Online Appendix:
Do Marriage Tax Penalties Cause Delayed Marriage Reporting?

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B.1. Misreporting by percentage-of-income marriage penalties

Figure B1 shows, by percentage-of-income marriage penalty bins, the average share of marriages and misreporting rates among newlyweds in our sample of matched marriage records to federal tax returns. The share of marriages peaks around zero marriage penalties, with long tails of both marriage bonuses to the left and marriage penalties to the right. Overall, misreporting rates increase as percentage-of-income marriage penalties increase: those with no marriage penalty have a misreporting rate of under 2%; when marriage penalties are two percent of income the misreporting rate doubles to 4%; and when marriage penalties are about eight percent of income the misreporting rate doubles again to 8%.

**Figure B1: Newlywed marital-status misreporting
by percentage-of-income marriage penalties, 2001-2022**
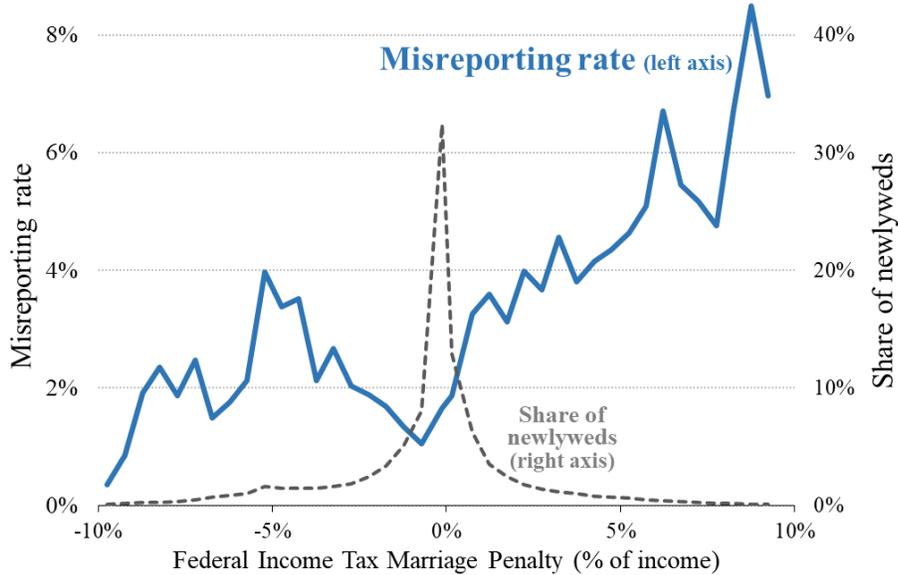
Notes: This figure only includes newlyweds in Minnesota administrative marriage records linked to tax returns.
Percentage-of-income marriage penalty bins are 0.5 percentage points in size.
Source: Authors' calculations with tax data and marriage records.

B.2. Misreporting by income group

Table B1 shows that marital-status misreporting rates decline as income rises. The lowest income group (<$25K) has a 6.7% misreporting rate, which drops to 3.5% for those earning $25–50K, to 2.5% for $50–75K, and to below 2% for higher income groups. The low-income rate may reflect lack of attention to filing-status rules or reluctance to file a return, for example, a spouse with individual-level income below a filing threshold may not have filed before or think they do not need to file (regardless of combined spousal income). Tax implications may also contribute, e.g., incomes in the EITC phase-out have large marriage penalties. For middle and high incomes, the tax code has few structural marriage penalties—married tax bracket thresholds are twice unmarried levels, so higher-income marriage penalties result from more equal spousal incomes. See Figure B9B.

**Table B1: Marital-status misreporting rates are lowest among the highest incomes**

Adjusted gross income	Share of marriages	Misreporting rates
Under $25K	6%	6.7%
$25K–$50K	13%	3.5%
$50K–$75K	18%	2.5%
$75K–$100K	20%	1.8%
$100K–$200K	37%	1.4%
$200K–$500K	5%	1.5%
$500K or more	0.4%	1.4%
All	**100%**	**2.3%**

Notes: Total couple incomes. Table includes 2001–2022 newlyweds in Minnesota administrative marriage records linked to tax returns. Income is real 2023 dollars. *Source*: Authors' calculations with tax data and marriage records.

B.3. Spousal income splits affect EITC marriage penalties

The EITC can generate substantial marriage penalties, particularly for dual-earner couples with dependents. To illustrate this, Figure B2 plots the EITC benefits newlyweds could receive if filing two separate returns (circles) against the married EITC schedule (line) for couples with two dependents. The marriage penalty (or bonus) is approximated by the distance each circle is above (below) the EITC schedule. We classify EITC recipients as similar-earning couples where neither spouse accounts for over 80% of combined earned income, and otherwise as unequal-earnings couples. As prior literature has noted, the EITC income phase-out creates large marriage penalties among similar-earning couples. In the EITC phase-out range in Figure B2, the similar-earning couples at the top (black circles) have EITC marriage penalties of a few thousand dollars, approximated by the distance above the schedule, while the unequal-earning couples at the bottom (white circles) tend to have marriage bonuses.

