and opposite-sex couples alike, they have contributed to making housewife status highly optional.

The lack of specialization among lesbians is noteworthy given that they have children and are less positively assortatively matched (on education) than heterosexual couples. This finding casts new light on the source of the earnings divergence typically observed among heterosexual couples and routinely attributed to the woman specializing in nonmarket work. The different findings for lesbian partners and married couples are consistent with men paying women for the ability to bear children. Among lesbian couples, the basis for such payment is undermined by the fact that both partners are endowed with that capability.

**Acknowledgments** The authors thank the participants at the Conference on Discrimination and Labour Market Research in Växjö in May 2013, at the International Labour Process Conference at King's College in London in 2014, and at the ESPE-conference in Braga, Portugal, in 2014 for valuable comments.

## References

- Ahmed, A. M., Andersson, L., & Hammarstedt, M. (2011). Inter- and intra-household earnings differentials among homosexual and heterosexual couples. *British Journal of Industrial Relations*, 49(Suppl.), s258–s278.
- Ahmed, A. M., Andersson, L., & Hammarstedt, M. (2013). Sexual orientation and full-time monthly earnings, by public and private sector: Evidence from Swedish register data. *Review of Economics of the Household*, 11, 83–108.
- Ahmed, A. M., & Hammarstedt, M. (2010). Sexual orientation and earnings: A register data-based approach to identify homosexuals. *Journal of Population Economics*, 23, 835–849.
- Akerlof, G., Yellen, J., & Katz, M. (1996). An analysis of out-of-wedlock childbearing in the United States. *Quarterly Journal of Economics*, 111, 277–317.
- Allegretto, S. A., & Arthur, M. M. (2001). An empirical analysis of homosexual/heterosexual male earnings differentials: Unmarried and unequal? *Industrial and Labor Relations Review*, 54, 631–646.
- Allen, D. W. (2013). High school graduation rates among children of same-sex households. *Review of Economics of the Household*, 11, 635–658.

