Deconstructing Specialization: Unpaid Domestic Tasks and Marriage Premia among U.S. Men

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Abstract

Economists theorize that men's marriage premium derives in part from gender specialization in household paid and unpaid labor. The optimality of specialization hinges on the ability of a single income to sustain a family, and men's comparative earnings advantage. We argue that in the current earnings structure, long-term specialization is feasible only for the highest-earning men. In contrast, lower-earning men will continue to benefit from marriage if they contribute more to unpaid domestic tasks. We pool 2010-12 American Time Use Survey data and use semiparametric regressions to estimate the impact of childcare and housework at different percentiles of men's earnings distribution. Controlling for human capital, labor supply, children, and disability, we find no support for the specialization thesis. At no percentile of earnings does the inclusion of men's unpaid time significantly alter their net marriage premium, with the premium greater among lower-earning men. In addition, greater time in nonroutine housework predicts a further earnings premium for men in the lower quartile of the earnings distribution. At the median, men's greater time in both nonroutine housework and childcare predicts greater earnings. Results highlight that partnered men's greater productivity in family work predicts greater market earnings for average and lower-earning men.

Key words: men's earnings inequality, gendered division of labor, semi-parametric regression

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Married men's earnings advantage forms a cornerstone of gender economic inequalities associated with family. Depending on analytical strategies, estimates of U.S. men's marriage premium range between six and 25 percent (Ahituv and Lerman 2007; Chun and Lee 2001; Cohen 2002; Dougherty 2006), larger than any fatherhood bonus (Lundberg and Rose 2002). Two explanations for men's marital premium dominate empirical studies. The first is that women and employers share similar tastes in men, such that men with characteristics rewarded in the labor market are positively selected into marriage. A second argument is that marriage makes men more productive, with married men benefiting from the specialization of a gendered division of household paid and unpaid labor (Becker 1981, 1985).¹

Despite the importance of men's marriage premium in structuring gendered family earnings gaps—and the theorized role of a gendered division of labor at its root—only recently has the marriage premium become of interest to sociologists (but see Cohen 2002). Economists and sociologists find consistent empirical support for the selection argument on both observable (Ahituv and Lerman 2007; Dougherty 2006; Killewald and Lundberg 2014) and unobservable characteristics (Killewald and Lundberg 2014; Korenman and Neumark 1991; Lundberg and Rose 2002). During marriage, husbands make further wage gains by accruing more work experience as compared with never-married men (Ahituv and Lerman 2007; Killewald and

¹ A third possibility is that employers positively discriminate in favor of married men for statistical (Arrow 1976) and/or socio-cultural reasons (Acker 1990). The rare analyses with employer-employee data, however, found that once controlling for married men's selection into higher-paying occupations prior to marriage, employers do not favor them in wage increases (single U.S. employer 1976 personnel data, Korenman and Neumark 1991; Norwegian register data, Petersen, Penner and Høgnes 2011).

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Gough 2013; Killewald and Lundberg 2014). Becker (1985) attributed these productivity gains to household specialization, wherein partnered men can devote greater effort to paid work because their wives specialize in the household's unpaid work.

Most tests of specialization assess the impact of wives' employment on husbands' marriage premia, with mixed results (Chun and Lee 2001; Gray 1997; Killewald and Lundberg 2014; Loh 1996). One problem with this approach is that household employment decisions are made jointly, making it difficult to disentangle whether a wife's employment is the cause or the result of a husband's lower earnings. The better alternative is to assess the impact of a man's unpaid work on his premium because it can directly affect his paid work effort (Becker 1985; Gray 1997), and husbands' unpaid domestic work is only weakly associated with wives' employment (Hook and Wolfe 2013; South and Spitze 1994). This has been done in only one U.S. study to date. Using survey data from the late 1980s and early 1990s, Hersch and Stratton (2000) found that husbands' greater time in housework predicted wage penalties, but effects did not reach standard levels of statistical significance. Moreover, including a husband's housework time did not alter his marriage premium (Hersch and Stratton 2000: 89).

Despite mixed evidentiary support, the optimality assumption of the specialization thesis has not been questioned. Becker's male breadwinner ideal is predicated on a single income being sufficient to support a household, and men's comparative earnings advantage over women. This family model was at its zenith in the 1950s and 1960s when the majority of workers shared in productivity growth (Kalleberg 2011). Since the 1970s, increasing earnings inequality yields divergent breadwinning capacities among men, and has altered relative equality between women and men across the earnings distribution. Only highly-educated, high-earning men and women have enjoyed continued wage growth (Autor, Katz and Kearney 2008; Kalleberg 2011). Real

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wages of men in the bottom quartile of earnings decreased, whereas similar women's wages increased modestly (Kalleberg 2011; Mishel et al. 2012). In the current economic structure, only the most advantaged men can support a family on their earnings. Not surprisingly, dual-earner couples are now more numerous than were male breadwinner couples in 1970 (Gerson 2009).

If household specialization in paid labor is no longer optimal, this raises questions about the optimality of specialization in unpaid labor. Wives' greater relative earnings predict that husbands perform more if not an equal amount of unpaid domestic tasks (Coltrane 2000; Lachance-Grzela and Bouchard 2010). We argue that in the new economic reality that has made dual-earning essential for most couples, specialization in household unpaid work is not optimal even if divisions remain somewhat gendered. Attitudinally, Gerson (2009) found that young women and men want fulfilling, egalitarian employment and family lives. We extend this argument to hypothesize that in 2010-12, husbands' greater time in unpaid domestic tasks predicts neither an earnings penalty (as found by Hersch and Stratton for two decades earlier), nor a reduction in the marriage premium.

We further anticipate, however, that effects differ among men. On the one hand, some social scientists contend that the highly-educated are the vanguard for gender equality in the home (e.g., McLanahan 2004). On the other hand, the economic pressures inspiring greater equity in household unpaid work are greater among lower-earning men. Coltrane (2000, 2004) reported that although managerial and professional couples in the 1970s and 1980s shared more domestic tasks, more change toward greater equity since the 1990s has occurred in couples in the blue- and pink-collar professions. Our hypothesized null effects of domestic tasks on men's earnings are therefore more likely to be found among lower-earning men, whereas the optimality of the male breadwinner model may persist among the highest-earning men.

