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Were All the Good Men Married? Investigating the Marriage Premium in Sweden, 1947–2022

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Were All the Good Men Married?

Investigating the Marriage Premium in Sweden, 1947–2022

Abstract

Married men earn more than unmarried men in most high-income countries. Explanations emphasize either productivity gains from marriage or positive selection into marriage. This study introduces a long-term historical perspective on the marriage premium. Using longitudinal data on men in Sweden 1947–2022, combining historical population records for a regional sample with full-count modern administrative registers, we analyze detailed information on earnings and occupation for both men and their spouses. We estimate linear regression, two-way fixed-effects, event-study models, and residualized quantile regression to capture different aspects of the marriage premium. We find a stable marriage premium over nearly seven decades. While OLS estimates are substantially attenuated in fixed-effects models, indicating an important role for selection, a positive premium remains. There were large changes over time in the underlying mechanisms. Until the 1980s, the premium was highest for men with lower earnings, while this pattern reversed after 1990 when the premium was larger at higher earnings. Before 1970 there is some support for a causal marriage premium, while this changed in later periods, when there was strong earnings growth in the years leading up to marriage. The persisting marriage premium suggests that marriage is still crucial for men's labor market outcomes.

JEL classification

J12, J22, J24, J31

Keywords

marriage premium, register data, earnings, quantile regression, event study

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Introduction

The earnings advantage of married men, commonly referred to as the marriage premium, remains one of the most robust empirical regularities in labor economics and family demography (e.g., Waite & Gallagher 2000). Across high-income countries, married men earn substantially more than their unmarried counterparts, even after accounting for observable characteristics such as education, occupation, and work experience. Historically, the difference in earnings between married and unmarried men has been substantial. A study of the United States in the 1890s showed that married men earned about 15% more per week (Eichengreen 1984), while studies relying on data from the 1970s–1990s report hourly wage differences of 25–30% (Cohen 2002; Hill 1979). Another study of the 1970s–1980s documented that married men typically earned between 10% and 40% more than their unmarried counterparts, and that marriage was as important as race, firm size, and union membership in determining men's wages (Korenman & Neumark 1991). Although the magnitude of the marriage premium seems to have declined since the 1960s, it commonly appears at levels around 10% in the United States, Europe and Australia after controlling for individual characteristics (Barg & Beblo 2007; Blackburn & Korenman 1994; Breusch & Gray 2004; Chun & Lee 2001; Dougherty 2006; Gray 1997; Gupta et al. 2007; Jakobsson & Kotsadam 2016; Killewald & Lundberg 2017; Loh 1996; McDonald 2020; Richardsson 2000), though estimates from comparisons of men with the same job are lower than those at the population level (Hotchkiss & Moore 1999; Petersen, Penner & Högsnes 2011). Goldin (1990) argues that the marriage premium among men in the United States has been relatively constant over time, but Loh (1996) suggests that it has been decreasing for long. Contrasting results based on cross-sectional data, Blackburn & Korenman (1994) reported that the marriage wage premium in the United States decreased by 10 percentage points between 1967 and 1988. In Scandinavia, Richardsson (2000) document a decrease from 0.21 to 0.08 log

points between 1968 and 1991 in Sweden, while Petersen, Penner and Högsnes (2011) find a stable marriage premium in Norway between 1976 and 1996.

Despite extensive research, there is no consensus on why married men earn more than otherwise comparable unmarried men (Rodgers & Stratton 2010; Juhn & McCue 2016; Killewald & Gough 2013; Killewald & Lundberg 2017). The literature centers on two competing explanations: whether the marriage premium reflects a causal effect of marriage or selection into marriage. The causal perspective posits that marriage increases men's earnings through changes in behavior or treatment in the labor market with higher productivity stemming from mechanisms such as work effort or household specialization (Becker 1981; Grossbard-Shechtman & Neuman 2003). Empirical studies using longitudinal data and fixed-effects models often find a marriage premium in the United States and parts of Europe (Ahituv & Lerman 2007; Bardasi & Taylor 2008; Hersch & Stratton 2000; Killewald & Gough 2013; Killewald & Lundberg 2017), although estimates vary in magnitude and interpretation.

In contrast, the selection perspective argues that the observed wage differential reflects the sorting of men into marriage. Men with higher earnings potential and stronger labor market attachment and careers are more likely to marry, generating an association between marriage and earnings that do not reflect a causal impact of marriage itself (Akerlof 1998; Dougherty 2006; Killewald & Gough 2013; Killewald & Lundberg 2017; Korenman and Neumark 1991; Krashinsky 2004; Loughran & Zissimopoulos 2009; Nakosteen & Zimmer 2001). Some studies emphasize the importance of pre-marital wage growth in explaining the gap (Dougherty 2006; Killewald & Lundberg 2017; Ludwig & Brüderl 2018). Studies that account for selection typically find small or no marriage premium when unobserved heterogeneity is considered, especially in Scandinavia (Gupta, Smith & Stratton 2007;

Petersen, Penner & Högsnes 2011). In sum, there is empirical evidence supporting both explanations and their relative importance remains contested.

This study contributes to research in two ways. First, we provide a long-run perspective on the marriage premium by examining men in Sweden from 1947 to 2022, spanning the transition from a male breadwinner model to a dual-earner society (Stanfors & Goldscheider 2017). Second, we use rich longitudinal data combining historical population registers and modern administrative records, allowing us to analyze earnings, occupational status, and family dynamics over nearly seven decades. The Swedish context is particularly well suited for this analysis. Over the study period, Sweden underwent profound changes in gender relations and family organization, particularly with the rapid increase in married women's labor force participation from around 10% in 1945, 50% in 1967, to over 80% since 1990 (Stanfors 2014). At the same time, men's labor force participation rates remained relatively stable, and gender differences in unpaid work persisted though in attenuated form (Pailhé, Solaz & Stanfors 2021). These transformations provide a unique opportunity to examine whether and how the marriage premium changed with the economic foundations of marriage. By situating the marriage premium within this long-term societal transformation, we study changes in the marriage premium over time, heterogeneities across the earnings distribution, and the extent to which the marriage premium reflects a causal impact of marriage on earnings or rather a selection of high earners into marriage.

Our findings show a stable marriage premium in Sweden during the entire postwar period. Large raw differences in earnings between married and single men are attenuated when adding control variables and individual and year fixed effects, but significant premiums of 5–10 log points remain. Despite this constancy in the marriage premium, there were large changes in the underlying mechanisms. Until the 1980s, the marriage premium was largest at lower earnings, especially the bottom quartile of the earnings distribution, and then declined

to almost null at higher earnings. After 1990 this pattern was reversed and the marriage premium increased from almost zero at the lowest earnings to 20 log points at the top of the distribution. Event-study results indicate a possible causal effect of marriage on earnings in the 1950s and 1960s, but strong selection effects in the period after 1968 when earnings grew steadily in the years leading up to marriage.

Background

Explanations for the Marriage Premium

Why do married men consistently earn more than otherwise similar unmarried men? Two explanations dominate: causal effects of marriage on productivity and selection into marriage. The existing literature is slightly more in favor of marriage as treatment (i.e., the causal effect). The support for selection is debated and the most recent empirical literature on the topic has been oriented at sorting out causal and selection arguments (e.g., Petersen, Penner & Högsnes 2011; Juhn & McCue 2016; Killewald & Lundberg 2017). While analytically distinct, these mechanisms are not mutually exclusive and may operate simultaneously.

Marriage as Treatment

A long-standing economic perspective posits that marriage increases men's productivity. In Becker's (1973, 1981) model of the household, which was based on the heterosexual nuclear family of the 1960s, marriage facilitates specialization, allowing partners to allocate time efficiently between market and non-market production. Under traditional gender roles, wives specialized in unpaid household labor while husbands specialized in paid work, enabling men to increase labor supply, and accumulate human capital and work experience (Kenny 1983; Becker 1985). Several mechanisms link marriage to higher male

earnings. Reduced responsibility for domestic labor can allow married men to work longer hours or invest more in career advancement. Marriage may also increase work effort through financial responsibilities, particularly in the presence of children (Akerlof 1998). Employers may perceive married men as more stable or reliable, leading to preferential treatment (i.e., direct or statistical discrimination) regarding promotion or remuneration. However, the relevance of specialization-based explanations has likely declined over time. The rise in women's labor force participation, the diffusion of household technologies, and changing gender norms have reduced the returns to marriage and efficiency gains from within-household specialization based on production complementarities (Greenwood, Seshadri & Yorukoglu 2005; Stevenson & Wolfers 2007; Stanfors & Goldscheider 2017). Further, divorce laws and increased marital instability have introduced greater risks associated with household specialization for women. In dual-earner households, the scope for specialization is more limited, suggesting that the productivity effects of marriage, if any, may operate through other channels.

Selection into Marriage

An alternative explanation emphasizes selection and that men who marry differ from those who remain unmarried in ways that are correlated with earnings. Hence, marriage itself does not increase productivity; rather, men with higher earnings potential are more likely to marry. Selection may operate through both observable and unobservable characteristics. Men with higher education, stable employment, and higher earnings are more attractive in the marriage market, particularly in contexts where economic resources are important for partner selection (Schwartz & Mare 2005; Kalmijn 2011). At the same time, unobserved traits, such as motivation or reliability, may be rewarded in both the labor market and the marriage market. Changing family dynamics may have strengthened selection mechanisms over time.

As marriage has become less universal and increasingly delayed, those who marry may be more positively selected. The expansion of cohabitation as an alternative to marriage together with divorce reinforces this pattern as individuals with weaker economic prospects may be less likely to enter or remain in marriage.

The theory presented above has different implications for the earnings of men across marital statuses. Together with previous research findings, it allows us to conjecture about the existence and magnitude of a marriage premium during Sweden's transition from a male breadwinner society to a dual-earner society. Marriage as *treatment* implies higher earnings for married men compared to their single counterparts, although outcomes may differ for previously married men (Ribar 2004). If marriage enhances productivity through specialization, the positive impact related to time savings and support disappears when marriage ends, regardless of whether it ends in divorce or the death of the spouse. Conversely, if increased productivity is linked to human capital accumulation, the positive impact persists irrespective of marital status changes. The positive association between marriage and earnings is anticipated to be more pronounced among those with high earnings, like white-collar workers, because they gain relatively more from human capital accumulation compared to those in lower-level jobs, like blue-collar workers. At the same time, it is not clear what the post-marriage implications of work effort would be. The positive impact may diminish but also endure in reduced form, particularly considering the ongoing responsibility to provide for dependent children.

The transition from a male breadwinner model to a dual-earner society has ambiguous implications for the marriage premium. On the one hand, declining specialization suggests that the causal effect of marriage on productivity should weaken over time. On the other hand, increasing selectivity into marriage may sustain or even reinforce the observed premium. Thus, the first mechanism implies that the decline in the marriage premium aligns with a

gradual shift toward more equal household divisions of labor. In the Swedish context, these dynamics are particularly salient. During the mid-twentieth century, marriage was nearly universal and strongly associated with gender specialization. From the late 1960s onward, cohabitation emerged as an alternative to marriage, and rising female labor force participation and the institutionalization of gender equality policies transformed family organization. These changes imply a potential shift from productivity-based explanations toward selection-based explanations of the marriage premium. Accordingly, we have reasons to believe that there should be a marriage premium in Sweden in the 1950s and 1960s, and that it should be larger than today. This stems from the expectation that the marriage premium would decrease over time alongside reduced specialization in marriages, starting in the 1960s, and increasing particularly in the 1970s and 1980s.

Heterogeneity Across the Earnings Distribution

Theoretical perspectives yield contrasting predictions regarding heterogeneity across the earnings distribution. If the marriage premium reflects human capital accumulation and career investment, it may be larger among higher-earning men, who get steeper returns to experience and tenure. This aligns with the expectation that career effects related to human capital accumulation are more important for white-collar workers. With the growing emphasis on the role of human capital and skills in the labor market, this should remain stable or increase over time.¹ If the premium reflects behavioral changes or employer perceptions, it may be more pronounced among lower-earning men, whose labor market attachment is more elastic and

¹ In an international perspective, Sweden (together with Italy, Belgium, and the other Nordic countries) has the lowest wage dispersion in the OECD. In 2015, the P90/P10 ratio was 2.1. In Germany and the UK, this ratio was over 3, and in the US is around 5. Wage dispersion has increased since the early 1990s, particularly among white-collar workers in the private sector and more recently among women.

responsive to family formation. Empirical evidence on this is mixed. Some studies find larger premiums at higher earnings levels, consistent with human capital mechanisms, while others document stronger effects at the lower end of the distribution (Dougherty 2006; Killewald & Lundberg 2017).