- Allen, D. W., Pakaluk, C., & Price, J. (2013). Nontraditional families and childhood progress through school: A comment on Rosenfeld. *Demography*, *50*, 955–961.
- Anderson, L. S. (2006). Protecting parent-child relationships: Determining parental rights of same-sex parents consistently despite varying recognition of their relationship. *Pierce Law Review*, *5*, 1–29.
- Andersson, G., & Kolk, M. (2011). Trends in childbearing and nuptiality in Sweden: An update with data up to 2007. *Finnish Yearbook of Population Research*, *46*, 21–29.
- Andersson, G., Noack, T., Seierstad, A., & Weedon-Fekjr, H. (2006). The demographics of same-sex marriages in Norway and Sweden. *Demography*, *43*, 79–98.
- Antonovics, K., & Town, R. (2004). Are all good men married? Uncovering the sources of the male marriage premium. *American Economic Review: Papers and Proceedings*, *94*, 317–321.
- Appleton, S. (2006). Presuming women: Revisiting the presumption of the legitimacy in the same-sex couples era. *Boston University Law Review*, *86*, 227–294.
- Arabsheibani, G., Marin, A., & Wadsworth, J. (2004). In the pink: Homosexual-heterosexual wage differentials in the UK. *International Journal of Manpower*, *25*, 343–354.
- Arabsheibani, G., Marin, A., & Wadsworth, J. (2005). Gay pay in the UK. *Economica*, *72*, 333–347.
- Badgett, M. (1995). The wage effects of sexual orientation discrimination. *Industrial and Labor Relations Review*, *48*, 726–739.
- Badgett, M. (2001). *Money, myths, and change: The economic lives of lesbians and gay men*. Chicago, IL: University of Chicago Press.
- Badgett, M., Gates, G., & Maisel, N. (2008). Registered domestic partnerships among gay men and lesbians: The role of economic factors. *Review of Economics of the Household*, *6*, 327–346.
- Becker, G. S. (1973). A theory of marriage: Part I. *Journal of Political Economy*, *81*, 813–846.
- Black, D., Gates, G., Sanders, S., & Taylor, L. (2008). Demographics of the gay and lesbian population in the United States: Evidence from available systematic data sources. *Demography*, *37*, 139–154.
- Burn, I., & Jackson, O. (2014). *Valuable vows: An examination of the marriage premium using same-sex marriage legalization*. Retrieved from <http://nuweb.neu.edu/ojackson/papers/ssmbj.pdf>
- Carpenter, C. (2004). New evidence on gay and lesbian household incomes. *Contemporary Economic Policy*, *22*, 78–94.
- Carpenter, C. (2005). Self-reported sexual orientation and earnings: Evidence from California. *Industrial and Labor Relations Review*, *58*, 258–273.
- Carpenter, C. (2008). Sexual orientation, income, and non-pecuniary economic outcomes: New evidence from young lesbians in Australia. *Review of Economics of the Household*, *6*, 391–408.
- Carpenter, C., & Gates, G. (2008). Gay and lesbian partnership: Evidence from California. *Demography*, *45*, 573–590.
- Chamie, J., & Mirkin, B. (2011). Same-sex marriage: A new social phenomenon. *Population and Development Review*, *37*, 529–551.
- Cherlin, A. J. (2004). The deinstitutionalization of American marriage. *Journal of Marriage and Family*, *66*, 848–861.
- Clain, S. H., & Leppel, K. (2001). An investigation into sexual orientation discrimination as an explanation for wage differences. *Applied Economics*, *33*, 37–47.
- Cochran, S. (2001). Emerging issues in research on lesbians' and gay men's mental health: Does sexual orientation really matter? *American Psychologist*, *56*, 931–947.
- Cornwell, C., & Rupert, P. (1997). Unobservable individual effects, marriage and the earnings of young men. *Economic Inquiry*, *35*, 285–294.
- Dee, T. S. (2008). Forsaking all others? The effects of same-sex partnership laws on risky sex. *The Economic Journal*, *118*, 1055–1078.
- Dillender, M. (2014). The death of marriage? The effects of new forms of legal recognition on marriage rates. *Demography*, *51*, 563–585.
- Dillender, M. (2015). Health insurance and labor market outcomes: The effects of extending legal recognition to same-sex couples. *Contemporary Economic Policy*, *33*, 381–394.
- Dougherty, C. (2006). The marriage earnings premium as a distributed fixed effect. *Journal of Human Resources*, *41*, 433–443.
- Drydakis, N. (2011). Women's sexual orientation and labor market outcomes in Greece. *Feminist Economics*, *17*, 89–117.
- Edlund, L. (2006). Marriage: Past, present, future? *CESifo Economics Studies*, *52*, 621–639.
- Edlund, L. (2013). The role of paternity presumption and custodial rights for understanding marriage patterns. *Economica*, *80*, 650–669.
- Edlund, L., & Korn, E. (2002). A theory of prostitution. *Journal of Political Economy*, *110*, 181–214.
- Evans-Pritchard, E. E. (1951). *Kinship and marriage among the Nuer*. Oxford, UK: Oxford Clarendon Press.