Figure B2: EITC marriage penalties/bonuses (2 kids) by spousal earnings split, 2009-2022
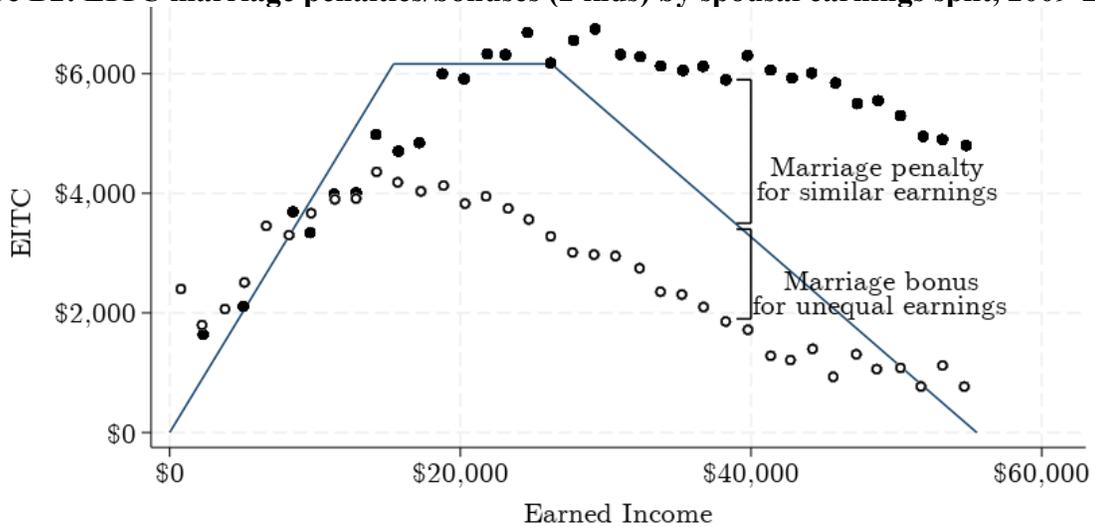
Notes: Separate-filing EITC benefits among 2-dependent newlyweds (i.e., if misreporting status) are plotted with circles and joint filing benefits are represented by the 2022 EITC schedule for married couples with two children. Unequal earnings couples (white circles) are defined as having one spouse account for over 80% of total earned income. Averages in 2023 dollar levels. X-axis is AGI (phase out by larger of AGI or earnings). *Source*: Authors' calculations with tax data and marriage records.

## B.4. Match rates by year and county of marriage

Table B2 shows match rates of newlyweds by calendar year. The lowest and highest match rates are only three percentage points from the average, suggesting matching rates are not strongly affected by year effects or policy changes. Figure B3 shows match rates of newlyweds by the county of marriage. Most match rates are close to the 40% average, suggesting matching rates are not strongly affected by county-specific effects.

Table B2: Match rate by year of marriage

Year of marriage	Match rate
2001	32.5%
2002	33.5%
2003	33.8%
2004	35.5%
2005	35.7%
2006	36.0%
2007	36.1%
2008	36.6%
2009	37.0%
2010	37.5%
2011	38.3%
2012	38.9%
2013	35.9%
2014	36.7%
2015	37.1%
2016	37.1%
2017	35.5%
2018	36.1%
2019	35.8%
2020	35.8%
2021	33.1%
2022	33.0%

Notes: This table only includes 2001–2022 newlyweds in Minnesota administrative marriage records linked to tax returns. *Source*: Authors' calculations with tax data and marriage records.

Figure B3: Match rate by county of marriage
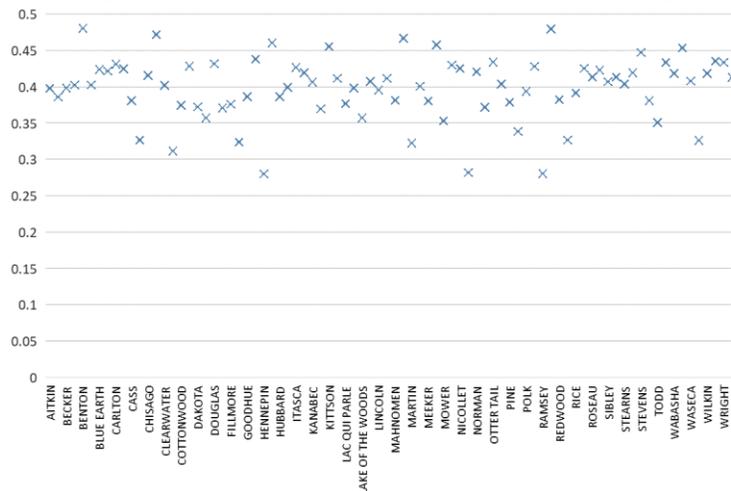
Notes: For matched 2001–2022 only among newlyweds.
Source: Authors' calculations with tax data and marriage records.

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B.5. Misreporting by month of marriage and references over time

Table B3 shows, by month of the year, the average share of marriages and misreporting rates among newlyweds in our sample of matched marriage records to federal tax returns. The share of marriages peaks around the summer, but the marital filing status misreporting rate is highest for December marriages. These end-of-the-year marriages may be systematically different or result from confusion regarding the joint-filing requirement if married on December 31. December marriages, however, only make up about 4% of marriages in our sample.

Table B3: Newlywed marital-status misreporting by month of marriage, 2001-2022

Month of marriage	Share of marriages	Misreporting rate
1	3.2%	1.7%
2	3.2%	2.1%
3	3.3%	2.4%
4	5.0%	1.8%
5	9.2%	1.5%
6	14.3%	1.4%
7	11.8%	1.9%
8	15.0%	2.1%
9	14.7%	2.0%
10	12.1%	2.5%
11	3.9%	4.6%
12	4.3%	8.5%
Average	**8.3%**	**2.7%**

Notes: This table only includes newlyweds in Minnesota administrative marriage records linked to tax returns.
Source: Authors' calculations with tax data and marriage records.

The tax system is not marriage neutral—progressive taxation combined with joint filing creates inherent marriage penalties and bonuses. The federal tax system has alternated between higher and lower marriage penalties and bonuses (Beebe 2019). Initially, only taxpayers in community property states—where assets acquired by either spouse during the marriage are considered jointly owned—could split income across two federal tax returns, resulting in marriage bonuses in those states because all filers were subject to a single set of progressive tax brackets. Figure B4 shows references to the "marriage penalty" increased in 1945–1947, 1975–1985, and 1991–2001. After each increase, there were declines coinciding with reforms lowering marriage penalties: the 1948 universal income-splitting, Tax Reform Act of 1986, and 2001 and 2003 reforms.