According to the *selection* hypothesis, it is not marriage *per se* that influences earnings but rather the inherent abilities and personality traits of individuals. Assuming that productivity can be observed and rewarded by employers, differences in earnings associated with marital status should be minimal, all else equal. Following this rationale, the marriage premium should be constrained among those at the lower end of the earnings distribution because there is more equal pay, less variation, and compensation is more closely tied to observable productivity compared to white-collar workers. If the selection mechanism dominates, the marriage premium should exist for all married men. Moreover, it should remain relatively stable over the study period or show a slight decrease, reflecting increasing selectivity into marriage toward the end compared to the beginning of the study period. Notably, marriage was still normative at the start of the study period, and there were few alternatives, like cohabitation, thereby strengthening the role of selection dynamics in the latter part of the period studied.

Methods

Data

We combined historical and modern register data to construct a long-run panel of men residing in Sweden between 1947 and 2022. From 1968 onwards, Sweden has annual information for the entire population from computerized administrative registers on income and sociodemographic variables. Between 1947 and 1967 we relied on similar data for a regional sample in southern Sweden, available in the Scanian Economic-Demographic

Database (SEDD) as part of the research infrastructure SwedPop (SwedPop 2026, swedpop.se). It contains longitudinal individual-level information from population registers and income- and taxation registers, with continuously updated information on demographic events, family context, occupation, and income (Bengtsson et al. 2025; Quaranta 2015, 2016; see also Dribe & Quaranta 2020). The study area includes the industrial town of Landskrona, a smaller town with considerable industrial activity (Kävlinge), and four nearby largely rural parishes. While not nationally representative, the region is not atypical and reflects socioeconomic conditions of semi-urban and rural Sweden during the period studied (Bengtsson & Dribe 2021; Dribe & Svensson 2024).

Landskrona broadly followed the economic and demographic development of other Swedish industrial cities, with an industrial expansion from early in the century to around 1970, when industrial restructuring brought extensive job losses and population decline. Landskrona was in many ways a typical Swedish working-class town with relatively low levels of average income and educational attainment throughout much of the twentieth century (Dribe & Svensson 2024; see also Quaranta & Stanfors 2024 for an analysis of marriage and divorce based on the SEDD data for Landskrona). To assess the robustness of results based on the regional data, we compare estimates of the marriage premium for the SEDD sample and Sweden as a whole for 1968–2022. The estimates are very similar, which makes it reasonable to assume that the same applies to the period 1947–1967 when we have to rely on the regional sample only (Appendix Table A4).

The administrative register data (1968–2022) contain annual information on marital status, occupation, income, place of residence, and children. This information is available for

all individuals residing in Sweden each year.² We divided the modern period into two sub-periods: 1968–1989 and 1990–2022. This periodization captures important economic and family-demographic changes in Sweden. The early 1990s was a period of economic crisis which was followed by a strong reorientation of the welfare state towards a higher degree of privatization of the supply of services even if they were still largely publicly financed (see, e.g., Schön 2010). Following the crisis, family policy expanded and the labor force participation of mothers to young children increased further. It was also a period of expansion of higher education. These developments can be expected to have been important for the marriage premium in Sweden.

Analytical Sample and Variables

Our analytical sample consists of Swedish-born men aged 20–66 years. They were followed annually within the sub-periods, yielding panels with about 100,000 person-year observations for over 14,000 individuals in the 1947–1967 period, almost 53 million person years (3.8 million individuals) for 1968–1989, and over 88 million person years (5 million individuals) for 1990–2022 (see Table 1). The data included time-varying information on earnings, marital status, occupation, children, and place of residence.

Table 1 here

The outcome variable is annual labor-related income, including earnings from employment, self-employment, and taxable benefits relating to previous earnings (e.g., unemployment and parental leave, depending on the period). For 1947–1967, income data were drawn from individual tax records in which incomes were reported separately for men

² Data from Statistics Sweden were accessed in pseudominimized form through the online micro data portal MONA. Data were delivered to the project "Socioeconomic Segregation" with approval from the Swedish Ethical Review Authority (Dnr 2023-06435-01).

and women (Helgertz et al. 2020).³ Income was declared in individual tax returns and assessed by local tax authorities. For the 1968–2022 period, we used information from the national income- and taxation register. The measures are comparable across periods. All incomes are adjusted for inflation using the consumer price index and expressed in constant 1980 SEK. We used the natural logarithm of income in all regression models, which means that men without any earnings are excluded from the analysis.

Marital status is categorized as never married, married, divorced and widowed. Non-marital cohabitation was rare before 1968 (less than 1% of observations in SEDD) but grew in importance over time across Sweden (Hoem 1987; Trost 1993; Kiernan 1999). Such unions are usually considered similar to marital unions, but we lack information in the registers to separate never married from cohabitators for much of the period, and when the information is available, from 1990 onwards, it is only for cohabiting couples with common children. For this reason, we only included the formally married in the married category in our main analysis and left the cohabitators in the never-married category. As a robustness test, we also estimated a set of models for the period 1990–2022 where unions are defined as formally married or cohabitators with common children.

We controlled for a set of time-varying characteristics associated with earnings and family formation. These include age, age squared, number of children (0, 1–2, 3+), place of residence (urban vs. rural), and social class. In some models, we also included an indicator for whether the wife has labor income, which serves as a proxy for within-household specialization.

Social class is based on occupational information given in the different sources, which has been classified using HISCLASS, a 12-category class-scheme based on skill level, degree

³ There were no major changes in the way income was reported in the income and taxation registers during the study period.

of supervision, whether manual or non-manual, urban or rural labor (Van Leeuwen & Maas 2011). HISCLASS is similar in structure to the commonly used EGP-scheme (Erikson, Goldthorpe & Portocarero 1979). In SEDD, between 1947 and 1967, we have at least annually updated occupational information from income registers, population registers, birth and marriage registers. These occupational notations are pre-coded in HISCO (Van Leeuwen et al. 2002), an adaptation of the ILO coding scheme ISCO68 to historical data. From the HISCO codes, classification into HISCLASS is straightforward. When we had more than one occupation recorded at the same time (from different sources) we selected the highest-status occupation at each point in time (based on HISCLASS).

For the period 1968–2022 occupation is available from quinquennial censuses (1970–1990) and the employment registers (annually 2001–2022). The employment registers only have information for the employed, which means that self-employed or employers with less than two employees are not included. This is often the case for some occupational categories, e.g. farmers. Occupations in these censuses and registers were coded according to Statistics Sweden’s coding schemes NYK, SEI and SSYK (the exact coding scheme used differs over time), and the codes have been grouped according to HISCLASS (see Dalman (2022) for the conversion from NYK/SEI to HISCLASS, and Dribe and Helgertz (2016) for the SSYK-HISCO conversion). Based on HISCLASS, we define six broader classes: higher white-collar workers (higher managers and professionals), lower white-collar workers (lower managers and professionals, clerical and sales personnel), skilled workers (foremen and medium-skilled

workers), farmers and fishermen, lower-skilled workers, and unskilled workers. We interpolated occupational information for the period 1968–2000 using the nearest census.⁴

In the historical data (1947–1967) we have continuous information on presence of children in the household. For the period 1968–2022, we matched children under 18 using a register of biological children. We do not know if these children resided with their parents if they were married, but we assume that this is the case because alternative living arrangements were rare. Based on this information we constructed a categorical variable on number of children.

Table 1 shows that, across the entire study period, between 43% (1990–2022) and 76% (1947–1967) of the individuals in the sample were currently married, 20–46% never married, and the rest either divorced (2–10%) or widowed (around 1%). In the first period, about half of the married men had wives who did not earn any income, while the corresponding figure in the last period was only 6%. This reflects the strong increase in married women’s labor force participation in the postwar period (Stanfors 2014; Stanfors & Goldscheider 2017).

Empirical Strategy

We performed three different analyses to assess the relationship between marital status and men’s earnings. First, we estimated linear regression models, with some models including individual and year fixed effects (two-way fixed effects):

$$\ln(y_{it}) = \alpha + \beta \text{MaritalStatus}_{it} + \gamma' \mathbf{x}_{it} + \eta_t + v_i + \varepsilon_{it} \quad (1)$$

⁴ We used information from 1970 to impute data for 1968, 1969, 1971, and 1972, etc. For the period 1990–1995 we used information from 1990, and for 1996–2001, we used information from 2001. The occupational registers (available 2001–2022) were based on reports from employers and only sample currently employed.

where y_{it} is labor-related income (adjusted for inflation (CPI), expressed in 1980 SEK) for individual i in year t , x_{it} is a vector of control variables (age, age squared, number of children, urban/rural, social class, and if wife has income), η_t is year fixed effects, and v_i individual fixed effects. We added these variables sequentially to assess how much adjustment moderates the gross association between marital status and income. The fixed-effects models are the strongest in terms of identification, where the estimated association is based on changes in marital status and income, and not just level differences across individuals. Comparing OLS and fixed-effects estimates provides insight into the importance of selection. However, it is not an experimental design, and hence we cannot interpret the estimates as causal effects.

We estimated event-study models where we include leads and lags of the time in relation to marriage, five years before and five years after. Since the timing of marriage (treatment) varies across individuals we employ the staggered difference-in-differences event study model proposed by Callaway & Sant'Anna (2021) with never treated individuals as the comparison group (Appendix Figure A3 shows very similar results when using the not-yet treated as the comparison group instead).⁵ These models trace earnings trajectories in the years before and after marriage, allowing us to assess pre-trends and the timing of income changes in relation to marriage. This provides evidence on whether observed associations reflect causal effects.

⁵ Estimations and plots were made using the *csdid2* command in STATA19 (Fernando Rios-Avila, <https://github.com/friosavila/stpackages/tree/main/csddid2>). In the main analysis we use the doubly robust estimator proposed by Sant'Anna & Zhao (2020). In Appendix (Figure A4) we show results with alternative estimators, all producing almost identical figures.

To assess heterogeneity in the marriage premium across the income distribution, we estimated residualized quantile regression models following Borgen et al. (2021, 2022, 2023), which are appropriate given the research question. This approach allows us to estimate quantile treatment effects while accounting for individual and year fixed effects. The models were estimated in two steps where the first step is a two-way fixed effects model with marital status (married vs never married) as the outcome variable and including the same control variables as in (1) except the indicator variable for wife income. In the second step, log income was regressed on the residuals from the first step using the conditional quantile regression model.⁶ Borgen et al. (2021) recommends bootstrapping to calculate standard errors but given our very large dataset we did not use this approach in the main analysis. In the Appendix (Figure A1, Table A5) we show estimates for the smaller SEDD-sample (1947–1967) with bootstrapped standard errors together with the ones used in the main analysis. The bootstrapped standard errors are always smaller than the normal ones, which implies that significance levels are more conservative in the main analysis than when using the bootstrapped standard errors.

Results

Descriptive analysis (Figure 1) shows that married men consistently earned more than never-married men throughout the period studied. Divorced or widowed men also generally earned more than never-married men, who had the lowest earnings. In absolute terms, the differences in earnings between married and never-married men increased over time. Figure 2 presents relative earnings by marital status, using never-married men as the reference group. The figure indicates a stable raw marriage premium over time, with married men earning

⁶ The estimations were made using the *rqr* command in STATA 19 (see Borgen et al. 2021).

about 40-60% more than never-married men. However, these differences do not account for compositional variation across groups and time. Because factors such as age, occupation, and place of residence, and unobserved characteristics related to productivity may be correlated with both marital status and earnings, we turn to regression-adjusted estimates.

Figures 1–2 here

We estimated the marriage premium using ordinary least squares (OLS) and two-way fixed-effects (TWFE) models. OLS estimates capture both persistent differences in mean earnings between those who marry and those who do not (selection) and earnings changes associated with a change in marital status, which may reflect productivity gains from household specialization. In contrast, TWFE models instead identify within-individual earnings changes associated with change in marital status. By doing so, fixed-effects estimates net out time-invariant unobserved heterogeneity. While positive TWFE estimates are consistent with a marriage premium, they provide a closer approximation to the productivity-related component of marriage than OLS estimates. Because the models control for age (and its squared term), positive TWFE estimates for married men partly reflect faster wage growth during marriage. Because we observe annual earnings but not hours worked, we cannot distinguish between wage effects and changes in labor supply.⁷

Table 2 reports the main results (full estimates are provided in Appendix, Tables A1–A3). Panels A–C presents results for three sub-periods that represent different institutional and normative contexts of marriage, household division of labor and labor supply. OLS estimates indicate a marriage premium throughout the entire period. In 1947–1967 (panel A),

⁷ Using Swedish data from 1991, Antelius & Björklund (2000) found that setting a threshold of 100,000 SEK for annual earnings in tax records provides a return to education like that derived from hourly wage analysis. Extrapolating their findings to our analysis suggests that estimated earnings premiums should closely resemble wage premiums, although differences in study contexts should be acknowledged.

the raw earnings gap between married and never-married men was 40 log points (column 1). This gap was considerably smaller for divorced men (14 log points) and widowers (19 log points), suggesting that at least part of the premium was associated with being married rather than reflecting permanent differences between ever- and never-married men. This pattern aligns with a specialization-based interpretation of marriage, where productivity gains arise from a gendered household division of labor.