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Differences in effects among men depending on their earnings are not revealed with estimates of average marriage premia from ordinary least squares (OLS) regression. Semiparametric approaches, in contrast, allow slope parameters of individual characteristics to vary along the earnings distribution (Koenker 2005). We thus pool 2010-12 American Time Use Survey (ATUS) data and use a semi-parametric approach to estimate the impact of unpaid work on partnership premia at different percentiles of U.S. men's earnings distribution, controlling for the usual individual earnings determinants. The time diary data allow us to update Hersch and Stratton's (2000) findings to include childcare in addition to routine and nonroutine housework, with our analytical technique providing new insights into differences in effects among men. Time diary data are also superior because they are free from recall bias and the potential bias of social desirability (Coltrane 2000; Sullivan 2011). This is particularly important for our hypotheses, given that lower-earning men have been found to report gendered responsibility for unpaid work even when performing substantial amounts of it (Deutsch 1999; Kan 2008).

EXPLAINING MEN'S MARRIAGE PREMIUM

U.S. men's marriage premium is a mainstay of gender economic inequality. In 1900, men employed in manufacturing received a 17 percent marriage premium (Goldin 1990). This percentage is remarkably similar to the 15 to 23 percent premium Loh (1996) calculated from 1939 through 1979 Census data, controlling for years of education, potential experience and its square, ethnicity, immigrant and veteran status, region of residence, occupation, and industry. Cohabiting men also enjoy a partnership premium, albeit of smaller magnitude (Cohen 2002; Dougherty 2006; Killewald and Lundberg 2014; Loh 1996). Previously married men likewise retain some earnings advantage (Blackburn and Korenman 1994; Gray 1997; Loh 1996).

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Men's marriage premium may be well-documented, but its cause remains obscure. Economists attribute the premium to *selection* and *treatment* (productivity) effects of marriage (Petersen, Penner and Høgnes 2011). Selection would account for the marriage premium if men who marry differ on characteristics that make them more desirable as marriage partners and employees. Analyses of the 1979 National Longitudinal Survey of Youth (NLSY79) reveal that high-earning men are more likely to marry than low-earning men (Ahituv and Lerman 2007; Burgess, Propper, and Aassve 2003). Men who ultimately marry already earn significantly more five years prior to marriage than similar men who never marry (Dougherty 2006). Men who marry differ as well on unobservable characteristics such as sociability or loyalty that women and bosses may find appealing. Fixed-effects models indicate that such time-invariant unobserved characteristics explain between 30 and 60 percent of U.S. men's marriage premium estimated using OLS regression (Dougherty 2006; Gray 1997; Korenman and Neumark 1991; Loh 1996).

In addition, being married predicts further earnings advantages for men (Ahituv and Lerman 2007; Blackburn and Korenman 1994; Dougherty 2006; Gray 1997; Korenman and Neumark 1991; Loh 1996). Dougherty (2006: 437) found that U.S. married men's premium continued to increase annually until the sixth year of marriage, when it leveled off at about 19 percent. Becker (1981, 1985) theorized that the premium results from married men's greater productivity made possible by the gendered division of household labor.

Specialization and the male marriage premium

Becker (1981) argued the optimal nuclear family arrangement in industrial societies is when one partner specializes in paid work and the other in unpaid family work. Although in theory either partner might specialize in either type of labor, Becker (1981) held that women, given their

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biological role in reproduction, have a comparative advantage in unpaid family work. Men's greater average earnings provide them with a comparative advantage in employment. Wives' specialization in all of the household's unpaid work supports husbands' greater effort in paid work (Becker 1985). A gendered division of household labor is therefore Becker's causal mechanism behind the male marriage premium. Any moves away from specialization reduce men's work effort and should in turn reduce men's marriage premium (Becker 1985).

Killewald and Gough (2013) argued that specialization is a two-gender theory, with negative implications for married women's wage trajectories. They contrasted married men's and women's wage trajectories using the NLSY79. Married men's wage trajectories were consistent with specialization based on changes in work hours, job traits, and longer tenure, as well as a further premium when their wives were out of the labor force. They also found, however, that marriage had a positive impact on women's wages through similar processes, albeit at a much smaller magnitude (see also Cooke 2014; Dougherty 2006). Being married also did not increase women's motherhood wage penalty as might be deduced from the specialization thesis.

The vast majority of empirical tests of specialization explore the impact of wives' employment on husbands' marital premium. Ascertaining the true causal order of household employment allocations is difficult, however, given the endogeneity of such decisions. Husbands' low earnings might cause their wives to seek employment, whereas a husband's high earnings might reduce his wife's employment incentive. Without controlling for endogeneity as with instrumental variables, coefficients will be biased (Bollen 2012).

Analyses using instruments find some support for the negative impact of wives' employment on husbands' premia. Chun and Lee's (2001) analysis of the 1999 Current Population Survey found that each additional hour worked by a wife reduced men's marriage

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premium by 0.6 percent. Gray's (1997) comparison of two U.S. cohort studies (1966 National Longitudinal Survey of Young Men and NLSY79) found a negative impact of wives' employment hours on men's marriage premium, with the magnitude of the effect greater in the more recent cohort. Analyzing the NLSY79 using a fixed effects model based on sibling data, Loh (1996) found that the negative effect of wives' employment disappeared once controlling for whether she had a university degree. He concluded a wife's education rather than her employment explained a man's marriage premium, although he offered no reasons why this might be the case.

Gray (1997: 498) noted that a wife's employment is at best a "crude" measure of specialization because it does not take into account a man's unpaid domestic activity that directly affects his paid work effort (Becker 1985). The impact of men's domestic time on his marriage premium has been assessed in only one U.S. study to date.² In addition to being a better direct test of specialization, Hersch and Stratton (2000) argued that husbands' domestic time does not suffer from endogeneity problems because existing evidence indicated that U.S. husbands' housework time is independent of their wives' employment (South and Spitze 1994). Hersch and Stratton's analysis of 1987-88 and 1992-94 data from the National Survey of Families and Households (NSFH) revealed that husbands' greater time in routine daily housework tasks such

² The only other study we could find that assessed the impact of household divisions of unpaid work on men's marriage premium was based on 1991 to 2003 British panel data with measures of who is responsible for four types of domestic tasks (Bardasi and Taylor 2008). Panel estimates without controls for endogeneity suggested that British men's marriage premium increased with the number of domestic chores for which his wife was responsible, and decreased as his wife's paid work hours increased, as would be predicted under the specialization hypothesis. But including attitudinal controls for endogeneity eliminated the significance of the domestic chores effect. The impact of wives' paid work hours increased, but became just marginally significant (p = .10) (Bardasi and Taylor 2008: 582).

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as cleaning and cooking reduced their predicted earnings, but effects did not reach standard levels of statistical significance. The impact of husbands' greater time in nonroutine tasks such as gardening and maintenance predicted a much smaller but still statistically insignificant wage penalty. Inclusion of the two housework measures had no effect on the magnitude of men's marriage premium (Hersch and Stratton 2000).