Figure B4: Google N-gram "marriage penalty" references increased 1945–47, 1975–85, & 1991–2001
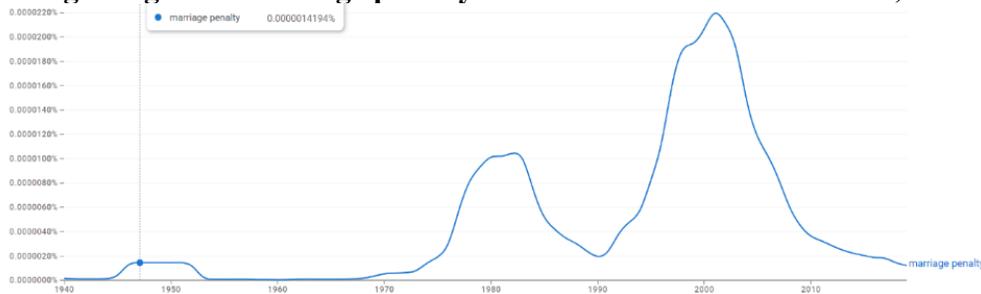

Source: Google N-gram, accessed October 2024.

B.5. Early Reporters

Early reporters—couples reporting their marriage on tax returns before their legal marriage—appear to be modestly sensitive to tax incentives. Figure B5 shows the shares of two groups across marriage penalty bins in the year of marriage: delayed reporters (misreporters) and early reporters. The misreporting rates of delayed reporters (blue line) are positively correlated with marriage penalties, as discussed in the main paper. Early-reporting rates (red line), in contrast, are *inversely* correlated with marriage penalties among those with marriage bonuses, i.e., those with negative marriage penalties in Figure B5. In the year of marriage, delayed reporters (misreporters) have an average marriage *penalty* of $599, compliant reporters (who start reporting in the year of legal marriage) have an average marriage bonus of $376, and early reporters have an average marriage *bonus* of $987. This suggests delayed and early reporters both behave strategically in response to marriage penalties, but in opposite directions—delayed reporters avoid marriage penalties and early reporters benefit from marriage bonuses.

Figure B5 only shows early-reporting rates in the year that these couples become legally married. But their incentives can change over time. Early reporters have an average marriage bonus in the first year they report as married on tax returns of $556, an average bonus in the year before their legal marriage of $734, and an average bonus in the year of marriage of $987. In summary, early reporters appear to respond to tax incentives, as they have large and consistent marriage bonuses. Moreover, their average marriage bonus tends to increase as they get closer to the year of their legal marriage, which is consistent with early reporters anticipating tax incentives over the longer term.

Figure B5: Delayed-reporting (misreporting) and early-reporting rates by marriage penalties among newlyweds, 2001–2022
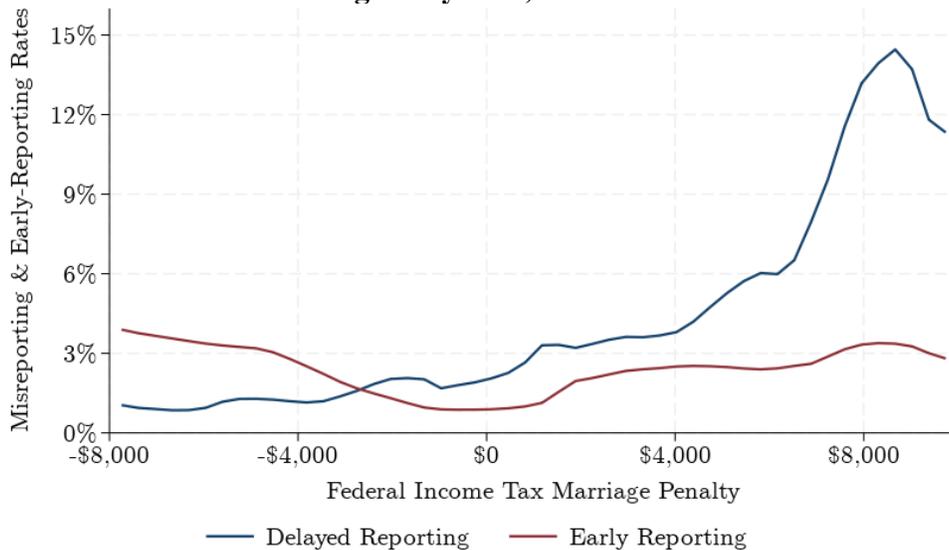
Notes: Delayed-reporting (or misreporting) are newlywed couples who did not file taxes as married and early-reporting are newlywed couples who filed taxes as married the year before their legal marriage (couples reporting as married on taxes but never legally married in our data are excluded). The x-axis shows federal-income-tax marriage penalties (bonuses when negative) among newlyweds in Minnesota administrative marriage records that are linked to tax returns. $500 bins and kernel bandwidth expressed in 2023 dollars. *Source*: Authors' calculations with tax data and marriage records.