Controlling for age and year (column 2) modestly attenuates the premium. Introducing additional controls for observable characteristics such as social class, number of children and place of residence (column 3) reduces the estimate to 25.5 log points. The positive earnings differential for divorced men disappears in this specification, whereas widowers continue to earn more than never-married men. This pattern is consistent with positive selection into marriage along unobserved dimensions such as stability or reliability, which may characterize the widowers more than divorced men. Introducing individual fixed effects (column 4) produce a much larger reduction of the marriage premium to 7.2 log points in the first period. This indicates that most of the marriage premium in this period reflects positive selection into marriage and that differences between men who married and those who did not was important and dominated the impact of productivity and specialization. Nevertheless, a modest positive within-individual association remains. There are no, or only small, positive earnings effects for divorced men, which also suggests that a large share of the premium reflects selection rather than a causal effect of marriage.

Looking at change over time, the marriage premium reveals both persistence and change in the underlying mechanisms. The adjusted OLS estimates of the marriage premium (column 3) declines from 25.5 log points in 1947–1967 to 18.9 in 1968–1989 and 10.7 in 1990–2022. The corresponding TWFE estimates (column 4) are smaller - 7.2, 9.6, and 5.2 log points, respectively, though the attenuation is more limited in the second and third periods.

Selection is important throughout, while the remaining within-individual association is comparatively modest. The marriage premium did not disappear as Sweden moved from a male-breadwinner to a dual-earner society. Instead, the relationship between marriage and earnings persisted while its underlying mechanisms appear to have changed.

To assess the role of intra-household specialization, we included an indicator for whether the wife had any labor-related income (columns 5 and 6). Under a traditional specialization framework, a working wife should reduce the marriage premium due to less within-household role differentiation. The results do not reveal such a simple relationship. In 1947–1989, when specialization was stronger, the coefficient for wife’s income is negative and it is positive after 1990, when dual-earner households had become normative. In 1990–2022, controlling for wives’ income reduces the marriage premium, but this is not the case in the previous periods when the premium is even larger when controlling for wife’s income, both with and without fixed effects. The remaining difference is usually attributed to within-household specialization (Grossbard-Shechtman & Neuman 2003) but the results suggest that the mechanisms behind the premium across the long period studied extend beyond specialization. Selection was particularly important in the first period when marriage was universal and within-household specialization dominated. Instead, the results indicate that the productivity component of marriage weakens as spouses’ labor supply become more symmetric but married men still gain from specialization.

Table 2 here

Next, we turn to event-study estimates that provide further insight into the distinction between a causal effect of marriage and selection on earnings trajectories around the time of union formation. Figure 3 shows estimates with five-year lags and leads, with the comparison set to the year before marriage. Before 1968 (panel A), earnings are relatively stable in the years preceding marriage and rise around the transition to marriage. This pattern suggests a

causal effect of marriage on earnings, stemming from changes in labor supply, effort, or stability, but the estimates are generally not statistically significant. The increase in earnings in the year before marriage could also reflect anticipation of marriage or selection into marriage when economic circumstances improve. In the years following marriage, earnings remain higher, reflecting a stable association between marital status and income.

The pattern changes after 1968. In 1968–1989 (panel B), there is a clear positive trend in earnings already in the years before marriage, which continues for a year after marriage and then levels off. This pattern becomes even more pronounced in 1990–2022 (panel C). Marriage increasingly occurs during an already favorable earnings trajectory rather than preceding a discrete earnings increase. This pattern is not consistent with a causal effect of marriage on earnings but rather reflects selection of higher-earning men into marriage or selective timing of marriage suggesting that men are likely to marry when economic circumstances are already improving.

Figure 3 here

Finally, we examine whether the marriage premium was similar across the earnings distribution. The long-run perspective reveals a transformation that is obscured by average effects. Table 3 presents residualized quantile regression estimates at the 25th, 50th (i.e., median) and 75th percentiles for adjusted and fixed effects models. In 1947–1967, both adjusted and fixed-effects estimates show a larger marriage premium at the lower end than at the top of the distribution (i.e., 25th percentile compared to the 75th percentile). These differences are statistically significant. While there are some differences between the 50th and the 75th percentiles, they tend to be smaller and less consistent. A similar gradient remains in 1968–1989 with a larger premium at the bottom of the earnings distribution, but not at the top. After 1990, however, the fixed-effects pattern reverses with small or even negative premiums

at low earnings and the largest at the top of the earnings distribution. The contemporary marriage premium is clearly structurally different from the historical one.

Table 3 here

Figure 4, which shows estimates at all quintiles ranging from the 5th to the 95th percentile, provides a more detailed picture of the reversal described in Table 3. During the first two periods, the marriage premium declines across the earnings distribution. Until around 1990, the marriage premium was highest for low-earning men and then declined to almost null for higher-earners. It is especially pronounced below the 20th percentile that the premium is marked. After 1990, on the other hand, the premium is very low (even negative) at low earnings and increases dramatically as earnings increase. Including cohabitators with common children in the union category, the pattern is similar overall with the most pronounced premium at higher earnings, but differs at earnings below the 20th percentile, where there is a considerable premium. This results in an almost U-shaped pattern with considerable premiums at very low earnings and high earnings, and low premiums between the 20th percentile and the median (Appendix, Figure A2).

The reversal of the location of the marriage premium suggests that both its magnitude and its economic meaning have changed over time. The pattern for formally married the final period is in line with explanations based on human capital accumulation, which predict larger effects among higher earners. For the earlier period, when marriage was widespread and men's responsibility for family provision was normatively strong, marriage may have been particularly important for men with weaker labor market positions. The patterns are consistent with mechanisms related to increased labor supply, behavioral responses to family responsibilities, and employer or union practices that disproportionately affected lower-income men. Specialization may also have facilitated stronger labor market

attachment. Because the distributional gradient remains after accounting for occupation, it cannot be attributed to married men sorting into better-paid occupations.

Figure 4 here

In sum, while the marriage premium overall is stable over the postwar period in Sweden, the mechanisms behind it changed, both in terms of whether it reflects selection mechanisms or effects of marriage on effort and productivity and where in the income distribution it is largest.

Concluding Discussion

Does marriage make men productive, or is it rather that married men are more productive because of selection into marriage based on characteristics that are valued in both the labor market and the marriage market? We address this question using longitudinal data for Sweden spanning 1947–2022. The long-run perspective is part of our contribution because it covers a period characterized by the transition from a male-breadwinner society, characterized by widespread marriage and pronounced household specialization, to a dual-earner, gender-egalitarian context in which female employment is high and marriage less universal. Sweden is often perceived as a frontrunner in these respects. This provides an informative setting for examining whether the marriage premium persists as the institutional and demographic context of marriage changes, and whether the mechanisms underlying it change as well.

We provide new evidence on both the marriage premium and the mechanisms underlying it. We find that a positive association between marriage and men's earnings persists throughout the period studied. Yet this persistence masks important changes. Individual fixed-effects estimates are substantially smaller than OLS estimates, indicating that selection into marriage explains a large share of the observed premium. A modest positive

within-individual premium remains even in recent decades. Event-study analyses show that the timing of earnings changes around marriage has changed: before 1968, earnings were relatively stable in the years before marriage and increased around the transition into marriage, whereas in the period after 1968, especially after 1990, earnings rose in the years preceding marriage.

Our findings both align with and qualify previous research emphasizing selection on wage levels and wage growth (Killewald & Gough 2013; Killewald & Lundberg 2017, see also Ludwig & Brüderl 2018). Consistent with this interpretation, we find that the premium is substantially attenuated in TWFE models. The pre-marriage earnings increase observed in later periods further suggests selection on earnings trajectories or selective timing: men are more likely to marry when their economic circumstances are improving. At the same time, the persistence of a positive within-individual association, together with sustained post-marriage earnings differences and declines following divorce, suggests that selection does not fully explain the observed premium. Fixed effects remove time-invariant differences between men but not time-varying selection or anticipatory behavior. The remaining premium may reflect a modest effect of marriage on earnings, selection on changing earnings trajectories, or a combination of the two. The results do not solve the causality/selection issue but show that it is plausible that mechanisms vary over time.

The Swedish context provides a useful setting for evaluating the traditional specialization explanation (Becker 1981, 1985; Grossbard-Shechtman & Neuman 2003). Between 1947 and 2022, married women's labor force participation increased from low to very high levels, and dual-earner households became the dominant family form. If the male marriage premium primarily resulted from wives specializing in household production, thereby increasing husbands' market productivity, these changes should have reduced or eliminated it. However, a positive marriage premium persists even in the most recent decades.

Accounting for wives' labor income reduces the estimated premium only after 1990. This suggests that mechanisms beyond traditional specialization are at work across the entire period studied. Specialization may have mattered historically, but the persistence of the premium in a dual-earner context points toward mechanisms including labor supply, effort, job stability, or employer responses to marital status. These interpretations are consistent with the modest but persistent within-individual premium observed in the fixed-effects and event-study estimates.

Another finding is that the marriage premium changes its position in the earnings distribution. Until 1990, the within-individual premium is largest among men with lower earnings and declines toward the top of the distribution. This pattern is more consistent with processes affecting labor supply and employment stability than with returns to human capital that increase with earnings. In the male breadwinner era, marriage may have strengthened labor market attachment and economic stability, particularly for men with weaker economic positions, through greater breadwinner responsibilities, within-household specialization, or workplace practices favoring married men. After 1990, the pattern has reversed: the within-individual marriage premium is small or even negative at low earnings and largest among men with higher earnings. This reversal occurs when traditional household specialization should matter least, making it difficult to explain the contemporary premium through this mechanism. Instead, marriage may increasingly complement the careers of economically successful men through job mobility, career investments, employment stability, or resources in dual-earner households.

The contemporary pattern is also consistent with changing selection. As marriage has become less universal, it may have become more selective on characteristics valued in both the labor and marriage markets. The event study analysis suggests that selection increasingly operates through earnings trajectories rather than through stable differences in earnings

capacity: in recent decades, men tend to marry after their earnings have already begun to rise. The large premium among high earners may therefore reflect heterogeneous returns to marriage, increasingly selective marriage among economically successful men, or both. Our estimates cannot fully distinguish these mechanisms.

This reversal changes how the persistence of the aggregate marriage premium should be understood. A relatively stable raw premium does not imply stable mechanisms. Historically, marriage was most strongly associated with the earnings of men at the bottom of the earnings distribution; today, this association is concentrated at the top. What persists is the empirical association between marriage and higher male earnings, not necessarily the process producing it. The apparent stability of the marriage premium conceals this transformation.

Much of the existing literature asks whether the marriage premium reflects productivity or selection within a particular institutional setting. Our results show that the answer is not the same across periods when institutions change. The marriage premium persists as marriage changes from a widespread institution based on gender-specific specialization to a less universal and potentially more selective institution in a dual-earner society. At the same time, the premium shifts from lower- to higher-earning men and the evidence points to selection on favorable earnings trajectories.

These results highlight the importance of long-term institutional change and have implications for understanding family formation and inequality. Our results add an important dimension: family formation is associated not only with inequalities between women and men but also with inequalities among men. The contemporary concentration of the premium among high earners suggests that marriage may potentially reinforce existing economic advantage. Together with the well-documented motherhood penalty (e.g., Budig & England 2001; Kleven et al. 2019, 2025), the persistence of a male marriage premium show that family formation continues to define gender and income inequality, even in egalitarian contexts.

In conclusion, the marriage premium remains a robust empirical pattern. Married men in Sweden have earned more than unmarried men over seven decades despite profound change in gender roles and family organization. Selection into marriage explains a substantial share of the association, while the remaining within-individual premium is modest and cannot be unambiguously attributed to a causal effect of marriage. At the same time, the premium has shifted from being concentrated among lower-earning men in the male-breadwinner era to higher-earning men in contemporary times when dual-earner families dominate. It is not only that marriage continues to matter for men's earnings, but also that what the marriage premium represents has changed because marriage itself has changed. Understanding how these mechanisms operate and how they vary across institutional contexts and across the earnings distribution remains important directions for future research.

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Table 1. Descriptive statistics (%) for men 20–66 years.