Hersch and Stratton's (2000) results provide no support for the specialization thesis, but are also limited. Respondents were asked to estimate how much time they usually spent in nine domestic tasks, but no questions were asked about childcare. Recall measures on surveys are prone to reporting bias, with infrequent activities under-reported and time in more frequent activities perhaps over-estimated (Coltrane 2000). Directly asking respondents about time in domestic tasks also introduces the risk of social bias, which arguably differs among men (Coltrane 2000; Sullivan 2010). More educated men claim more egalitarian attitudes than lesseducated men (Coltrane 2000), which may lead them to over-estimate how much time they spend in domestic tasks on recall measures. Less-educated or working-class men have more conservative gender attitudes even when contributing more equally to unpaid domestic work (Deutsch 1999). Kan (2008) found that the attitude-behavior discrepancy resulted in lesseducated British men reporting fewer domestic hours on surveys than calculated from actual time diaries. Time diary data circumvent the measurement issues of survey data (Coltrane 2000, Sullivan 2011), and therefore provide the best empirical test of the specialization thesis. Our premise, by deconstructing Becker's assumptions, is that specialization is not optimal for most modern U.S. families.

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DECONSTRUCTING SPECIALIZATION

Men's specialization in paid work

For the male breadwinner model to be the optimal family form as argued by Becker (1981), it must be feasible for the majority of couple households. At the time Becker fashioned his theory, U.S. workers were still enjoying the fruits of their productivity gains (Kalleberg 2011). Things changed in the late 1970s, as earnings inequality among U.S. men began to rise. Returns to education increased sharply, whereas real earnings in the bottom half of the distribution stagnated or decreased (Kalleberg 2011; Mishel et al. 2012). Between 1973 and 2009, real wages for men in the 95th percentile increased by more than 40 percent, men's wages at the median showed no real growth, whereas those for men in the 20th percentile fell by 20 percent (Kalleberg 2011: 106). U.S. men's breadwinning capacity is now concentrated among the highest-earning men, even if such men are likely to be married to highly-educated women who might be expected to have their own career ambitions.

Specialization within Becker's theory also hinges on husbands' comparative earnings advantage. This, too, has changed across the earnings distribution. High-earning women have enjoyed even greater proportional growth in their wages than similar men. As a result, the average hourly gender wage gap between women and men in the 95th percentile of earnings narrowed from almost 40 percent in 1973, to about 25 percent in 2009.³ Relative gains across the period are even greater among lower-earning women. Women's real wage gains coupled with the stagnation or losses for men narrowed the gender hourly wage gap to 19 percent at the median, and just 10 percent at the 20th percentile (Kalleberg 2011: 106). These shifting earnings advantages are reflected in wives' employment rates. Whereas in 1960, less than 30 percent of

³ These figures are calculated from Kalleberg (2011: 106), comparing women's \$24 hourly wage with men's \$39 hourly wage in 1973 at the 95th percentile, with the \$41/\$55 for 2009.

wives aged 25 to 34 were employed (Blackburn and Korenman 1994: 255), that figure was almost 70 percent in 2010.⁴ The average contribution of wives' earnings to family income increased from about 27 percent in 1970, to almost 38 percent in 2010.⁵

The relative changes in wages among women and men indicate that the highest-earning men retain the greatest comparative earnings advantage, even if it is smaller than in 1973. Men's comparative advantage is smaller at lower wage levels, and their wives' earnings particularly important to the couple financial flexibility essential to nuclear family stability (Gerson 2009; Oppenheimer 1997). As the male breadwinner model is no longer feasible for the majority of men, this raises doubts about the optimality of gendered divisions of domestic tasks.

Household divisions of unpaid work

Time availability, relative resources, and "doing" gender comprise the dominant explanations for relative specialization in household unpaid tasks (Coltrane 2000). Time availability seems to predict more variation in women's rather than men's housework hours (Coltrane 2000; Lachance-Grzela and Bouchard 2010). But fathers' childcare time increased by almost four hours per week between 1975 and 2000 (Bianchi, Robinson and Milkie 2006: 70), offset by a decrease in married fathers' paid work hours (Bianchi et al. 2006: 55). Becker (1985) would argue this lowers these men's productivity and should reduce their premium.

Relative resource theory holds that housework divisions result from negotiations that reflect wives' and husbands' relative power (Coltrane 2000). As wives' education and relative economic contribution to the household increase, their greater power allows them to negotiate a

⁴ Author calculations of 2010 Census data indicate 67 percent of wives aged 25 to 34 were employed in that year.

⁵ <u>www.bls.gov/cps/wlf-databook-2012.pdf</u>, page 81, accessed 27 August 2014.

more favorable distribution of housework. Childcare is generally excluded under these models, as relative power is used to avoid unpleasant tasks (Coltrane 2000). In keeping with relative resource theory, a husband's share of housework is usually greater when the wife contributes more to household income (Coltrane 2000; Lachance-Grzela and Bouchard 2010). Controlling for time availability and relative earnings, mothers' greater education predicts fathers spend more time in childcare (England and Srivastava 2013). Husbands today therefore perform significantly more housework and childcare than they did 50 years ago, confirming that household specialization in unpaid work has ebbed with the decreasing specialization in paid work.

"Doing" gender or "lagged adaptation"?

Hochschild (with Machung, 1989) famously proclaimed the gender revolution "stalled," however, because employed wives remain responsible for the majority of domestic tasks. Indeed, U.S. wives' on average perform about two-thirds of a family's housework and childcare (Bianchi et al. 2006; Coltrane 2000; Lachance-Grzela and Bouchard 2010). The persistent gendered division of household labor regardless of wives' employment hours, earnings, and education is an instance of couples "doing" gender (Fenstermaker Berk 1985). "Doing" gender highlights that gender is not a biological fact or socialized role, but instead is displayed and constructed in everyday life through social interactions (West and Zimmerman 1987). Wives' responsibility for domestic tasks regardless of their employment reinforces normative feminine and masculine identities in the intimate sphere (Fenstermaker Berk 1985). In fact, some researchers found that when a wife earned more than her husband, either he did pointedly less housework than other husbands (Brines 1994), or the breadwinning wife did more housework than lesser-earning wives (Bittman et al. 2003). The "doing" gender perspective seems to give normative force to Becker's specialization hypothesis.

Others question how static these normative conceptions of gendered labor really are. Gershuny and his colleagues (2005) instead suggested that household divisions of labor undergo "lagged adaptation." As wives' employment and contribution to household earnings become more normative, husbands take on a greater share of housework (see also Breen and Cooke 2005). Supporting this, Cunningham's (2007) longitudinal analysis of Detroit-area couples revealed that husbands of women with longer employment histories performed a greater share of housework than husbands whose wives had accumulated less employment experience. Comparing men's unpaid work in 20 countries, Hook (2006) found that even single men spent more time doing housework in countries with greater female labor force participation. These findings suggest couple divisions of household labor evolve via continuous interactions as circumstances evolve. In other words, how couples "do" gender evolves over time.