B.6. Expanded Matching Sample

The baseline sample uses a strict-name match that requires middle names to match.[1] To match a higher share of marriage records to tax returns, we consider removing the middle-name requirement, which increases the match rate. In the expanded match sample, we match 60% of couples in the marriage records (362,140 of 599,504). But removing the middle-name requirement drastically increases the false positive rate. Removing the middle-name requirement leads to each marriage record having a first-stage match to from an average of only 1.03 couples to more than three couples in the tax data. Therefore, when one marriage record results in multiple matches, we select the couple whose initial year of filing as married most closely matches that from the marriage record. As an alternative, we settle multiple matches by giving deference to name-only matched couples that filed tax returns in Minnesota (the same state the couple was married in). This results in the same match rate (60%) but reduces the average matches per couple from over three to only 1.3. Still, it results in an average misreporting rate that is about twice as high as the strict name match sample, likely due to false positive matches. Given the uncertainty of these expanded matches and the higher quality of the strict-name match, we apply the strict-name match procedure for our baseline estimates in the main paper.

The expanded matches give similar results to the baseline strict-name match but appear to introduce more false matches. Figure B6 compares the baseline results in Panel A to the two expanded matches in Panels B and C. The strict-name match has an average misreporting rate of 2.3%, while the expanded match average misreporting rates are about twice as high (5.4%). This suggests a much higher prevalence of false positive matches in the expanded match. Despite the higher overall levels of misreporting in the expanded matches, the patterns of increasing misreporting rates as marriage penalties increase are almost identical to the baseline pattern.

Figure B6: Strict-name and expanded (no middle name) matching give similar results

A. Strict-name match (baseline)   B. Expanded (no middle name) match

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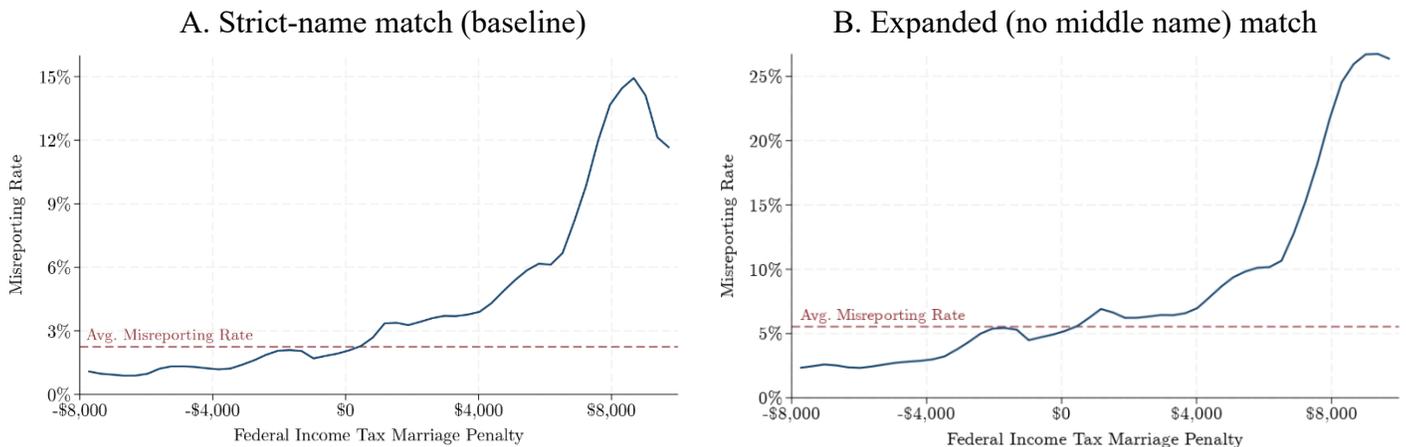
[1] In the marriage records, names appear in two fields: "LAST" and "FIRST MIDDLE". To prepare the second field for matching, we classify the first name as all characters before the first space, and the middle initial as the first character after the space. In the tax data, if the names of a fictional couple are "JANE H DOE" and "JOHN G DOE" then their names are usually recorded as "JANE H & JOHN G DOE" when filing jointly. For the first spouse, we classify the first name as all characters before the first space, the middle initial as the first character after the first space, and the last name as all characters after the last space. For the second spouse, we classify the first name as all characters between the "&" and second-to-last space, the middle initial as the first character after the second-to-last space, and the last name as all characters after the last space.

C. Expanded (no middle name) match, with deference to MN residence

Notes: This figure shows marital-status misreporting by federal-income-tax marriage penalties (bonuses when negative) among newlyweds in Minnesota administrative marriage records that are linked to tax returns for 2001–2022. $500 bins and kernel bandwidth using 2023 dollars. Matching approaches are described in the main text and above. *Source*: Authors' calculations with tax data and marriage records.

B.7. Filing Statuses of Misreporters

Misreporting couples use various combinations of filing statuses. The observed filing status of misreporters can differ from the status applied in our tax calculator, for example, because we narrow options to the most common filing statuses. Our assignments are such that misreporters do not engage in any further filing status noncompliance (e.g., filers with no dependents are never assigned head of household status in our calculator). However, in reality, we observe nearly every available combination of filing statuses among misreporting couples. These cases include just one spouse filing as married, both spouses filing as married to different individuals, and many more combinations. Table B4A displays the observed filing status combinations of misreporting newlyweds in our sample. The most common combination is that misreporters file two separate single returns. Table B4B displays the observed filing status combinations of misreporting newlyweds with at least one dependent. Among couples with dependents, most couples have one or two spouses filing a head-of-household return.

Table B4A: Filing Status Combinations among Misreporters (%)

	Single	MFJ	MFS	HOH	Non-Filer
Single	32	1	1	16	15
MFJ	---	[a]	[a]	[a]	7
MFS	---	---	4	[a]	3
HOH	---	---	---	7	12

Table B4B: Filing Status Combinations among Misreporters with Dependents (%)

	Single	MFJ	MFS	HOH	Non-Filer
Single	4	1	1	36	3
MFJ	---	[a]	[a]	1	6
MFS	---	---	3	1	1
HOH	---	---	---	16	27

Notes: [a] is less than 0.5%. Filing statuses are: Single, Married Filing Jointly (MFJ), Married Filling Separately (MFS), Head of Household (HOH), and non-filers. We ignore a small number of filing statuses: Qualified Surviving Spouse and Married Filing Separately with spouse exemption. *Source*: Authors' calculations with tax data & marriage records.