	1947–1967	1968–1989	1990–2022
Marital status			
Never married	20.18	31.88	46.3
Married	75.73	60.32	43.04
Divorced	2.31	6.61	10.03
Widowed	1.78	1.19	0.64
Urban			
Rural	30.46	32.23	28.39
Urban	69.54	67.77	71.61
Social class			
Higher white-collar	10.2	10.72	11.04
Lower white-collar	22.35	24.65	22.42
Skilled workers	26.2	19.03	9.71
Farmers	1.55	3.6	0.37
Lower-skilled workers	24.69	18.71	15.65
Unskilled workers	14.58	4.39	3.43
NA	0.42	18.91	37.37
Presence of children			
No children	44.05	56.5	62.1
1–2 children	45.31	36.4	31.61
3+ children	10.64	7.1	6.3
Wife has income*			
No income	53.6	17.6	6.1
Some income	46.4	82.4	93.9
Age (years)	43.4	41.6	42.6
Income (1980 SEK)	51,621	73,069	101,321
N individuals	14,247	3,818,000	5,017,904
N observations	100,743	52,861,197	88,383,007

*Only for married men.

Sources: Bengtsson et al. (2025) and Statistics Sweden, see text.

Table 2. Regression estimates (OLS/TWFE) of log income (CPI-adjusted, 1980 SEK) for men aged 20–66.

	(1)		(2)		(3)		(4)		(5)		(6)	
A. 1947–1967												
Marital Status (ref. Never married)												
Married	0.4024	**	0.3652	**	0.2547	**	0.0722	**	0.2979	**	0.0927	**
Divorced	0.1372	**	0.0574	**	-0.0043		-0.0579		-0.0017		-0.0609	
Widowed	0.1880	**	0.2949	**	0.2057	**	0.0189		0.2078	**	0.0180	
Wife has income (ref. no inc.)									-0.0971	**	-0.0553	**
Adjusted R-squared	0.05		0.15		0.41		0.19		0.41		0.19	
B. 1968–1989												
Marital Status (ref. Never married)												
Married	0.4316	**	0.3122	**	0.1890	**	0.0961	**	0.2323	**	0.1428	**
Divorced	0.2569	**	0.1024	**	0.0537	**	0.0499	**	0.0534	**	0.0479	**
Widowed	0.2609	**	0.2407	**	0.1587	**	0.1409	**	0.1620	**	0.1445	**
Wife has income (ref. no inc.)									-0.0505	**	-0.0532	**
Adjusted R-squared	0.09		0.15		0.29		0.14		0.29		0.14	
C. 1990–2022												
Marital Status (ref. Never married)												
Married	0.4346	**	0.1904	**	0.1073	**	0.0525	**	-0.0383	**	0.0252	**
Divorced	0.2598	**	-0.0209	**	-0.0356	**	0.0007		0.0112	**	0.0144	**
Widowed	0.3779	**	0.1983	**	0.1582	**	0.1813	**	0.2123	**	0.1991	**
Wife has income (ref. no inc.)									0.2299	**	0.0493	**
Adjusted R-squared	0.05		0.17		0.27		0.27		0.28		0.27	
Age, Age squared			X		X		X		X		X	
Year fixed effects			X		X		X		X		X	
Children, Urban, Social class					X		X		X		X	
Wife income									X		X	
Individual fixed effects							X				X	

** p<.01, * p<.05

Note: Full estimates in Appendix (Table A1–A3). For number of observations and number of individuals, see Table 1. Sources: See Table 1.

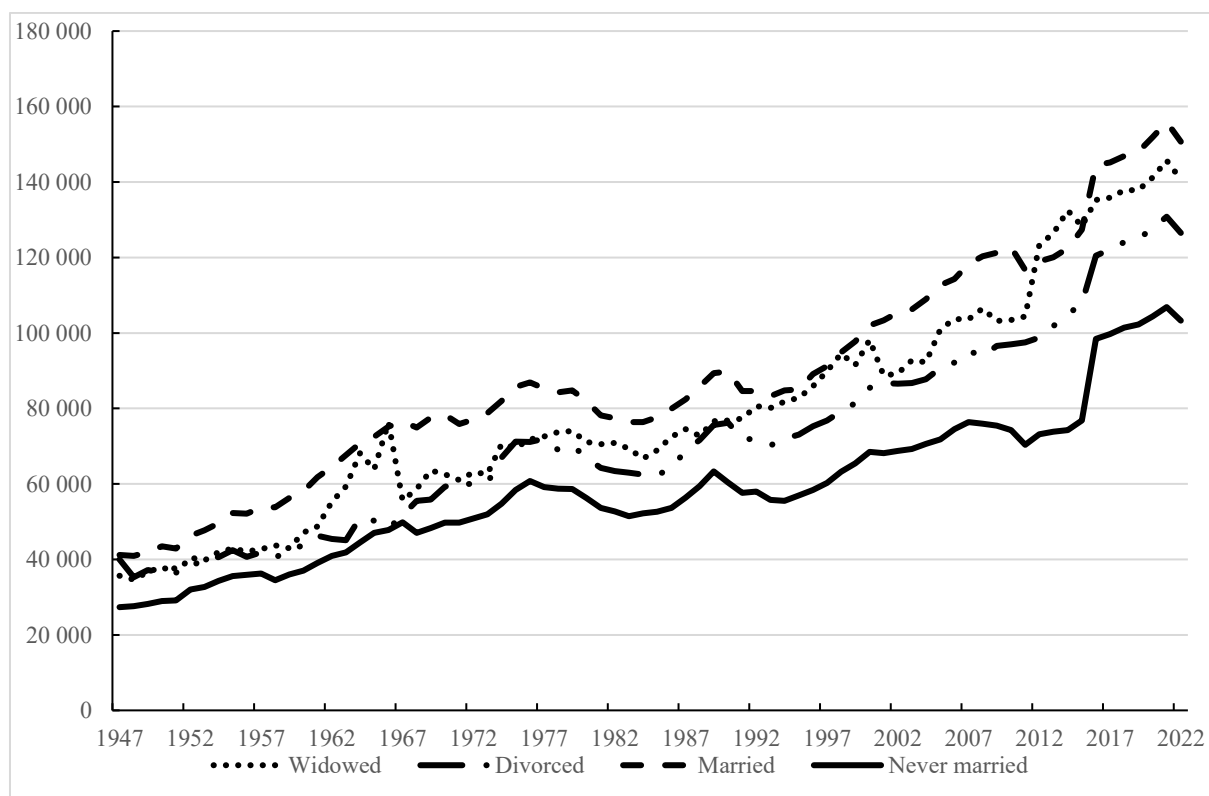
Table 3. Residualized quantile regression estimates of marriage on log income (CPI-adjusted, 1980 SEK) for men 20–66 years.

	Adjusted model			Individual fixed effects		
	1947–1967	1968–1989	1990–2022	1947–1967	1968–1989	1990–2022
Q.25						
Coef	0.2708***	0.2397***	0.1566***	0.1282***	0.1319***	0.0077***
s.e.	-0.0061	0.0003	0.0003	-0.0178	0.0006	0.0006
Q.5						
Coef	0.1753***	0.1212***	0.0981***	0.0387	0.0618***	0.0445***
s.e.	-0.0056	0.0002	0.0002	-0.0209	0.0003	0.0003
Q.75						
Coef	0.1289***	0.1203***	0.0981***	-0.0500	0.0495***	0.1079***
s.e.	-0.0079	0.0002	0.0003	-0.0264	0.0005	-0.0003
N	96616	48,739,453	78,956,985	96,616	48,739,453	78,956,985

*** p<0.001, ** p<.01, * p<.05

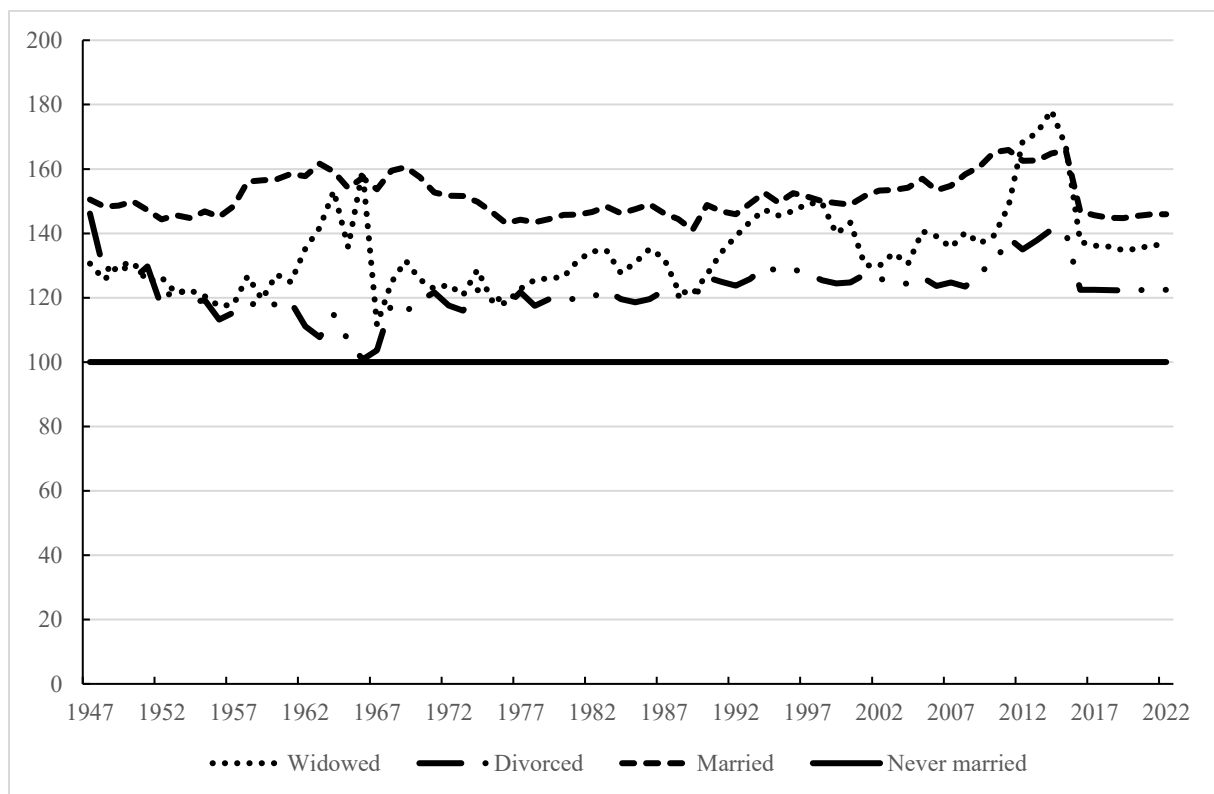
Note: Models control for year dummies, age, age squared, presence of children, urban residence, and social class. Models were estimated using the *rqr* command in STATA 19 (Borgen et al. 2021). In all models, estimates at Q25 and Q75, are statistically significantly different from each other below the 5% level.
Sources: See Table 1.

Figure 1. Labor income (CPI-adjusted, 1980 SEK) for men with positive income 20–66 years by marital status, 1947–2022.



Note: 1947–1967: regional sample, SEDD-area in southern Sweden; 1968–2022: entire Sweden, full population.
Sources: Bengtsson et al. (2025) and Statistics Sweden, see text.

Figure 2. Relative labor income for men with positive income 20–66 years by marital status, 1947–2022.
Single=100.

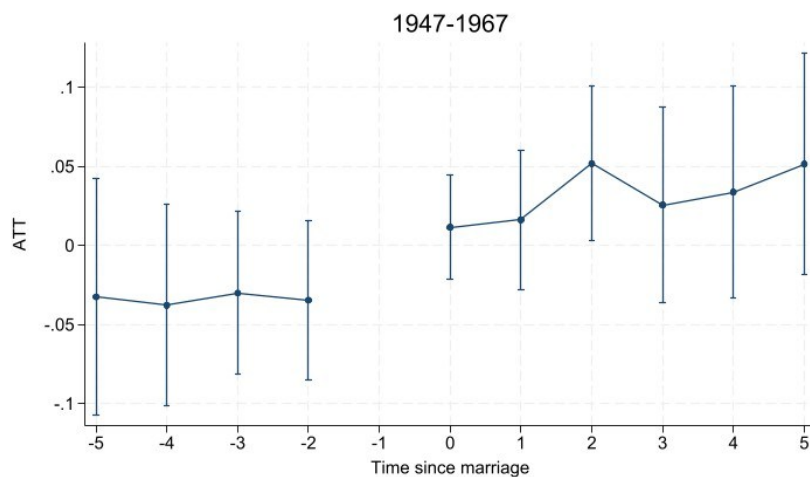


Note: See Figure 1.