Other evidence also marks the shift away from a specialization norm. Gerson (2009) found that providing financial and social stability to their families was of paramount concern to the 120 young adults she interviewed. Couples best able to achieve this were those that developed flexible gender roles to accommodate possibly competing demands of paid and unpaid work (Gerson 2009). Greater equity in unpaid tasks does indeed help stabilize dual-earner families. Analyzing Panel Study of Income Dynamics (PSID) data for U.S. couples marrying for the first time between 1985 and 1995, Cooke (2006) found that a wife's greater earnings increased the risk of divorce as predicted by the specialization hypothesis, but a husband's greater share of the housework counterpoised this effect. The optimal predicted time allocation was that a

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wife contributes 40 percent of the household labor income and the husband performs 40 percent of the housework (Cooke 2006: 463). This is still a gendered division, but far from specialization.

Taken together, the evidence indicates that dual-earning is now the more viable household division of paid labor for most families and that couples will be more stable if husbands in turn contribute more to domestic tasks. Thus U.S. men are more likely to enjoy more years of marriage and enhanced productivity if they spend more rather than less time in unpaid family work. Consequently, like Hersch and Stratton (2000), we anticipate that men's unpaid domestic time will not affect the magnitude of their partnership premium (*Hypothesis 1*). In contrast to them, we hypothesize that partnered men's greater time in unpaid work in 2010-12 will not predict any direct earnings penalty (*Hypothesis 2*).

DIFFERENCES AMONG MEN

The new structure of gender economic inequality suggests the household flexibility imperative has become most acute for lower-earning families.⁶ Observed changes in divisions of domestic labor among men support this supposition. In the 1970s and 1980s, managerial and professional couples reported the most egalitarian divisions of household labor (Coltrane 2004). Low-earning or working-class men and women held more conservative gender attitudes (Deutsch 1999; Hochschild, with Machung 1989). Among the working class, the gendered ideal-type of the man as economic provider and woman as carer was so salient that working-class men were likely to

⁶ There are also ethnic differences in domestic divisions predicted by time availability and relative resources (Wight, Bianchi and Hunt 2013), and the economic changes may differentially affect different ethnic groups. Assessing further ethnic differences in specialization effects on men's marriage premium across the earnings distribution is beyond the scope of this article.

claim they spent less time in housework or childcare than they actually did (Deutsch 1999; Sullivan 2011).

By 1990, the most change toward greater equality had occurred in couples in less-skilled professions (Coltrane 2004). Sullivan (2010: 725) found that the least-educated U.S. men had increased their time in routine and nonroutine housework by 51 minutes per day between 1965 and 2003, as compared with the 24-minute-per-day increase among men with more than secondary education. Childcare remains more gendered among the less-educated. The least-educated men increased their total daily time in childcare from 13 minutes in 1965 to 22 minutes in 2003, whereas the increase among the most educated men was from 18 minutes in 1965, to 60 minutes per day by 2003 (2010: 725). This is consistent with Lareau's (2011) finding that middle and upper class families engage in "concerted cultivation" of their children.

But Shows and Gerstel's (2009) qualitative study of Emergency Medical Technicians (EMTs) and physicians found class differences in fathering that are consistent with our argument that divisions of household work vary among men. A larger proportion of EMTs' wives were employed, with wives' income a substantial relative share of family income (Shows and Gerstel 2009: 178). The EMTs worked long hours, but frequently on the shift work that other researchers found fosters more egalitarian divisions of domestic tasks (Deutsch 1999; Presser 1994). The EMTs emphasized private fathering and more time in intensive care tasks such as feeding children or staying home with them when they were sick (Shows and Gerstel 2009). These more gender-equitable arrangements among lower-earning men lead us to hypothesize that it is primarily among such men that greater time in unpaid domestic tasks will have no negative impact on earnings, either directly or via a reduction in marriage premia (*Hypothesis 3*).

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At the other end of the earnings continuum, Shows and Gerstel (2009) found that physicians were "undoing" gender less than the EMTs. Physicians' greater control over their working hours enabled them to schedule time with their children, which was overwhelmingly public time such as coaching soccer rather than day-to-day care work (Shows and Gerstel 2009). A large part of their paternal role remained that of being provider. Their high income supported stay-at-home wives, or those working only part-time. Similarly, Cooper (2014) found in her study of diverse Silicon Valley families that the highest-earning men identified primarily with their economic provider role and their highly-educated wives reduced employment to focus on supporting children's development. As household specialization remains more normative among high-earning men, their time in unpaid tasks including childcare might still incur an earnings penalty as Hersch and Stratton (2000) found for all men in the late 1980s (*Hypothesis 4*).

METHOD

Data and sample

We pool the three cross-sections from the 2010, 2011, and 2012 American Time Use Survey (ATUS) using the ATUS Extract Builder, the ATUS-X (Hofferth, Flood and Sobek 2013). ATUS is a large, nationally representative survey sponsored by the Bureau of Labor Statistics (BLS) to gain insight into how, where, and with whom people spend their time. Respondents are randomly drawn from households that have completed their eighth and final interview for the Current Population Survey (CPS). The CPS samples the civilian, non-institutional population residing in households. ATUS sub-samples the CPS so that each state is represented proportional to its share of the national population, and oversamples Hispanics, non-Hispanic Blacks, and households with children. One adult from each household is randomly selected to be the ATUS respondent. The sample is randomized by day: Mondays through Fridays each account for 10 percent, and Saturdays and Sundays for 25 percent each (BLS 2013). Respondents are interviewed using computer-assisted telephone interviewing about their time use in the 24 hours prior to 4 a.m. on the day of the interview. In addition to collecting time diary data, interviewers review and update information from the last CPS interview including the household roster, employment, earnings, and school enrollment. The overall response rates ranged from 53.2 percent to 56.9 percent, with survey fatigue the primary reason for refusal. The official ATUS weights account for differential non-response rates across days of the week and demographic groups as defined by race, sex, age, presence of children, and education (BLS 2013). Research shows that nonresponse in ATUS has a very small effect on estimates of time use (Abraham, Maitland and Bianchi 2006).

The pooled surveys include 9,373 men aged 25 through 54, from which we retain a sample of 8,069 employed men. The BLS does not collect earnings for the self-employed; thus we omit 11.9 percent (n=963 employed men) from the sample. We also omit 123 full-time students, 18 men with reported earnings of less than \$1 per week, and an additional eight men with a discrepancy between variables indicating marriage and cohabitation. Our final sample size is 6,937 employed men with market earnings of \$1 or more.