B.8. Multiple-Year Misreporters

Misreporting couples (who eventually report as married in our sample) report their marriage on tax returns an average of about two years after the year of legal marriage. However, the majority (68%) of misreporters report their marriage just one year after their marriage; thus these are single-year misreporters. The remainder (32%) take anywhere from two to over ten years to report their marriage. There are other differences between these two groups. Multiple-year misreporters are generally lower-income, receive more in EITC, and have more dependents. The average marriage penalty faced is similar to that faced by single-year misreporters, but the penalty as a share of income is 25% greater for multiple-year misreporters. However, splitting misreporters into these groups does not change the overall pattern observed in Figure 1 (Figure B7).

Figure B7: Misreporting Rates by Marriage Penalty for Single- and Multi-Year Misreporters
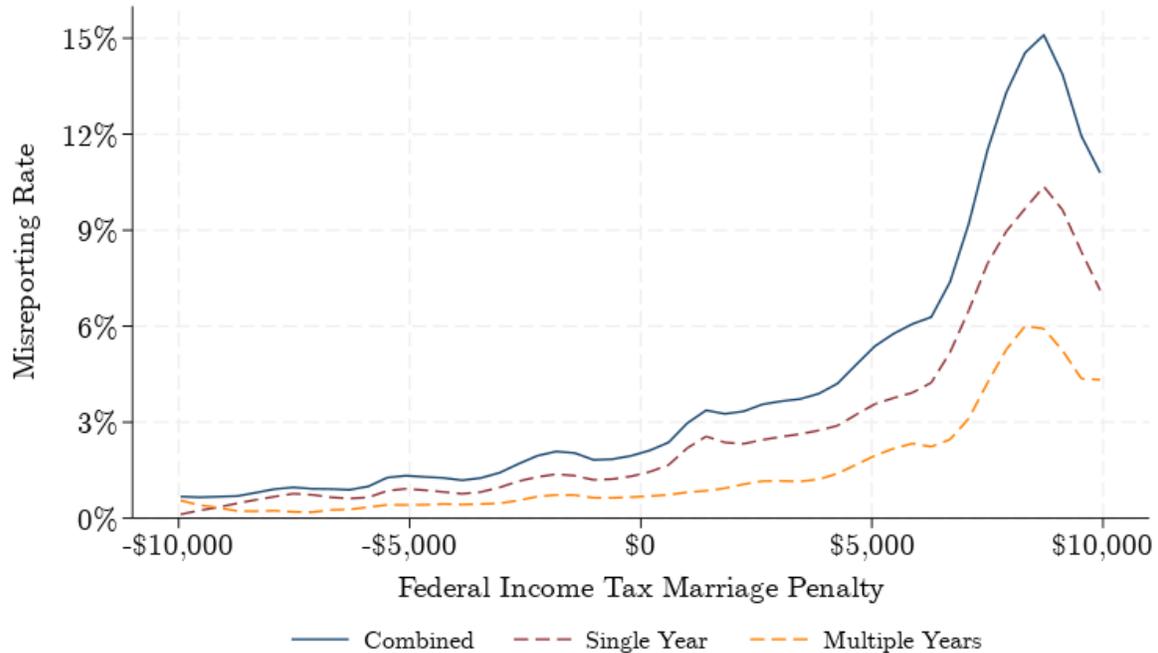
B.9. Marriage penalty patterns by year

Marriage penalties among misreporters have been relatively stable over the last two decades. Figure 3 shows misreporters' average marriage penalties are usually about $500 between 2001 and 2017. In 2018, however, misreporters started having small bonuses on average, perhaps from the larger share of families with no income tax burden following the Tax Cuts and Jobs Act (Splinter 2019).[2] The higher 2020–2021 penalty levels are likely related to the pandemic recession or temporary stimulus, which had a marriage penalty due to the head-of-household income phase-out threshold being much higher than half the threshold for joint filers (Splinter 2023). For example, misreporting married couples with two children could receive full stimulus payments for up to $250,000 of combined income by filing two head-of-household returns, but full stimulus payments for only up to $150,000 of income if filing jointly.

Compliant newlyweds, in contrast, always had average marriage bonuses, except for 2001 and 2002, when they had small penalties. This is likely because 2003 tax policy changes lowered marriage penalties by accelerating the low-income marriage penalty relief started in 2001 that widened low-income tax brackets and increased standard deductions so that both were twice that of single filers (Bryant et al. 2008).[3] Newlyweds responded to the 2003 marriage-penalty relief, with their marital-status misreporting rate immediately decreasing nearly a percentage point. This trend of decreasing misreporting rates continued through 2009, when the EITC marriage penalty was reduced by expanding the income-range for the full EITC among married filers.