- Frank, D. J., Camp, B. J., & Boutcher, S. A. (2010). Worldwide trends in the criminal regulation of sex, 1945 to 2005. *American Sociological Review*, *75*, 867–893.
- Gilman, S., Cochran, S.-D., Mays, V. M., Hughes, M., Ostrow, D., & Kessler, R. (2001). Risks of psychiatric disorders among individuals reporting same-sex sexual partners in the National Comorbidity Survey. *American Journal of Public Health*, *91*, 933–939.
- Ginther, D. K., & Zavodny, M. (2001). Is the male marriage premium due to selection? The effect of shotgun weddings on the return to marriage. *Journal of Population Economics*, *14*, 313–328.
- Grossbard, S., & Jepsen, L. K. (2008). The economics of gay and lesbian couples: Introduction to a special issue on gay and lesbian households. *Review of Economics of the Household*, *6*, 311–325.
- Hammarstedt, M., Ahmed, A., & Andersson, L. (2015). Sexual prejudice and labour market outcomes for gays and lesbians: Evidence from Sweden. *Feminist Economics*, *21*, 90–109.
- Herrell, R., Goldberg, J., True, W. R., Ramakrishnam, V., Lyons, M., Eisen, S., & Tsuang, M. T. (1999). Sexual orientation and suicidality: A co-twin control study in adult men. *Archives of General Psychiatry*, *56*, 867–874.
- Holland, J. A. (2013). Love, marriage, then the baby carriage? Marriage timing and childbearing in Sweden. *Demographic Research*, *29*(article 11), 275–305. doi:10.4054/DemRes2013.29.11
- Jepsen, L. K., & Jepsen, C. A. (2002). An empirical analysis of the matching patterns of same-sex and opposite-sex couples. *Demography*, *39*, 435–453.
- Juhn, C., & Murphy, K. M. (1997). Wage inequality and family labor supply. *Journal of Labor Economics*, *15*, 72–97.
- Klawitter, M. M., & Flatt, V. (1998). The effects of state and local antidiscrimination policies on earnings for gays and lesbians. *Journal of Policy Analysis and Management*, *17*, 658–686.
- Korenman, S., & Neumark, D. (1991). Does marriage really make men more productive? *Journal of Human Resources*, *26*, 282–307.
- Krashinsky, H. A. (2004). Do marital status and computer usage really change the wage structure? *Journal of Human Resources*, *39*, 774–791.
- Lam, D. (1988). Marriage markets and assortative mating with household public goods: Theoretical results and empirical implications. *Journal of Human Resources*, *23*, 462–487.
- Langbein, L., & Yost, M. A. (2009). Same-sex marriage and negative externalities. *Social Science Quarterly*, *2*, 292–309.
- Moore, R. I. (2007). *The formation of a persecuting society: Authority and deviance in Western Europe 950–1250* (2nd ed.). Hoboken, NJ: Wiley-Blackwell.
- Ohlsson-Wijk, S. (2014). Digit preferences in marriage formation in Sweden: Millennium marriages and birthday peaks. *Demographic Research*, *30*(article 25), 739–752. doi:10.4054/DemRes.2014.30.25
- Perelli-Harris, B., & Sanchez Gassen, N. (2012). How similar are cohabitation and marriage? Legal approaches to cohabitation across Western Europe. *Population and Development Review*, *38*, 435–467.
- Plug, E., & Berkhout, P. (2004). Effects of sexual preferences on earnings in the Netherlands. *Journal of Population Economics*, *17*, 117–131.
- Posner, R. (1992). *Sex and reason*. Cambridge, MA: Harvard University Press.
- Rosenfeld, M. (2010). Nontraditional families and childhood progress through school. *Demography*, *47*, 755–775.
- Rothblum, E. D. (2009). An overview of same-sex couples in relationships: A research area still at sea. In D. A. Hope (Ed.), *Contemporary perspectives on lesbian, gay, and bisexual identities* (pp. 113–139). New York, NY: Springer Science.
- Sandfort, T., de Graaf, R., Bijl, R., & Schnabel, P. (2001). Same-sex behavior and psychiatric disorders: Findings from the Netherlands Mental Health Survey and Incidence Survey (NEMESIS). *Archives of General Psychiatry*, *58*, 85–91.
- Savolainen, M. (2003). The Finnish and the Swedish Partnership Acts – Similarities and divergencies. In K. Boele-Woelki & A. Fuchs (Eds.), *Legal recognition of same-sex relationships in Europe: National, cross-border and European perspectives* (pp. 24–40). Cambridge, UK: Intersentia.
- Statistics Sweden (2009). *Fler kvinnor än män gifte sig med person av samma kön* (Pressmeddelande) [More women than men married someone of the same sex (Press Release)]. Retrieved from <http://www.scb.se/sv/Hitta-statistik/Statistik-efteramne/Befolkning/Befolkningsframskrivningar/Demografisk-analys/55349/55356/Behallare-for-Press/Infor-Stockholm-Pride/>
- Stevenson, A. (2012). The labor supply and tax revenue consequences of federal same-sex marriage legalization. *National Tax Journal*, *65*, 783–806.
- Trandafir, M. (2015). Legal recognition of same-sex couples and family formation. *Demography*, *52*, 113–151.
- Waalwijk, K. (Ed.) (2005). *More or less together: Levels of legal consequences of marriage, cohabitation and registered partnership for different-sex and same-sex partners* (Document de Travail No. 125). Paris, France: Institut National d'Études Démographiques.
- Zavodny, M. (2008). Is there a marriage premium for gay men? *Review of Economics of the Household*, *6*, 269–389.