The ATUS is a rich source of data. The time-diary format is widely recognized as the most valid measure of time use, as survey respondents usually overestimate frequent and underestimate infrequent tasks (Coltrane 2000; Lachance-Grzela and Bouchard 2010; Sullivan 2011). A further advantage of time diaries, especially for potentially sensitive topics like housework and childcare time, is that social desirability bias is minimized because respondents

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are not primed for topics (Pleck and Stueve 2001). Thus any class differences in reported gender ideology are unlikely to influence time estimates as compared with survey data (Sullivan 2011). Our measures of household labor are derived from the diary; other measures are derived from the accompanying questionnaire.

Measures

The dependent variable is the log of weekly earnings. Some argue men's hourly wages are the more appropriate measure for comparing relative equality (Chun and Lee 2001; Gray 1997; Killewald and Gough 2013; Lundberg and Rose 2002). Actual hourly wage data, however, are seldom available. Instead, researchers calculate an hourly wage by dividing annual earnings by usual or actual weekly work hours, and reported or estimated total weeks worked. Loh (1996) compared actual and calculated hourly earnings and found that never-married men in the National Longitudinal Survey of Youth either overestimated their annual work hours or underestimated their annual earnings. A calculated hourly wage rate therefore inflated the predicted marriage premium. So we instead use the actual weekly earnings measures available in the data and add available controls for time in paid work discussed more in a moment. Approximately six to eight percent of weekly earnings are imputed by BLS using the methods described below. Weekly earnings are top-coded by BLS at \$2,884.61 per week (BLS 2013), affecting 5.4 percent of men in our sample. We take the natural log of weekly earnings in order to interpret effects of independent variables as predicted percent changes in weekly earnings.⁷

⁷ This is customary, although effects are most accurately interpreted as the absolute change in the logarithms of wages, or the relative change in the geometric mean of unlogged wages (Petersen et al. 2011).

The key independent variable is an indicator for when a man is legally married. We differentiate marriage from cohabitation effects with a further indicator variable, as cohabitation has been shown to garner a smaller premium (Cohen 2002; Dougherty 2006; Loh 1996). Research indicates that divorced men may retain some of their marital premium (Blackburn and Korenman 1994; Dougherty 2006), so we include a further indicator for previously married men. The referent for all of these relationship indicators is never-married men. A further family variable is an indicator variable coded one if a man has any own (biological, adopted, or step) children younger than 18 in the household. We cannot ascertain whether men have any nonresidential biological children.

We assess the impact of specialization on men's relationship premia with three measures of household labor: men's time in routine housework, nonroutine housework, and childcare. As Hersch and Stratton (2000) argued, men's time in unpaid domestic tasks avoids endogeneity issues by being less responsive to wives' time in employment (Scott and Spitze 1994). More recent evidence suggests this relationship has become stronger, but is still small (Bianchi et al. 2000; Coltrane 2000; Hook and Wolfe 2013; Lachance-Grzela and Bouchard 2010).

Routine housework has been termed "female-typed" because these are the daily chores such as cooking and cleaning that cannot be scheduled for more convenient times, whereas nonroutine housework such as mowing the lawn and maintenance has been termed "male-typed" as there is greater time discretion in their performance (Coltrane 2000). In support of shifting norms, we reject these gender categorizations and opt for the gender-neutral terms of routine and nonroutine. We use activity groupings as defined by BLS in its published tables available through ATUS-X, which include any related travel time. We define routine housework as the sum of time spent in three BLS activity groupings: housework; food and drink preparation,

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presentation, and clean-up; and grocery shopping. Nonroutine housework is the sum of time spent in five BLS activity groupings: lawn and garden care; interior maintenance, repair, and decoration; exterior maintenance, repair, and decoration; vehicles; and appliances, tools, and toys. Childcare is defined as time spent caring for and helping household children including activities related to their education and health.⁸ All three measures are reported as hours per day.

We do not include partnered women's paid work hours because of the endogeneity issues and lack of suitable instrumental variables in the data to control for this as discussed more in the section on our analytical approach. Loh (1996), however, found that a wife's education affected men's earnings directly as well as via the magnitude of his marriage premium, and including it reduced the impact of her employment. He made a tentative hypothesis that perhaps highlyeducated women are more able to maximize both partners' productivity. A theoretical argument to substantiate this conjecture requires elaboration, and is beyond the scope of this paper. But we do include an indicator variable coded one when a married or cohabiting man's female partner has a Bachelor's degree or higher (zero otherwise).

Additional variables include measures of men's human capital and labor supply. Men's human capital is captured with an indicator variable for whether he has received a Bachelor's degree or higher (referent less than university education). We use a Mincerian estimate of his potential work experience, calculated as age minus years of education minus six, along with the square of this term to reflect declining productivity over time (Mincer 1979). As experience

⁸ The ATUS only collects data for respondents' primary activities. If respondents are multi-tasking it is at their discretion to report their main activity. The ATUS does, however, ask respondents with children under age 13 to report if children were in their care during each activity. We included this measure of secondary childcare in models, but there was no association with wages at any earnings percentile (coefficient smaller than 0.001 and not statistically significant).

interacts with education (Heckman, Lochner and Todd 2003), we also include an interaction term between the university indicator and potential experience measure, and a further interaction term between university and potential experience squared.

Part of the marriage premium is explained by married men working more weekly hours than single men (Ahituv and Lerman 2007; Killewald and Lundberg 2014). We therefore include a continuous measure of men's usual weekly work hours. Almost five percent of respondents reported that their usual hours vary. To retain these cases we code those that report full-time employment to mean hours for full-time employees (45.0) and part-timers to the mean for parttime employees (21.8). An indicator for imputed hours did not change reported results. Petersen (1989) argued that when using annual earnings as the dependent variable, it is preferable to log the weekly work hours control variable, and Cohen (2002) found that logging usual weekly work hours provided the best fit when using CPS data. We therefore log the usual weekly work hours measure. Our final control is an indicator variable for men reporting some level of disability. We did not drop these respondents, as the categories made it difficult to ascertain whether the disability limited their employment.

The Census Bureau excludes all diaries with fewer than five activities or 21 hours, and uses three methods to fill in missing information. Relational imputation uses information on household members, longitudinal assignment uses the most recent CPS interviews, and hot-deck allocation uses a method similar to multiple imputation (BLS 2013). Thus there are no missing values on the measures used in our analyses.