Figure B8: Average marriage penalties by marital-status misreporters vs. compliant reporters, among newlyweds in 2001–2022
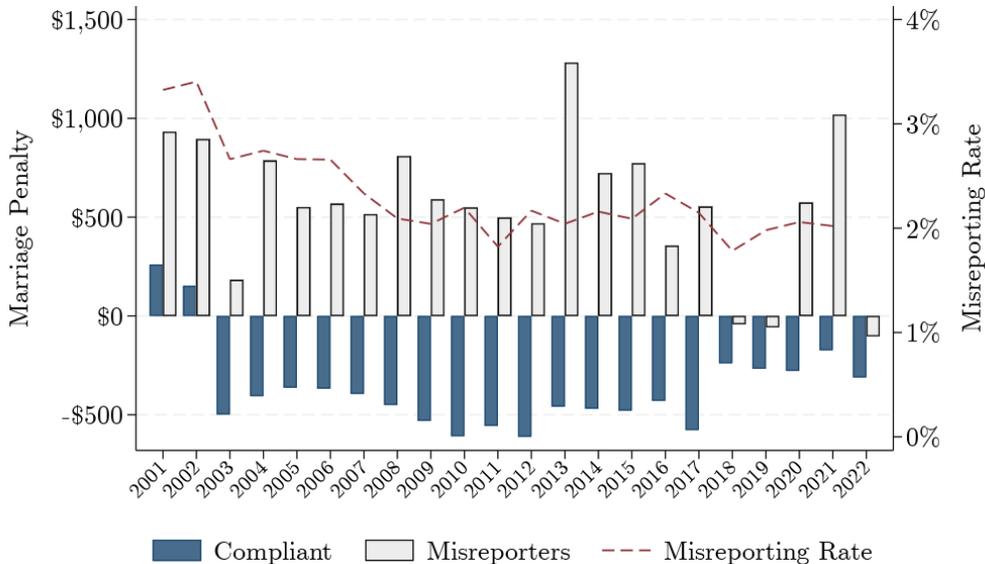
Notes: This figure shows federal marriage tax penalties (bonuses when negative) and marital-status misreporting rates among newlyweds, i.e., the year of marriage in administrative marriage records. Amounts are in 2023 dollar levels.
Source: Authors' calculations with tax data and marriage records.

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[2] TCJA reduced penalties by double-sizing many tax brackets and parameters for the Alternative Minimum Tax and child tax credit phase out, but increased penalties with an equal-by-filing-status state-and-local-tax deduction cap.

[3] Carasso and Steuerle (2002) found that the 2001 reform meant "two-children couples earning $15,832–$32,121 receive $577 in [EITC] marriage penalty relief" and child-tax-credit marriage penalties decreased by $800 for this income group. We observe a 2001 to 2003 marriage penalty decrease of about $800 among compliant newlyweds.

Table B5: Marriage misreporting (linear regressions)

| | 2003: Penalty relief | | 2009: EITC |
	$1K bonus to $1K penalty	$1K+ penalty	$3K+ pen, 1+ dep
	(1)	(2)	(3)
Treated*Post-period	**-0.008**	**0.006**	**-0.021**
	(0.002)	(0.003)	(0.003)
Treated	0.016	-0.017	0.026
	(0.002)	(0.003)	(0.003)
Post-period	0.000	-0.006	-0.005
	(0.002)	(0.001)	(0.001)
Log marriage penalty	0.011	0.013	0.008
	(0.0003)	(0.0006)	(0.0003)
Nov.-Dec. marriage	0.046	0.046	0.046
	(0.001)	(0.001)	(0.001)
Income	-0.011	-0.012	-0.012
	(0.0004)	(0.0004)	(0.0004)
Marriage since 2018	-0.003	-0.003	-0.001
	(0.001)	(0.001)	(0.001)
Age of primary	0.0003	0.0003	0.0003
	(0.00004)	(0.00004)	(0.00004)
Non-working spouse	0.032	0.027	0.027
	(0.001)	(0.001)	(0.001)
Constant	0.068	0.080	0.099
	(0.005)	(0.005)	(0.004)

Notes: 208,602 observations. Income is across both spouses. Marriage penalties and income are bottom-coded at $100 before taking logs to address negative values. Standard errors shown in parentheses. Results are significant at the 0.1% level (except for 2003 post-period and age, 2003 main coefficient at 5% level, and 2009 treated).
Source: Authors' calculations with tax data and marriage records.

A. Sensitivity to policy changes: Difference-in-differences analysis

Our sample covers policy changes that reduced marriage penalties. To study how policy changes affected misreporting, we apply a difference-in-differences approach for each policy event. In this linear model, "treated" newlyweds have specified marriage penalty levels. Table B5 shows results and the general specification is:

$$Misreporting = \beta_0 + \beta_1 \bullet Treated \bullet Post + \beta_2 \bullet Treated + \beta_3 \bullet Post + X \bullet \boldsymbol{\beta} + \in$$

The 2003 tax reform provided marriage penalty relief by widening low-income tax brackets and increasing married standard deductions to twice those of single filers. The dashed line in Figure 8 shows the newlywed misreporting rate immediately fell by nearly one percentage point. This appears to have been driven by a large reduction in "inattention-based" misreporting among those with bonuses, although this was partially offset by a rise in "strategic" misreporting among those with large penalties (see Figure B9A). It is unclear why newlyweds facing similar incentives changed their behavior in 2003. One possibility is that the widely discussed reduction in marriage penalties (Figure B4) increased the salience of marriage penalties, prompting fewer bonus-eligible newlyweds and more penalty-facing newlyweds to misreport. When considering the two years since 2003 change to the prior two years, the odds of misreporting become one-third more sensitive to log marriage penalties (odds ratio increases from 1.34 to 1.52, using the logistic regression from the main paper). Perceptions of how much marriage interacts with the tax system may therefore have influenced marital-status reporting, suggesting both lack of attention and salience of incentives (as well as the incentives themselves) contribute to marital-status misreporting.