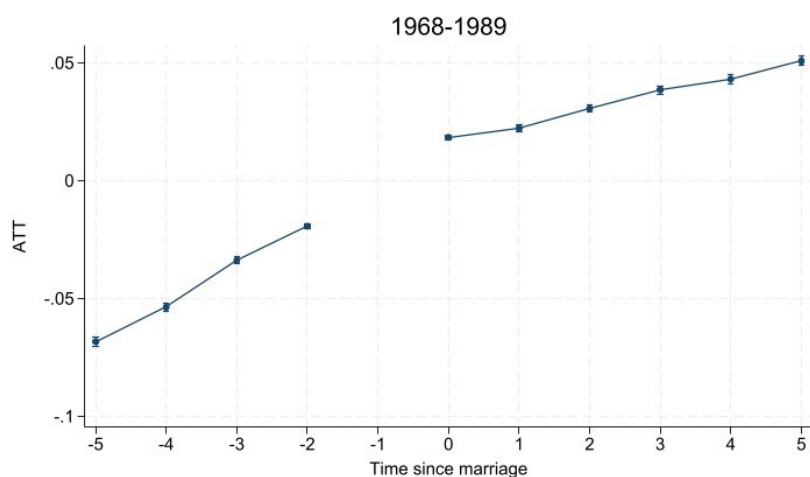
Sources: See Figure 1.

Figure 3. Event study estimates of the marriage premium for men aged 20–66.

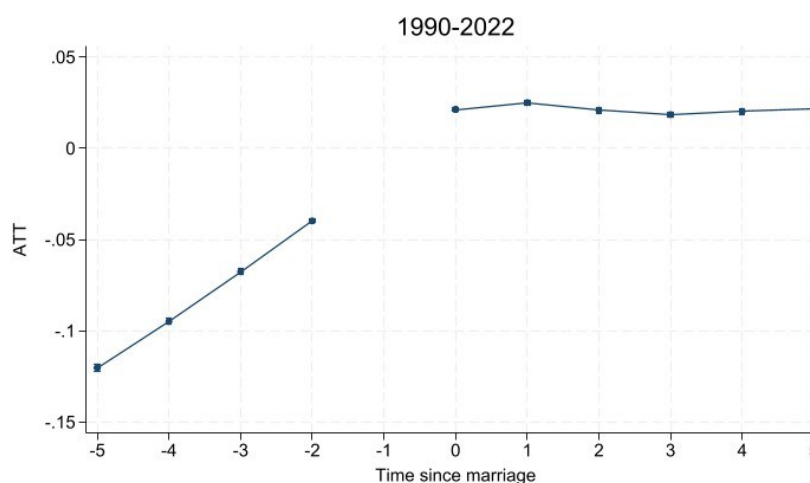
A. 1947–1967 (SEDD sample)



B. 1968–1989



C. 1990–2022

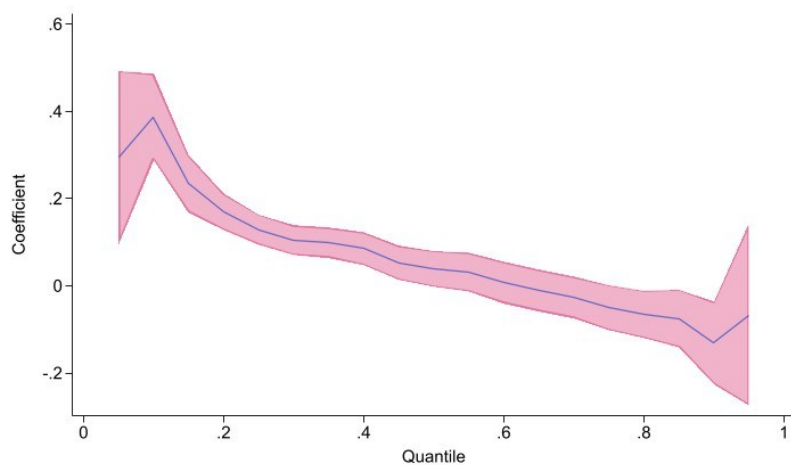


Note: Never treated used as comparison. Estimations and plots were made using the *csdid2* command in STATA19 (Fernando Rios-Avila, <https://github.com/friosavila/stpackages/tree/main/csdiid2>). 95% confidence intervals. Models include individual and year fixed effects, age, age squared, presence of children, urban residence, and social class.

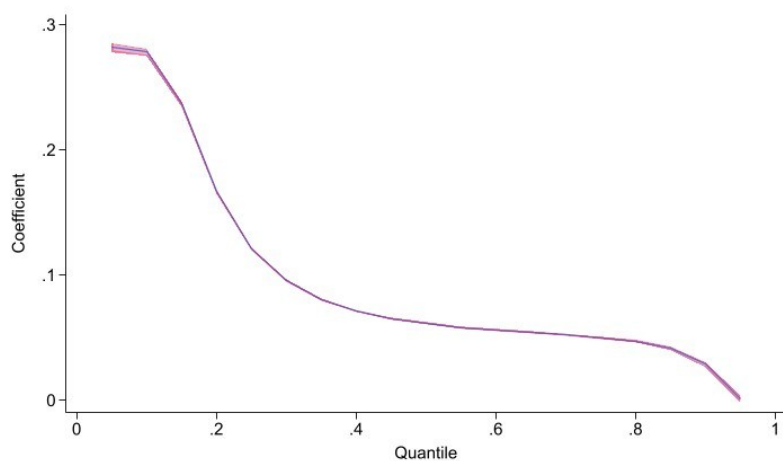
Sources: See Figure 1.

Figure 4. Residualized quantile regression estimates of log income (CPI-adjusted, 1980 SEK) for men aged 20–66.

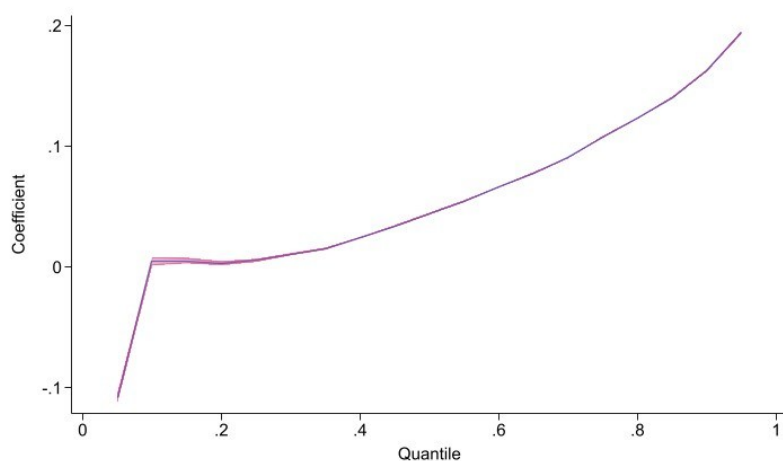
A. 1947-1967 (SEDD sample)



B. 1968-1989 (full Swedish population)



C. 1990-2022 (full Swedish population)



Note: Models include individual and year fixed effects, age, age squared, presence of children, urban residence, and social class. Estimations and plots were made with the *rqr* and *rqrplot* commands in STATA 19 (Borgen et al. 2021).

Sources: See Figure 1.

Table A1. Full regression estimates, 1947-1967

	M1	M2	M3	M4	M5	M6	M7	M8	M9
Marital Status									
Never married	0	0	0	0	0	0	0	0	0
Married	0.4024 **	0.3711 **	0.3652 **	0.3086 **	0.3327 **	0.2547 **	0.0722 **	0.2979 **	0.0927 **
Divorced	0.1372 **	0.1022 **	0.0574 **	0.0448 **	0.0157	-0.0043	-0.0579	-0.0017	-0.0609
Widowed	0.188 **	0.2572 **	0.2949 **	0.252 **	0.2436 **	0.2057 **	0.0189	0.2078 **	0.018
Age		0.0489 **	0.0558 **	0.0523 **	0.0525 **	0.0453 **	-0.2095 **	0.0468 **	-0.204 **
Age2		-0.0006 **	-0.0007 **	-0.0006 **	-0.0006 **	-0.0005 **	-0.0007 **	-0.0006 **	-0.0007 **
Year									
1947			0	0	0	0	0	0	0
1948			0.0149	0.0153	0.0167	0.0173	0.2861 **	0.0172	0.2813 **
1949			0.0481 **	0.0483 **	0.0476 **	0.0461 **	0.585 **	0.047 **	0.5758 **
1950			0.0579 **	0.0583 **	0.0574 **	0.0573 **	0.8653 **	0.0594 **	0.852 **
1951			0.0641 **	0.0649 **	0.0648 **	0.0636 **	1.1414 **	0.0665 **	1.1238 **
1952			0.1406 **	0.1408 **	0.1434 **	0.1407 **	1.4868 **	0.1422 **	1.4637 **
1953			0.1698 **	0.17 **	0.1702 **	0.1605 **	1.7796 **	0.162 **	1.7515 **
1954			0.2331 **	0.234 **	0.2344 **	0.2186 **	2.0968 **	0.2203 **	2.0641 **
1955			0.2684 **	0.2686 **	0.2674 **	0.2567 **	2.4121 **	0.2607 **	2.376 **
1956			0.2728 **	0.2733 **	0.2702 **	0.2548 **	2.6848 **	0.2588 **	2.6435 **
1957			0.3077 **	0.3074 **	0.3033 **	0.2849 **	2.9828 **	0.2887 **	2.9368 **
1958			0.3025 **	0.3016 **	0.2948 **	0.2745 **	3.2457 **	0.2788 **	3.1951 **
1959			0.3295 **	0.3282 **	0.3222 **	0.2981 **	3.5414 **	0.303 **	3.4862 **
1960			0.3646 **	0.3634 **	0.3559 **	0.3322 **	3.848 **	0.3383 **	3.7887 **
1961			0.4378 **	0.4363 **	0.4309 **	0.4024 **	4.1852 **	0.4093 **	4.1216 **
1962			0.4863 **	0.4843 **	0.4789 **	0.4434 **	4.4967 **	0.4511 **	4.4288 **
1963			0.5346 **	0.5328 **	0.5275 **	0.4924 **	4.8202 **	0.5013 **	4.7482 **
1964			0.5905 **	0.5883 **	0.5838 **	0.5437 **	5.1528 **	0.5535 **	5.0765 **
1965			0.6286 **	0.6261 **	0.6252 **	0.5866 **	5.4644 **	0.5973 **	5.3838 **
1966			0.65 **	0.6472 **	0.6464 **	0.6044 **	5.7521 **	0.6158 **	5.6672 **
1967			0.6883 **	0.6859 **	0.6849 **	0.6355 **	6.0474 **	0.6465 **	5.9575 **
Presence of children									
No children				0	0	0	0	0	0
1-2 children				0.0982 **	0.1033 **	0.0903 **	0.0394 **	0.0907 **	0.0405 **
3+ children				0.0182	0.0327 **	0.0651 **	0.0276	0.062 **	0.0288
Urban									
Rural					0	0	0	0	0
Urban					0.267 **	0.0892 **	0.0879	0.085 **	0.0884
SES									
Higher white-collar						0	0	0	0
Lower white-collar						-0.4968 **	-0.0572 *	-0.4896 **	-0.0583 **
Skilled workers						-0.6301 **	-0.0568 *	-0.6148 **	-0.0557 *
Farmers						-2.839 **	-0.9342 **	-2.8598 **	-0.9397 **
Lower-skilled workers						-0.722 **	-0.0554 *	-0.7039 **	-0.0546 *
Unskilled workers						-0.8045 **	-0.0679 **	-0.7872 **	-0.0669 **
NA						-1.3273 **	-0.2655 **	-1.3121 **	-0.264 **
Wife has income									
No income								0	0
Some income								-0.0971 **	-0.0553 **
Intercept	10.3266 **	9.4446 **	9.0233 **	9.078 **	8.8609 **	9.8079 **	18.035 **	9.7683 **	17.8626 **
Number of observations	100743	100743	100743	100743	100743	100743	100743	100743	100743
Adjusted R-squared	0.05	0.07	0.15	0.15	0.18	0.41	0.19	0.41	0.19