Analytical technique

Assessing the impact of independent variables among men requires a semi-parametric quantile regression technique that allows slope parameters to differ along the earnings distribution

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(Maasoumi et al. 2009). There are two basic types of quantile regression that yield different information.⁹ Conditional quantile regression based on Koenker and Bassett's (1978) estimator provides information on the impact of the independent variable conditional on whatever covariates are included in the model. When estimating men's marriage premium, it is important to include human capital and labor supply variables as noted above to reveal net premia unexplained by men's observable characteristics. But conditional quantile estimates such as those from the *qreg* command in STATA provide estimates contingent on the group of men defined by the covariates, rather than for all men on the unconditional, or absolute earnings distribution (Koenker 2005).

Instead, Firpo and his colleagues (2009) illustrate that it is possible to estimate effects along the unconditional earnings distribution with OLS regression on a transformed dependent variable, the recentered influence function (RIF). They define this as (Firpo, Fortin and Lemieux 2009: 54):

$$RIF(Y;q_{\tau},F_Y) = q_{\tau} + (t - \mathbf{1}\{Y \le q_{\tau}\}) / f_Y(q_{\tau})$$

In this equation, τ is a given percentile; q_{τ} is the value of the outcome variable, Y, at the τ th sample percentile; $f_Y(q_{\tau})$ is the density of Y at q_{τ} ; and **1** is the indicator function. If we were interested in the effect of our independent variable at the median of the wage distribution ($\tau = .50$), the median wage in the sample is then our q_{τ} . The density of the distribution estimated at the median wage is $f_Y(q_{\tau})$. The indicator function $\mathbf{1}\{Y \le q_{\tau}\}$ creates a dummy variable set to 1 if a given wage is below that percentile —in this case below the median wage in the sample.

 $[\]overline{}^{9}$ See Killewald and Bearak (2014) for a fuller discussion and comparison of the two approaches.

OLS regression on the transformed dependent variable estimates the effect of the independent variable at the specified percentile of the unconditional wage distribution (Firpo et al. 2009). The resulting RIF statistic is therefore interpreted as any OLS statistic, indicating the marginal effect of a unit increase in the explanatory variable of the τ^{th} percentile of the unconditional distribution of men's earnings, holding everything else constant (Firpo et al. 2009). The necessary STATA ado files are available on Fortin's web page.¹⁰

The above technique applied to our cross-sectional data does not take into account the selection effects that explain a sizeable percentage of men's marriage (Ahituv and Lerman 2007; Dougherty 2006; Killewald and Lundberg 2014; Korenman and Neumark 1991; Loh 1996; Lundberg and Rose 2002). Maasoumi and his colleagues (2009) argued some state-level instrumental variables affect the likelihood that U.S. men will marry while also satisfying the need to be exogenous from the earnings equation. One of their instruments was the female-to-male sex ratio of individuals aged 25 to 65; another was a binary variable for when a state did not demand equitable distribution of marital property upon divorce. Both were argued to enhance men's marital bargaining power and therefore increase their likelihood of marriage. We constructed similar instruments, deriving the sex ratio from the 2010 Census, but Hausman (1983) tests confirmed the instruments were too weak. Our estimates of relationship premia might therefore be somewhat larger than those reported in fixed-effects models. We do not consider this problematic, as our interest is not in the absolute size of the premium, but in the impact of men's domestic time on its magnitude.

Hence, we use the *rifreg* command in STATA to estimate the effects of marriage and cohabitation at the 10th, 25th, 50th, 75th, and 90th percentiles in U.S. men's log monthly earnings

¹⁰ <u>http://faculty.arts.ubc.ca/nfortin/datahead.html</u>, accessed 5 June 2014.

distribution in a series of four nested models. The first model estimates marriage and cohabitation premia adjusted only for whether the respondent resides with his own children younger than 18. This reveals the gross marriage premium. The second model adds men's human capital and labor supply variables, whereas the third adds his time in routine, nonroutine, and childcare domestic tasks. The final model adds the indicator for female partners with a university degree. To assess the specialization hypothesis directly, we follow Bardasi and Taylor's (2008) approach and analyze the impact of men's unpaid tasks among a subsample of only married men. If the specialization hypothesis were supported, a husband who spends more time in any unpaid domestic tasks should earn less than a husband who spends less time in these tasks.

RESULTS

Weighted descriptive statistics by men's percentile earnings groups are presented in Tables 1 and 2. Table 1 provides information by percentile group for all variables, as well *z*-scores of the significance of any earnings group difference as compared with the 50th to 75th percentile. Consistent with the literature (Ahituv and Lerman 2007; Burgess et al. 2003; Gray 1997; Maasoumi et al. 2009), the incidence of marriage increases as men's earnings increase. Whereas only 42 percent of men in the bottom decile of the earnings distribution are married, 81 percent of men in the top decile are. In contrast, the highest-earning men are less likely to cohabit than men in the bottom half of the earnings distribution. Differences in the percentage of previously married men at different earnings percentiles are not significant.

The likelihood of being a parent also differs with earnings, with only 36 percent of the lowest-earning men having own resident children, as compared with 62 percent of the highest-

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earning men. Relatedly, average childcare time for the highest-earning men is nearly double that for the lowest-earning men (.57 versus .32 hours per day), but mainly because high-earning men are more likely to be resident fathers. Once we limit the sample to only fathers, there are no statistically significant differences among men. Average time in routine and nonroutine housework also differs somewhat by earnings, but not with any consistent pattern.

Table 2 compares men's time allocations by marital status. *Z*-tests confirm that only married men in the bottom decile spend significantly more time in employment than single men. This does not support that most married men are more productive than single men in terms of hours of paid work. The employment patterns of the small number of cohabiting men suggest cohabitants in the bottom of the earnings distribution work fewer hours than married or single men, whereas cohabiting men in the upper quartile work more hours.

Our domestic time estimates are hours per day, whereas Hersch and Stratton (2000) reported weekly hours. When multiplying our estimates by seven (days per week), the extrapolated figures are smaller than Hersch and Stratton's. This is not unusual when comparing time diary estimates with recall survey measures (Coltrane 2010; Sullivan 2011). The discrepancies between the time diary reports and Hersch and Stratton's descriptives are particularly large for the never-married men.

Consistent with Hersch and Stratton (2000: 84), married men at all earnings percentiles spend significantly more time in nonroutine housework than single men. In contrast to that earlier research, we find no significant differences in married as compared with single men's time in routine housework. We further find that differences between the lowest- and highest-earning married men's time allocations are all statistically significant. The highest-earning husbands spend significantly more time in employment and childcare. The childcare effect reflects that

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high-earning men are more likely to be fathers than low-earning men. High-earning husbands spend significantly less time in routine and nonroutine housework than husbands in the bottom half of the earnings distribution. These differences echo the educational or occupational differences reported by others (Bianchi et al. 2006; Coltrane 2000, 2004; Sullivan 2010).