In 2003, among those with small marriage bonuses ($1,000 or less), no marriage effect, or small penalties ($1,000 or less), the misreporting rate decreased by 0.8 percentage points, per Table B5. In contrast, for those with marriage penalties over $1,000, the misreporting rate increased by about 0.6 percentage points. Figures B9A and B9B shows flat pre-trends (though we only have two prior years). Note that the first group, with small bonuses and penalties, represented over half of newlyweds, while the group with large penalties only one-quarter before 2003 (one-tenth afterwards). Therefore, the net result is an overall decline in marital-status misreporting.[4]
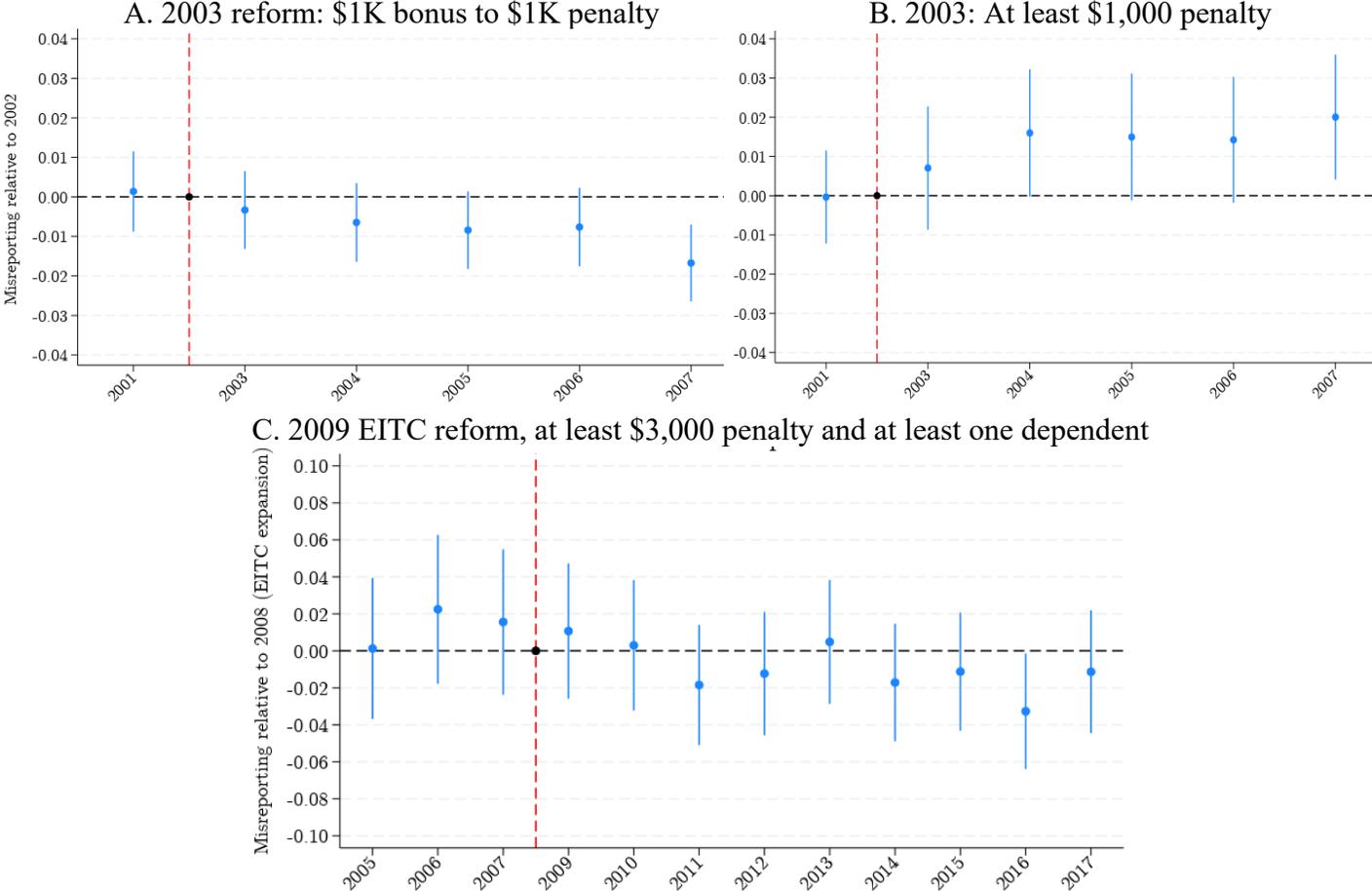
A 2009 change reduced EITC marriage penalties by introducing a third-child benefit and expanding income phase-out ranges for married filers. Both changes decreased the incentive for EITC-eligible newlyweds to misreport marital status. Consistent with decreasing EITC marriage penalties, misreporting fell among likely affected newlyweds (at least $3,000 in penalties and one dependent or more). Table B5, column (3), shows a decrease of 2.1 percentage points.[5] This is consistent with this group's average misreporting rate falling from 8% to 5% before and since 2009. It also aligns with previous research (Jones and O'Hara 2016; Larrimore, Mortenson, and

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[4] Those estimate for those with bonuses larger than $1,000, which was under one-fifth of newlyweds before 2003, is 0.05 but not statistically significant result.

[5] Figure B9C suggest little pre-trends (though the estimates are noisy) and a two-year delay in effects.

Splinter 2017), which observed a reduction of splitting children across tax returns with the 2009 reforms.

**Figure B9: Parallel trends: Coefficients relative to pre-treatment year**

A. 2003 reform: $1K bonus to $1K penalty   B. 2003: At least $1,000 penalty

C. 2009 EITC reform, at least $3,000 penalty and at least one dependent

Notes: Paper describes sample and text above describes the difference-in-differences approach.
Source: Authors' calculations with tax data and marriage records

B.10. Misreporting rates by subgroups

We examine how misreporting rates vary with marriage penalties across four subgroups: (1) year of marriage, (2) income groups, (3) number of dependents, and (4) month of marriage. Figure B10A shows that among newlyweds facing marriage penalties, misreporting rates declined since 2018, while pre-2018 marriages exhibit a smoother dose-response pattern. Figure B10B shows a positive relationship between misreporting and penalties across all income groups, though couples making under $40,000 or over $150,000 appear least responsive. This aligns with evidence that forgone tax savings are larger for higher-income taxpayers with higher opportunity costs (Benzarti 2020). Figure B10C shows more misreporting among couples with two or more dependents, likely because this allows splitting dependents across two returns.