** p<.01, * p<.05

Table A2. Full regression estimates, 1968-1989

	M1	M2	M3	M4	M5	M6	M7	M8	M9
Marital Status									
Never married	0	0	0	0	0	0	0	0	0
Married	0.4316 **	0.3057 **	0.3122 **	0.2901 **	0.2838 **	0.189 **	0.0961 **	0.2323 **	0.1428 **
Divorced	0.2569 **	0.1042 **	0.1024 **	0.0839 **	0.0701 **	0.0537 **	0.0499 **	0.0534 **	0.0479 **
Widowed	0.2609 **	0.2344 **	0.2407 **	0.2223 **	0.2155 **	0.1587 **	0.1409 **	0.162 **	0.1445 **
Age		0.0804 **	0.0799 **	0.0768 **	0.0765 **	0.0444 **	0.0659 **	0.045 **	0.0668 **
Age2		-0.0009 **	-0.0009 **	-0.0009 **	-0.0009 **	-0.0004 **	-0.0006 **	-0.0005 **	-0.0006 **
Year									
1968			0	0	0	0	0	0	0
1969			0.0292 **	0.0292 **	0.0272 **	0.0202 **	0.0095 **	0.0216 **	0.0102 **
1970			0.046 **	0.0459 **	0.0436 **	0.0284 **	0.0113 **	0.0314 **	0.0128 **
1971			0.0162 **	0.0159 **	0.0135 **	0.0091 **	-0.0259 **	0.0141 **	-0.0231 **
1972			0.0352 **	0.0346 **	0.0322 **	0.0343 **	-0.0262 **	0.04 **	-0.0234 **
1973			0.0413 **	0.0405 **	0.0381 **	0.0243 **	-0.0428 **	0.0305 **	-0.0402 **
1974			0.1122 **	0.1112 **	0.1087 **	0.0893 **	0.018 **	0.0972 **	0.0217 **
1975			0.1622 **	0.1611 **	0.1585 **	0.1308 **	0.0501 **	0.1394 **	0.0539 **
1976			0.1762 **	0.175 **	0.1724 **	0.1513 **	0.0546 **	0.161 **	0.0589 **
1977			0.1523 **	0.151 **	0.1485 **	0.136 **	0.0268 **	0.1463 **	0.031 **
1978			0.1209 **	0.1196 **	0.117 **	0.1164 **	-0.0037 **	0.1276 **	0.0008 *
1979			0.132 **	0.1306 **	0.128 **	0.1191 **	-0.0084 **	0.1306 **	-0.0042 **
1980			0.0936 **	0.0921 **	0.0894 **	0.0731 **	-0.0617 **	0.0848 **	-0.0578 **
1981			0.0558 **	0.0544 **	0.0516 **	0.0372 **	-0.1105 **	0.0492 **	-0.107 **
1982			0.0409 **	0.0396 **	0.0367 **	0.0257 **	-0.1346 **	0.0379 **	-0.1315 **
1983			0.0261 **	0.025 **	0.022 **	0.0088 **	-0.158 **	0.0211 **	-0.1554 **
1984			0.0348 **	0.0339 **	0.0307 **	0.0093 **	-0.1604 **	0.0217 **	-0.1582 **
1985			0.0462 **	0.0455 **	0.0421 **	0.0144 **	-0.1576 **	0.027 **	-0.1559 **
1986			0.0753 **	0.0748 **	0.0712 **	0.0488 **	-0.1293 **	0.0616 **	-0.128 **
1987			0.1153 **	0.1148 **	0.1111 **	0.0947 **	-0.0858 **	0.1075 **	-0.0849 **
1988			0.1531 **	0.1528 **	0.1491 **	0.1315 **	-0.0418 **	0.1443 **	-0.0414 **
1989			0.1823 **	0.1825 **	0.1788 **	0.1566 **		0.1696 **	
Presence of children									
No children				0	0	0	0	0	0
1-2 children				0.056 **	0.0606 **	0.0641 **	0.0547 **	0.0632 **	0.0527 **
3+ children				0.0011 **	0.0105 **	0.0501 **	0.0714 **	0.0465 **	0.0667 **
Urban									
Rural					0	0	0	0	0
Urban					0.1044 **	0.0564 **	0.0709 **	0.0568 **	0.0707 **
SES									
Higher white-collar						0	0	0	0
Lower white-collar						-0.2183 **	-0.09 **	-0.2186 **	-0.0902 **
Skilled workers						-0.348 **	-0.1347 **	-0.3488 **	-0.1348 **
Farmers						-0.945 **	-0.3391 **	-0.9507 **	-0.3409 **
Lower-skilled workers						-0.4007 **	-0.1372 **	-0.4016 **	-0.1374 **
Unskilled workers						-0.459 **	-0.1579 **	-0.4599 **	-0.1579 **
NA						-0.7905 **	-0.3573 **	-0.7913 **	-0.3576 **
Wife has income									
No income								0	0
Some income								-0.0505 **	-0.0532 **
Intercept	10.7546 **	9.247 **	9.1671 **	9.2071 **	9.1392 **	10.1834 **	9.4523 **	10.1628 **	9.419 **
Number of observations	52861197	52861197	52861197	52861197	52861197	52861197	52861197	52861197	52861197
Adjusted R-squared	0.09	0.14	0.15	0.15	0.15	0.29	0.14	0.29	0.14

** p<.01, * p<.05

Table A3. Full regression estimates, 1990-2022

	M1	M2	M3	M4	M5	M6	M7	M8	M9
Marital Status									
Never married	0	0	0	0	0	0	0	0	0
Married	0.4346 **	0.1501 **	0.1904 **	0.1631 **	0.1616 **	0.1073 **	0.0525 **	-0.0383 **	0.0252 **
Divorced	0.2598 **	-0.0518 **	-0.0209 **	-0.0425 **	-0.0449 **	-0.0356 **	0.0007	0.0112 **	0.0144 **
Widowed	0.3779 **	0.1234 **	0.1983 **	0.1782 **	0.1773 **	0.1582 **	0.1813 **	0.2123 **	0.1991 **
Age		0.1286 **	0.128 **	0.1172 **	0.1171 **	0.0855 **	0.1195 **	0.0843 **	0.1183 **
Age2		-0.0013 **	-0.0013 **	-0.0012 **	-0.0012 **	-0.0008 **	-0.001 **	-0.0008 **	-0.001 **
Year									
1990			0	0	0	0	0	0	0
1991			-0.0543 **	-0.0541 **	-0.054 **	-0.0512 **	-0.0751 **	-0.0496 **	-0.0745 **
1992			-0.0676 **	-0.0671 **	-0.0671 **	-0.0597 **	-0.1058 **	-0.0576 **	-0.1049 **
1993			-0.0963 **	-0.0956 **	-0.0957 **	-0.082 **	-0.15 **	-0.0794 **	-0.1489 **
1994			-0.1018 **	-0.1011 **	-0.1012 **	-0.0792 **	-0.1657 **	-0.0765 **	-0.1645 **
1995			-0.0959 **	-0.0951 **	-0.0954 **	-0.0647 **	-0.1696 **	-0.0614 **	-0.1681 **
1996			-0.083 **	-0.0822 **	-0.0827 **	0.124 **	-0.0681 **	0.125 **	-0.0665 **
1997			-0.0657 **	-0.065 **	-0.0655 **	0.1409 **	-0.0679 **	0.1425 **	-0.066 **
1998			-0.0193 **	-0.0186 **	-0.0193 **	0.187 **	-0.0368 **	0.1683 **	-0.0392 **
1999			0.0216 **	0.0222 **	0.0213 **	0.1369 **	-0.0666 **	0.1196 **	-0.0688 **
2000			0.0664 **	0.0667 **	0.0657 **	0.1761 **	-0.0383 **	0.1588 **	-0.0404 **
2001			0.0894 **	0.0892 **	0.088 **	0.1947 **	-0.0315 **	0.1775 **	-0.0335 **
2002			0.0973 **	0.0965 **	0.0953 **	0.1725 **	-0.0552 **	0.1556 **	-0.0572 **
2003			0.1027 **	0.1013 **	0.1 **	0.1832 **	-0.0612 **	0.1661 **	-0.0632 **
2004			0.1159 **	0.1139 **	0.1125 **	0.2087 **	-0.0533 **	0.1913 **	-0.0552 **
2005			0.1395 **	0.1368 **	0.1354 **	0.2385 **	-0.0394 **	0.221 **	-0.0412 **
2006			0.1606 **	0.1575 **	0.1559 **	0.254 **	-0.0331 **	0.2365 **	-0.0349 **
2007			0.1864 **	0.1829 **	0.1812 **	0.253 **	-0.0372 **	0.2362 **	-0.0388 **
2008			0.1852 **	0.1814 **	0.1796 **	0.2503 **	-0.052 **	0.2338 **	-0.0536 **
2009			0.173 **	0.1691 **	0.1671 **	0.253 **	-0.07 **	0.2364 **	-0.0714 **
2010			0.1726 **	0.1687 **	0.1666 **	0.2436 **	-0.0859 **	0.2274 **	-0.0872 **
2011			0.1939 **	0.1902 **	0.1881 **	0.2593 **	-0.0786 **	0.2433 **	-0.0799 **
2012			0.211 **	0.2076 **	0.2053 **	0.2773 **	-0.0717 **	0.2614 **	-0.0728 **
2013			0.2246 **	0.2213 **	0.2189 **	0.294 **	-0.0681 **	0.2783 **	-0.0692 **
2014			0.2514 **	0.2481 **	0.2456 **	0.3465 **	-0.0303 **	0.3308 **	-0.0313 **
2015			0.2841 **	0.2808 **	0.2782 **	0.3368 **	-0.0294 **	0.3222 **	-0.0302 **
2016			0.3097 **	0.3065 **	0.3039 **	0.3326 **	-0.0259 **	0.3188 **	-0.0266 **
2017			0.3211 **	0.318 **	0.3153 **	0.3585 **	-0.0093 **	0.3449 **	-0.0099 **
2018			0.3364 **	0.3332 **	0.3303 **	0.3667 **	-0.0034 **	0.3536 **	-0.0038 **
2019			0.3402 **	0.3368 **	0.3338 **	0.3588 **	-0.0129 **	0.3464 **	-0.0132 **
2020			0.3513 **	0.3475 **	0.3445 **	0.3852 **	-0.0029 **	0.3726 **	-0.0031 **
2021			0.3815 **	0.3777 **	0.3746 **	0.4178 **	0.0248 **	0.4049 **	0.0247 **
2022			0.3554 **	0.3516 **	0.3484 **	0.3832 **		0.3705 **	
Presence of children									
No children				0	0	0	0	0	0
1-2 children				0.1251 **	0.1263 **	0.1165 **	0.0472 **	0.0526 **	0.0362 **
3+ children				-0.0019 **	0.0012 **	0.0271 **	0.0415 **	-0.0335 **	0.0303 **
Urban									
Rural					0	0	0	0	0
Urban					0.0479 **	0.0129 **	0.0672 **	0.0176 **	0.0677 **
SES									
Higher white-collar						0	0	0	0
Lower white-collar						-0.2416 **	-0.1494 **	-0.2433 **	-0.1492 **
Skilled workers						-0.3154 **	-0.2041 **	-0.3162 **	-0.2035 **
Farmers						-1.1443 **	-0.3971 **	-1.1416 **	-0.3961 **
Lower-skilled workers						-0.4223 **	-0.2053 **	-0.419 **	-0.2048 **
Unskilled workers						-0.5761 **	-0.2059 **	-0.5667 **	-0.2053 **
NA						-0.8233 **	-0.4796 **	-0.814 **	-0.4788 **
Wife has income									
No income								0	0
Some income								0.2299 **	0.0493 **
Intercept	11.0433 **	8.3319 **	8.2082 **	8.3739 **	8.3411 **	9.404 **	8.4533 **	9.4301 **	8.4771 **
Number of observations	88383007	88383007	88383007	88383007	88383007	88383007	88383007	88383007	88383007
Adjusted R-squared	0.05	0.14	0.17	0.17	0.17	0.27	0.27	0.28	0.27

** p<.01, * p<.05

Table A4. Estimated marriage premiums in the full dataset (SWE) and the regional sample (LKS)

	M1	M2	M3	M4	M5	M6	M7	M8	M9
SWE6889	0.432 **	0.306 **	0.312 **	0.29 **	0.284 **	0.189 **	0.096 **	0.232 **	0.143 **
LKS6889	0.438 **	0.31 **	0.312 **	0.288 **	0.285 **	0.199 **	0.081 **	0.239 **	0.13 **
SWE9022	0.435 **	0.15 **	0.19 **	0.163 **	0.162 **	0.107 **	0.053 **	-0.038 **	0.025 **
<u>LKS9022</u>	0.413 **	0.144 **	0.182 **	0.159 **	0.15 **	0.099 **	0.015 *	-0.07 **	-0.017 *

Table A5. Residualized quantile regression estimates of log income (CPI-adjusted, 1980 SEK).
Men 20–66 years, 1947-1967 (SEDD sample).

	Main analysis		Bootstrapped s.e.	
	Adjusted	Adj FE	Adjusted	Adj FE
Q.25				
cs	0.2708***	0.1282***	0.2708***	0.1282***
	-0.0061	-0.0178	-0.0055	-0.0129
Q.5				
cs	0.1753***	0.0387	0.1753***	0.0387**
	-0.0056	-0.0209	-0.0042	-0.0119
Q.75				
cs	0.1289***	-0.0500	0.1289***	-0.0500**
	-0.0079	-0.0264	-0.0062	-0.017
N	96616	96616	96616	96616

Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Bootstrapped s.e. with 100 repetitions

Note: See Table 3.