Predicting men's marriage premia

Table 3 presents predictors of men's partnership premia at different percentiles of the earnings distribution. The first model provides estimated relationship premia unadjusted for anything other than having own children younger than 18 in the household. The magnitude of the gross marriage premium of 27 to 30 percent is similarly large among men in the bottom half of the earnings distribution. The gross marriage premium is smaller for men at the 75th percentile of earnings, and smallest for the highest-earning husbands (17 percent). All except the top-earning previously-married men continue to enjoy a premium slightly less than half the size of the marriage premium. Effects for cohabiting men vary, but at no percentile do they reach standard levels of statistical significance in Model 1. Due to space limitations, the subsequent discussion of results will focus on the marriage premium.

Controlling for men's human capital and labor supply in Model 2 substantially reduces the magnitude of the marriage premium at all percentiles. The *z*-scores presented in the adjacent column to the right indicate that the changes in the marriage premium between Model 1 and Model 2 are statistically significant (one-tailed test) for men at the 25th percentile and above. This is consistent with the literature indicating that the marriage premium is largely explained by the observable characteristics of married as compared with never-married men (Ahituv and Lerman 2007; Blackburn and Korenman 1994; Dougherty 2006). Men at the median still enjoy an 18

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percent net marriage premium, similar to Maasoumi et al.'s (2009: 19) average OLS estimate using 1994 PSID data with and without instrumental variables. This estimate is also nearly identical to that calculated by Goldin (1990) for U.S. men in manufacturing in 1900. As before, the net premium in Model 2 is similar among men in the bottom half of the earnings distribution, whereas it is smaller at higher earnings percentiles. The marriage premium for men in the 90th percentile controlling for human capital and labor supply is just six percent, and not quite statistically significant. This concurs with other evidence that individual characteristics explain most of the marriage premium among high-earning men (Gray 1997; Maasoumi et al. 2009).

The third model assesses the impact of men's unpaid time on their earnings more generally, and the marriage premium in particular. Model 3 results support our first hypothesis, in that at no percentile does including men's time in unpaid domestic tasks alter the size of the marriage premium, as indicated by the low *z*-scores in the adjacent column to the right. In support of our second hypothesis, men's greater time in routine housework does not directly reduce their earnings, although coefficients at the 10th and 90th percentiles are negative. In sharp contrast to Hersch and Stratton's (2000) earlier findings, we find that men's greater time in nonroutine housework predicts an earnings premium of almost three percent for men at the 50th percentile of earnings and below. The magnitude of the nonroutine coefficient for men at the 75th and 90th percentiles is minimal and not statistically significant. This confirms our third hypothesis that effects differ among men, to the greater benefit of lower-earning men. The benefit, however, relates only to those tasks generally considered "male-typed" housework, suggesting persistence of some gender norms.¹¹ But results still indicate that men's greater

¹¹ We considered whether the positive impact of men's nonroutine housework on their earnings was serving as a proxy for low-earning men who owned their own homes. A subsequent analysis (not

productivity in unpaid work does not detract from but instead correlates with greater returns from paid work. This provides strong evidence to reject the specialization hypothesis.

In addition, the coefficient for men's time in childcare is positive at all earnings percentiles, but reaches standard levels of statistical significance only for men at the median of earnings. For these "average" men, greater time with their children predicts a significant two percent earnings premium. These results on the impact of time with children suggest more movement away from the old norms of female carer, and again highlight that productivity in family work is associated with men's earnings advantage, not penalty.

The final model includes the variable for female partners' education to see if we replicate Loh's (1996) intriguing results. In Model 4, the impact of "married" now reveals the effect on earnings of being partnered with a woman with less than university education. Our results are consistent with Loh's (1996), in that a university-educated female partner predicts a sizeable increase in men's earnings at all earnings levels. The direct impact of her education is smallest at the 10th percentile (where we would expect fewer wives to have a university degree), but still predicts an earnings bonus of almost 11 percent. Above the 10th percentile, the educated partner bonus is 17 to 19 percent. For men in the 50th percentile of earnings and above, the impact of their female partner's education is greater than the net marriage premium estimated in Model 3.

At all but the 10^{th} percentile, including female partners' education in Model 4 significantly reduces the size of the marriage premium in a one-tailed *z*-test (final column), which then provides the estimated premium when partnered with a women who has less than a university education. The marriage premium is no longer statistically significant at the 75th

shown) found that including home ownership somewhat reduced the magnitude of the nonroutine housework coefficient, but did not alter its statistical significance.

percentile of earnings, and the coefficient at the 90th percentile is now negative (although not statistically significant). These results concur with Loh's (1996) conclusion that behind the most successful men are educated women.

Table 4 presents results for Model 4 when restricting the sample to married men only. When comparing married men with each other, the childcare coefficient among married men at the 25th percentile is now statistically significant. Thus spending more time in childcare predicts a two percent earnings bonus among husbands at the 25th and 50th percentiles of earnings. The magnitude is identical for husbands at the 75th percentile, but effects are not statistically significant. The highest-earning fathers' earnings are not affected by their childcare time. Routine housework does not significantly affect the earnings of married men except at the 90th percentile. For the highest-earning husbands, each additional hour spent in cooking, cleaning, laundry, and the like predicts a three percent penalty in their earnings. This supports our fourth hypothesis that specialization effects are evident only among high-earning husbands.

Limitations

With these cross-sectional data we are not able to control for selection on men's time-invariant characteristics that may affect the nonroutine housework and childcare effects for lower-earning men, as well as the magnitude of their net marriage premia. The likelihood of marriage among lower-earning men is lower than for high-earning men, so those earning a bit more and spending more time in "manly" nonroutine housework may be particularly attractive to less-skilled single women. Marriage in this case would be the result rather than cause of the effects found here. Unfortunately, there are no current U.S. panel data with high-quality unpaid work measures. The PSID includes a single survey question answered by only one household member for the head

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and partner. The British Household Panel Survey has more information on domestic tasks (Bardasi and Taylor 2008), but results for British couples cannot be assumed representative of U.S. couples.

Our estimated net premia for married and previously-married men at the median in Model 4 are nearly identical to the average premia estimated by Hersch and Stratton (2000: 89) in their first-difference models. Assuming the magnitude of the premium has decreased since the late 1980s, directly controlling for time-invariant unmeasured heterogeneity might reduce the estimated premia for these men reported here to no less than about four percent.¹² This is small, but still leaves the net marital premium for these men unexplained.