While the three previously discussed subgroups can interact mechanically with marriage penalties, the month of marriage does not affect a couple's marriage penalty. Nevertheless, Figure B10D shows that marriage month is associated with misreporting: November marriages are about twice as likely to be misreported and December marriages nearly four times as likely. This may reflect confusion about filing rules. For example, couples married in December must as married for the entire tax year despite being married for less than a month that year. Our regression analyses control for these covariates to better estimate the relationship between marriage penalties and misreporting.

Figure B10: Misreporting rates by marriage penalties, subgroups
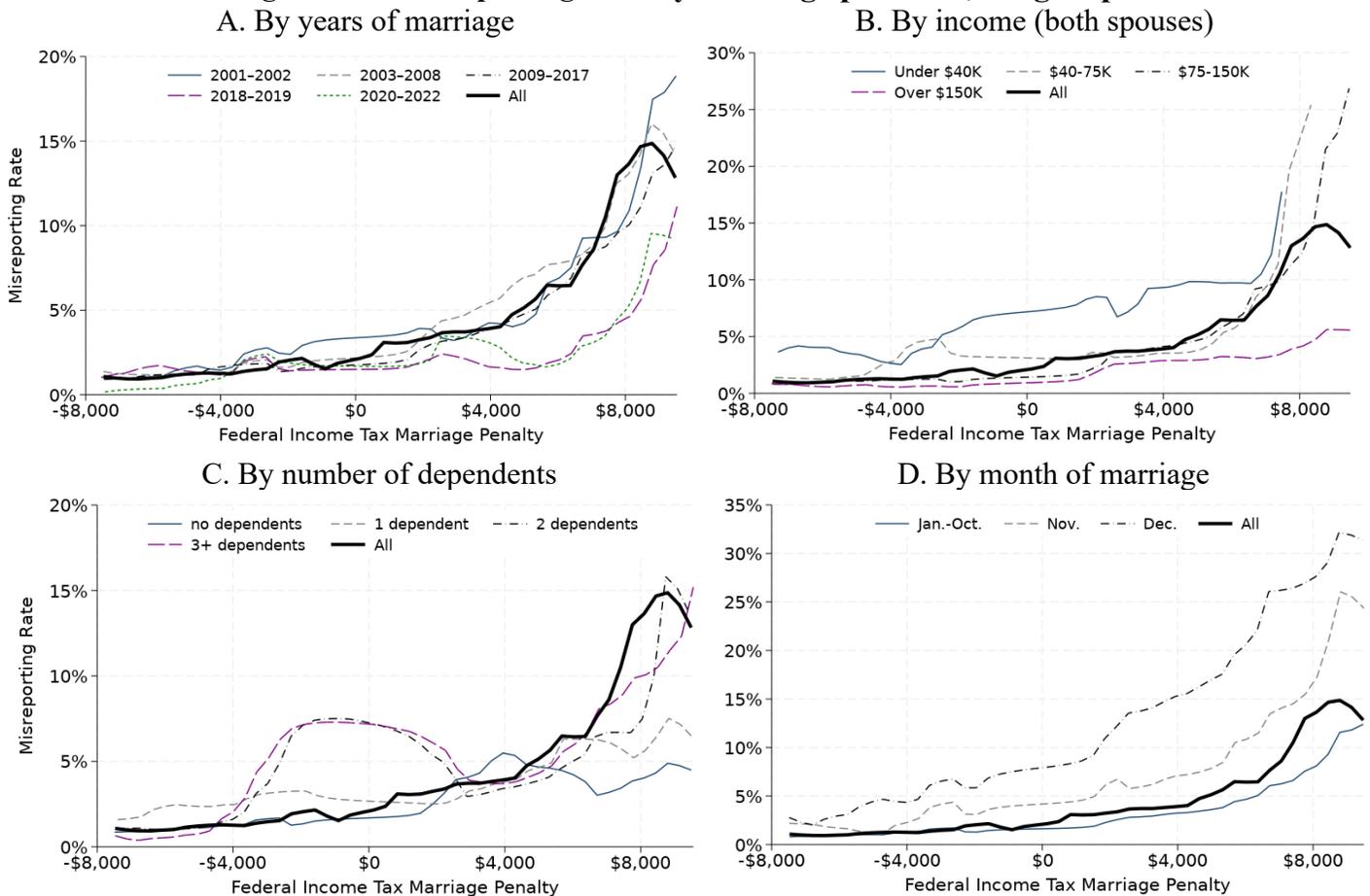
Notes: Paper describes sample. Penalties use 2023 dollars. Subgroups use $1,000 bins and kernel bandwidth (All $500 bins).
Source: Authors' calculations with tax data and marriage records

Table B6: Marriage penalties and bonuses among dual-filers

	Compliant	Dual-Filer Misreporters	Compliant (misreporter prior year)
Panel A: Dual-Filer newlyweds			
Federal Income Tax	–$376	$1,201	$87
Federal EITC	$276	$907	$527
Tax on Taxable Income	–$627	$113	–$399
Panel B: Newlyweds by number of dependents			
Zero	–$750	–$69	---
One	$355	$1,311	---
Two	$1,039	$3,372	---
Three	$1,239	$4,148	---
Four	$790	$5,844	---

Notes: Negative amounts are marriage bonuses. Positive values are marriage penalties. Amounts are 2001–2022 averages in 2023 dollar levels for federal income taxes (after credits). Misreporters only among dual-filer newlyweds. *Source*: Authors' calculations with tax data and marriage records.

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