Table A6. Full regression estimates, 1990-2022. Union defined as married or cohabitor with common children.

	M1	M2	M3	M4	M5	M6	M7	M8	M9
Marital Status									
Never in union	0	0	0	0	0	0	0	0	0
In Union	0.3942 **	0.1192 **	0.27 **	0.2445 **	0.2447 **	0.2106 **	0.0932 **	0.1046 **	0.0903 **
Divorced	0.3105 **	-0.0569 **	0.0671 **	0.0451 **	0.0438 **	0.0623 **	0.0375 **	0.0629 **	0.0388 **
Widowed	0.4286 **	0.1106 **	0.2853 **	0.264 **	0.2643 **	0.2568 **	0.2158 **	0.2638 **	0.2176 **
Age		0.1302 **	0.123 **	0.1185 **	0.1183 **	0.0859 **	0.1205 **	0.0844 **	0.1203 **
Age2		-0.0013 **	-0.0013 **	-0.0012 **	-0.0012 **	-0.0008 **	-0.001 **	-0.0008 **	-0.001 **
Year									
1990			0	0	0	0	0	0	0
1991			-0.1598 **	-0.1497 **	-0.1496 **	-0.1332 **	-0.1109 **	-0.0908 **	-0.1098 **
1992			-0.174 **	-0.1636 **	-0.1637 **	-0.1423 **	-0.1413 **	-0.099 **	-0.1401 **
1993			-0.2039 **	-0.1933 **	-0.1934 **	-0.1652 **	-0.1852 **	-0.121 **	-0.1839 **
1994			-0.2107 **	-0.1999 **	-0.2001 **	-0.1631 **	-0.2006 **	-0.1182 **	-0.1994 **
1995			-0.2058 **	-0.1949 **	-0.1953 **	-0.1492 **	-0.2042 **	-0.1034 **	-0.2029 **
1996			-0.1938 **	-0.1829 **	-0.1833 **	0.0395 **	-0.1017 **	0.0837 **	-0.1004 **
1997			-0.1775 **	-0.1666 **	-0.1672 **	0.0558 **	-0.1013 **	0.101 **	-0.1 **
1998			-0.0367 **	-0.0348 **	-0.0354 **	0.1758 **	-0.0371 **	0.172 **	-0.0373 **
1999			0.0042 **	0.006 **	0.0052 **	0.1257 **	-0.0667 **	0.1231 **	-0.0669 **
2000			0.0489 **	0.0505 **	0.0495 **	0.165 **	-0.0381 **	0.1627 **	-0.0383 **
2001			0.0716 **	0.0729 **	0.0717 **	0.1838 **	-0.0309 **	0.1817 **	-0.0312 **
2002			0.0789 **	0.0799 **	0.0787 **	0.1615 **	-0.0545 **	0.1599 **	-0.0547 **
2003			0.0837 **	0.0843 **	0.083 **	0.1721 **	-0.0604 **	0.1707 **	-0.0606 **
2004			0.0964 **	0.0967 **	0.0954 **	0.1977 **	-0.0522 **	0.1962 **	-0.0524 **
2005			0.1196 **	0.1195 **	0.1181 **	0.2275 **	-0.038 **	0.2261 **	-0.0382 **
2006			0.1405 **	0.14 **	0.1385 **	0.243 **	-0.0316 **	0.2418 **	-0.0318 **
2007			0.1661 **	0.1653 **	0.1637 **	0.242 **	-0.0356 **	0.2413 **	-0.0358 **
2008			0.1647 **	0.1639 **	0.1621 **	0.2393 **	-0.0504 **	0.2388 **	-0.0506 **
2009			0.1522 **	0.1512 **	0.1493 **	0.2419 **	-0.0682 **	0.2415 **	-0.0684 **
2010			0.1519 **	0.151 **	0.1489 **	0.2326 **	-0.0841 **	0.2324 **	-0.0843 **

2011			0.1735 **	0.1727 **	0.1705 **	0.2485 **	-0.0768 **	0.2484 **	-0.077 **
2012			0.1909 **	0.1902 **	0.1879 **	0.2667 **	-0.0698 **	0.2667 **	-0.07 **
2013			0.2048 **	0.2041 **	0.2017 **	0.2836 **	-0.0663 **	0.2836 **	-0.0665 **
2014			0.2318 **	0.2311 **	0.2286 **	0.3366 **	-0.0284 **	0.3365 **	-0.0285 **
2015			0.2647 **	0.2641 **	0.2615 **	0.3272 **	-0.0277 **	0.3277 **	-0.0278 **
2016			0.2906 **	0.29 **	0.2874 **	0.3232 **	-0.0245 **	0.3243 **	-0.0246 **
2017			0.3023 **	0.3018 **	0.2991 **	0.3494 **	-0.008 **	0.3505 **	-0.0081 **
2018			0.3178 **	0.3172 **	0.3144 **	0.3578 **	-0.0023 **	0.3592 **	-0.0023 **
2019			0.3216 **	0.3209 **	0.318 **	0.3501 **	-0.012 **	0.352 **	-0.0121 **
2020			0.3325 **	0.3316 **	0.3286 **	0.3768 **	-0.0022 **	0.3785 **	-0.0022 **
2021			0.3625 **	0.3616 **	0.3585 **	0.4094 **	0.0252 **	0.4111 **	0.0252 **
2022			0.3365 **	0.3356 **	0.3324 **	0.3748 **		0.3768 **	
Presence of children									
No children				0	0	0	0	0	0
1-2 children				0.0718 **	0.0727 **	0.0617 **	0.0316 **	0.0423 **	0.0308 **
3+ children				-0.0422 **	-0.0396 **	-0.0216 **	0.0295 **	-0.0472 **	0.0285 **
Urban									
Rural					0	0	0	0	0
Urban					0.052 **	0.0158 **	0.0684 **	0.0167 **	0.0684 **
SES									
Higher white-collar						0	0	0	0
Lower white-collar						-0.2422 **	-0.1495 **	-0.2416 **	-0.1494 **
Skilled workers						-0.3173 **	-0.2037 **	-0.3142 **	-0.2036 **
Farmers						-1.1316 **	-0.3934 **	-1.1335 **	-0.3934 **
Lower-skilled workers						-0.4217 **	-0.205 **	-0.4168 **	-0.2049 **
Unskilled workers						-0.572 **	-0.2052 **	-0.565 **	-0.2052 **
NA						-0.8245 **	-0.4815 **	-0.8152 **	-0.4813 **
Wife has income									
No income								0	0
Some income								0.1372 **	0.0051 **
Intercept	10.9926 **	8.2686 **	8.2581 **	8.3283 **	8.2934 **	9.3756 **	8.4217 **	9.4129 **	8.4257 **

Number of observations	88383007	88383007	88383007	88383007	88383007	88383007	88383007	88383007	88383007
Adjusted R-squared	0.04	0.14	0.17	0.17	0.17	0.27	0.27	0.28	0.27

** p<.01, * p<.05

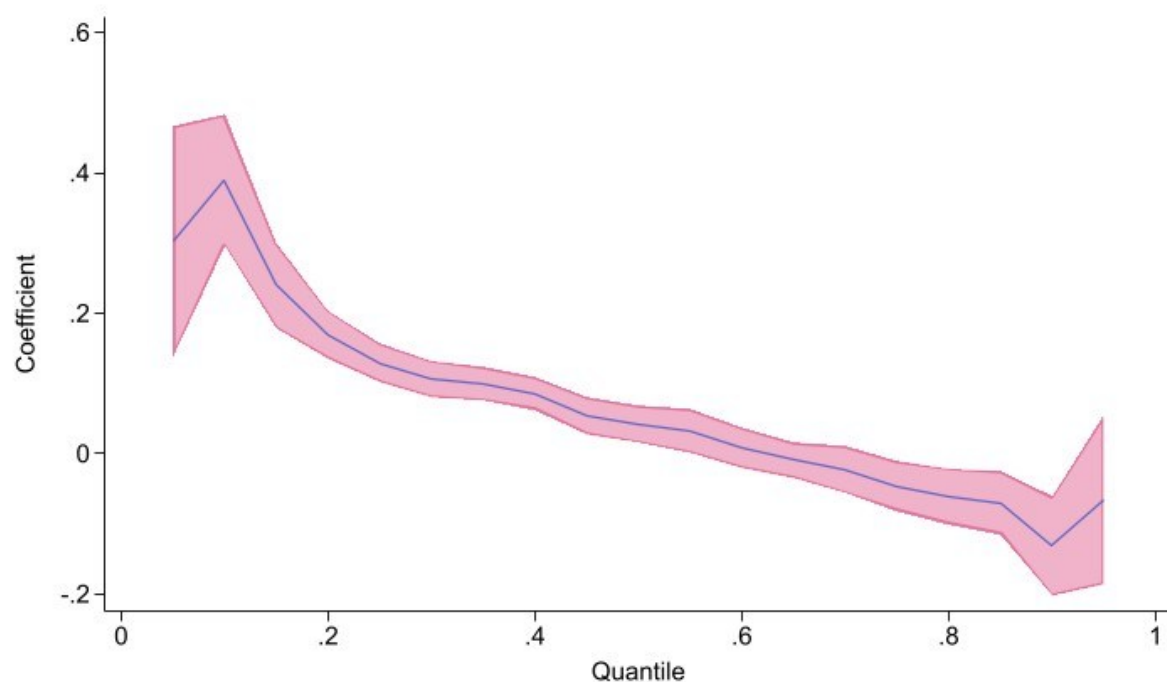
Table A7. Residualized quantile regression estimates of union on log income (CPI-adjusted, 1980 SEK). Men 20–66 years.
Men 20-66 years. Union defined as married or cohabitor with common children.

	Adjusted	Indiv. FE
Q.25		
Coef	0.2447***	0.0417***
s.e.	0.00036	0.00039
Q.5		
Coef	0.1768***	0.0824***
s.e.	0.00021	0.00027
Q.75		
Coef	0.1690***	0.1256***
s.e.	0.00019	0.00032
N	78,956,985	78,956,985

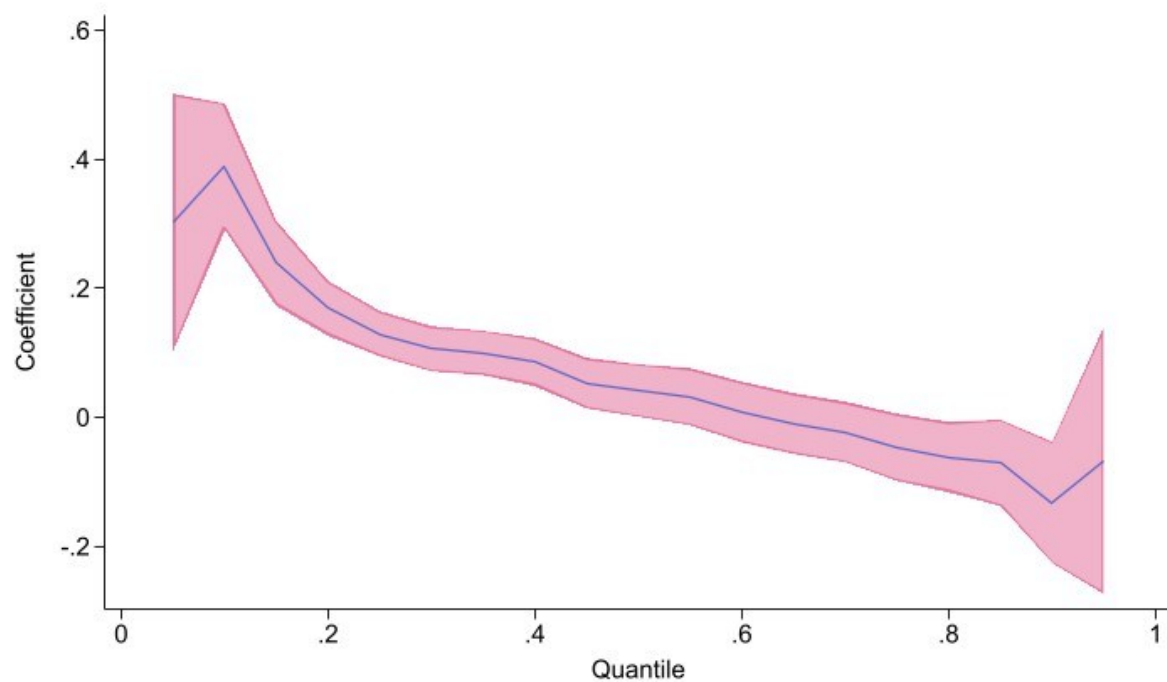
Note: See Table 3.

Figure A1. Residualized quantile regression estimates of log income (CPI-adjusted, 1980 SEK). Men aged 20–66, 1947–1967 (SEDD sample).

A. Bootstrapped standard errors with 100 repetitions

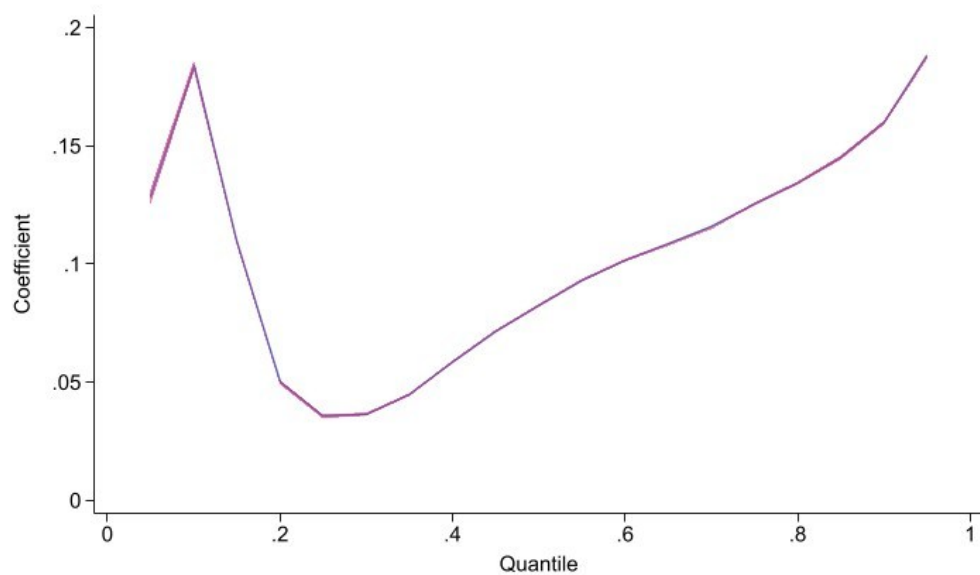


B. Non-bootstrapped standard errors



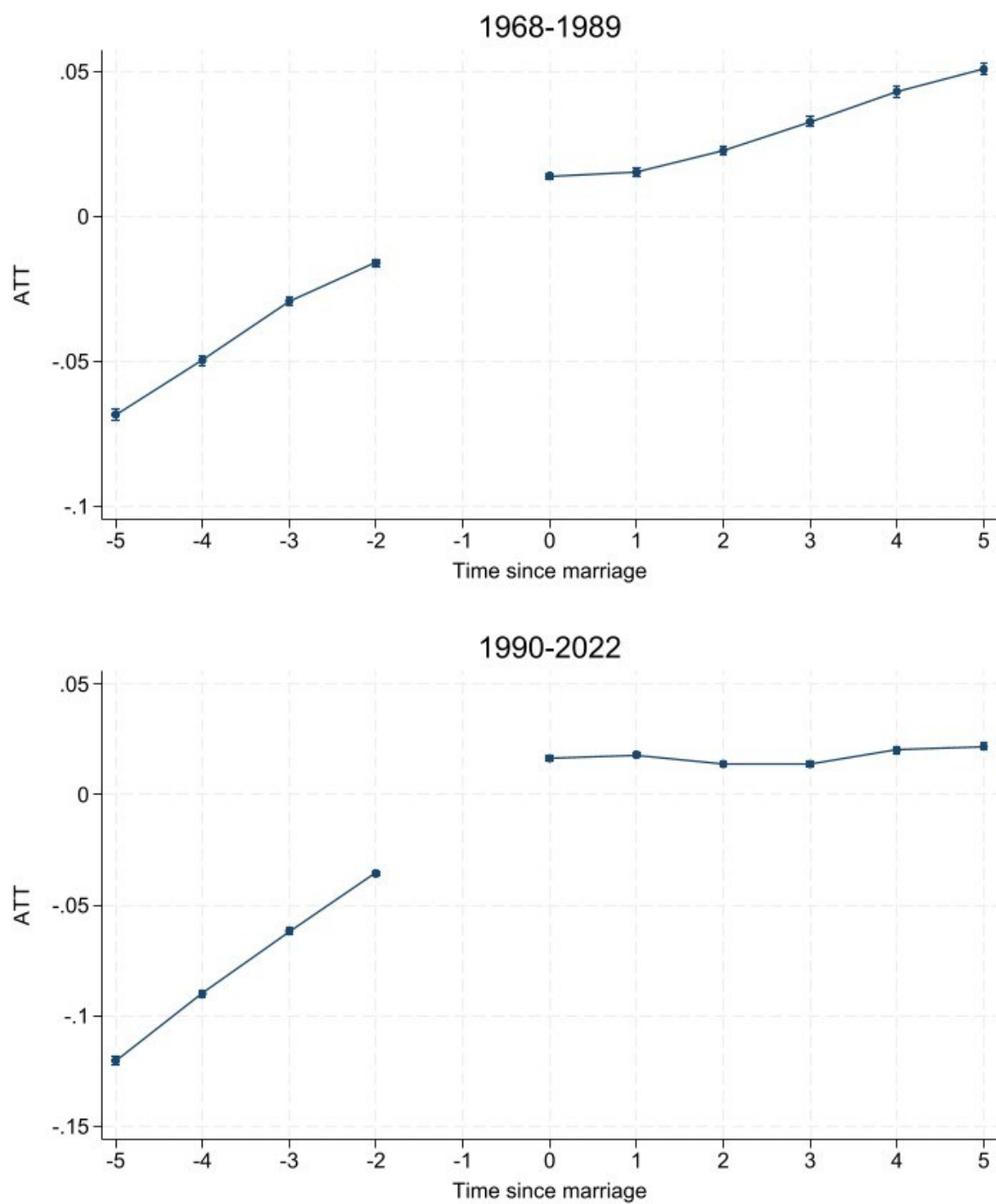
Note: Models include individual and year fixed effects, age, age squared, presence of children, and urban residence. Estimations and plots were made with the *rqr* and *rqrplot* commands in STATA 19 (Borgen et al. 2021).

Figure A2. Residualized quantile regression estimates of union on log income (CPI-adjusted, 1980 SEK). Men aged 20–66. Unions defined as formally married and cohabitators with children



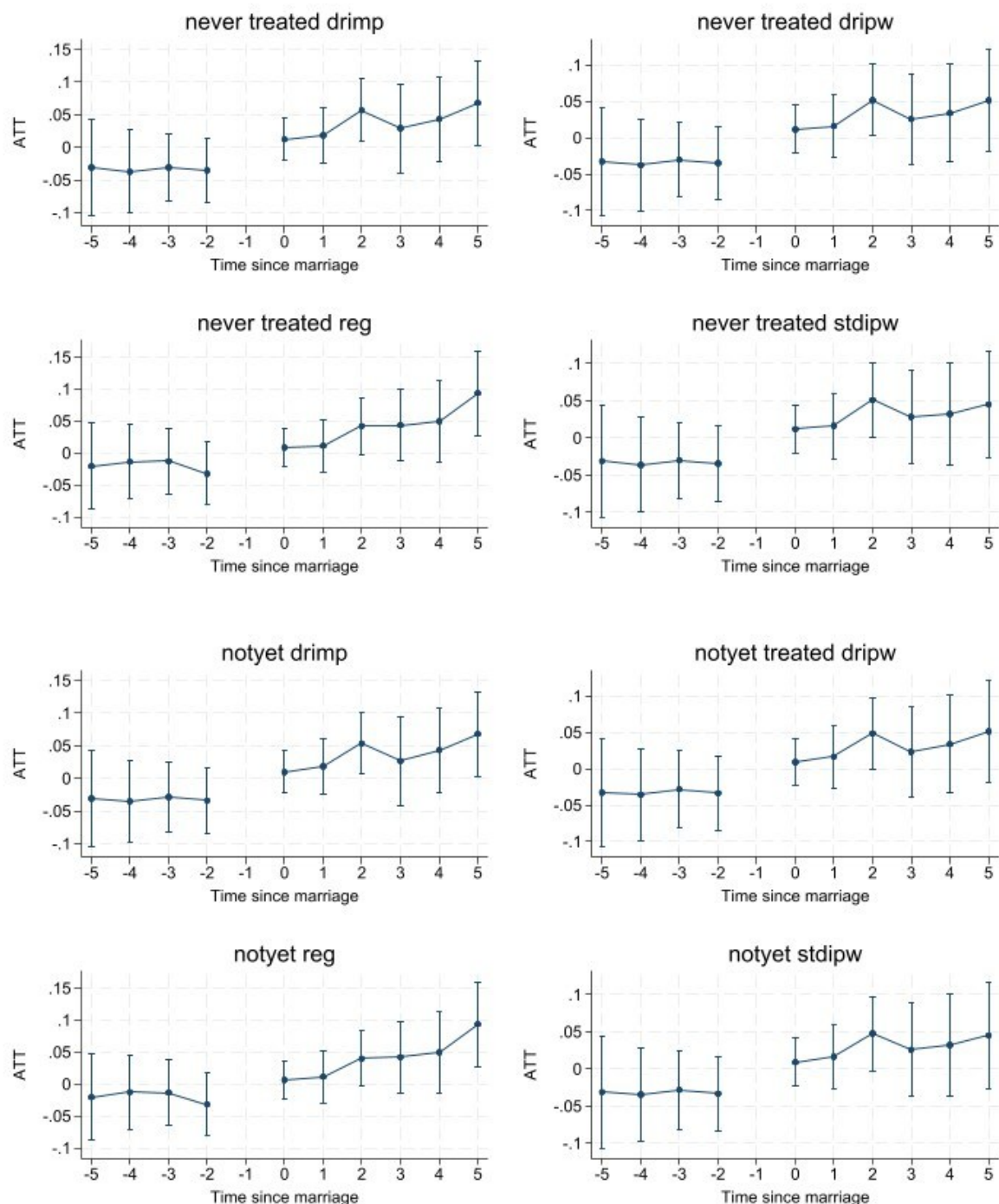
Note: See Figure 3.

Figure A3. Event study estimates of the marriage premium, men aged 20–66. Not-yet treated as comparison group.



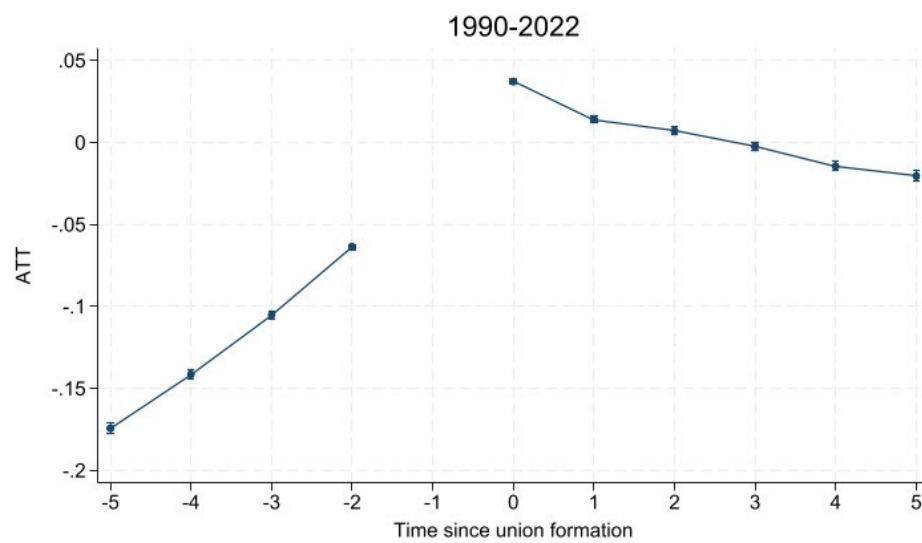
Note: See Figure 4.

Figure A4. Model comparisons event-study models, different comparison groups and estimation methods. 1947-1967 (SEDD).



Note. Estimates from csdid2 command in STATA 19. "never"= never treated as the comparison group, "notyet"=not-yet treated as comparison group, "reg"= difference-in-difference estimator based on OLS, "drimp"= improved doubly robust difference-in-difference estimator, "dripw"=doubly robust difference-in-difference estimator, "stdipw"=inverse probability weighting difference-in-difference estimator (Sant'Anna & Zhao 2020). See also Figure 4.

Figure A4. Event study estimates of the union premium, men aged 20–66, 1990-2022. Unions defined as formally married and cohabitators with common children.



Note: See Figure 4.