SUMMARY AND CONCLUSIONS

Specialization was a theory of its time, already becoming outdated when it was published. Becker (1981) premised the specialization hypothesis on U.S. families being able to flourish on a single income and men's sizeable earnings advantage over similarly-skilled women. Both assumptions were unique to the two post-World War II decades (Kalleberg 2011; Oppenheimer 1997). Compositional shifts in wages since the 1970s make these assumptions untenable, particularly for men in the bottom half of the earnings distribution (Kalleberg 2011; Mishel et al. 2012). Middle and lower-income households rely on two incomes to sustain their standard of living (Mishel et al. 2012). Within households, wives' increasing relative resources encourage greater equity in unpaid domestic tasks. Such equity enhances marital stability among dual-earning U.S. couples (Cooke 2006).

¹² This is assuming the very high 60 percent fixed-effects reduction found by Dougherty (2006).

Because of these dynamics, we argued that husbands are more likely to remain married, and enjoy its related earnings premium, if they spend more rather than no time in unpaid domestic tasks. So in sharp contrast to the specialization hypothesis, we proposed that men's greater time in unpaid housework and childcare would not extract an earnings penalty directly or via a reduction in the male wage marriage premium. Because the compositional wage shifts have affected lower-earning men in particular, we further hypothesized effects would be most evident among men in the bottom half of the earnings distribution. Only the highest-earning men have the potential to be sole family breadwinners throughout the marriage, and so only for this small group might greater time in domestic tasks undermine their earnings.

The semi-parametric analyses of recent time diary data supported both of our hypotheses, but our hypotheses were too conservative. Among lower-earning husbands, greater time in nonroutine tasks and childcare in fact predicted further earnings bonuses. This suggests that productivity in family work is not necessarily detrimental to market returns, but predicts greater returns for some husbands. At the same time, the beneficial effects relate to husbands' greater time in typically male domestic tasks such as gardening and home repair and, for some, childcare. Such activities might be rewarded by employers as indicative of a "good family man." This possibility might also explain why only men in the bottom half of the earnings distribution still enjoy an unexplained marriage premium.

Maasoumi and his colleagues (2009) attributed their similar net premia among only lower-earning men to possible employer discrimination favoring married men when workers have fewer observable labor market skills. Korenman and Neumark's (1991) test of discrimination based on a U.S. employer's personnel file was limited to men in professional and managerial occupations, and so provides no insight into whether employer discrimination is more likely to

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operate among less-skilled men. Testing this assertion for lower-skilled men requires either an experimental design, or an assessment of employee-employer register data as used by Petersen and his colleagues' (2011) analysis of the Norwegian marriage premium, with an extension to compare effects by men's earnings levels.

Becker's predicted specialization effects persist among the most privileged married men with earnings in the 90th percentile. These husbands spend less time in routine and nonroutine housework than most other husbands, with any increase in their routine housework predicting a significant earnings penalty. This may occur because either housework truly affects only the highest-earning men's performance, or employers penalize anyone in that earnings bracket who does not give 100 percent to their job. We suspect, although cannot confirm, it is the latter. In any event, this scenario results in more gendered household arrangements, even though such men are likely to be married to highly-educated women. Those couples once at the vanguard of gender equality are now the bastion of specialization.

Cooper's (2014) interviews with Silicon Valley couples provide some insight as to why this is the case. The greater precariousness of rising income inequality and job polarization is felt by high- as well as low-earning families (see also Kalleberg 2010). Cooper's (2014) fathers in high-earning families focused on amassing greater wealth to ensure the comfort of the next generation or two that is no longer assured by a university degree. Their highly-educated wives spent their time sorting out how to enhance their children's competitiveness for the best schools and universities, and broaden their global awareness (Cooper 2014), reflecting Lareau's (2011) concerted cultivation of children among middle and upper class families. To do so, these wives reduced their employment hours, forgoing their own investment in human capital to augment that of their children's. In a further test using the time diary data (results not shown), we found that

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having a university-educated, stay-at-home wife had the greatest positive impact on the earnings of husbands in the 90th percentile. All of this evidence suggests that highly-educated women face a career-family tradeoff second wave feminism hoped to banish. Whether this is true in countries with lower levels of aggregate inequality is worth exploring in future research.

Wives' education is an important predictor of all husbands' greater earnings, as found by Loh (1996) for U.S. men 20 years ago. Among married men, a university-educated wife predicted the largest proportional impact on the earnings of husbands in the 10th and 25th percentile. This is also consistent with Cooper's (2014) qualitative evidence that low- to average-earning husbands relied on their more educated wives to worry about and plan for the family's financial stability. One part of this is advising their husbands' in their employment-related decisions (Cooper 2014).

At all levels of earnings, household arrangements are driven by necessity as well as gender norms (Gerson 2009). For most married men, those who adapt by spending more time in unpaid family work earn a further bonus. The highest-earning men may be more highly educated and espouse the most egalitarian gender ideals (Coltrane 2000), but our analyses indicate that if they walk the talk other than in childcare, their earnings will be negatively affected. This could be one reason Sullivan (2010) found the greater increase in highly-educated men's childcare but not housework. Specialization is now a luxury afforded only by the rich, for whom no marital premium persists. The net marriage premium among lower-earning men remains a mystery, one that might still have a gendered root, but its explanation lies beyond household divisions of labor.

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	Total	Bottom d	ecile	10th to 2	25th	25th to 5	50th	50th to 75th	75th to 9	Oth	Top dec	cile
	Mean/(SD)	Mean/(S	SD)	Mean/(S	SD)	Mean/(S	SD)	Mean/(SD)	Mean/(S	SD)	Mean/(S	SD)
Weekly earnings	1060.34	282.44	***	505.48	***	768.59	***	1156.54	1774.20	***	2690.41	***
	(10.33)	(-4.03)		(-2.63)		(-2.92)		(-4.76)	(-8.37)		(-12.18)	
Married (0/1)	.63	.42	***	.54	***	.61	***	.68	.77	***	.81	***
	(.01)	(03)		(02)		(02)		(02)	(02)		(02)	
Previously Married (0/1)	.09	.11		.10		.10		.08	.07		.07	
	(.00)	(01)		(01)		(01)		(01)	(01)		(01)	
Cohabiting (0/1)	.06	.10		.06		.07		.07	.04	**	.02	***
	(.00)	(02)		(01)		(01)		(01)	(01)		(01)	
Child (0/1)	.47	.36	***	.45		.44		.45	.58	***	.62	***
	(.01)	(02)		(02)		(02)		(02)	(02)		(03)	
University (0/1)	.37	.14	***	.15	***	.28	***	.44	.64	***	.79	***
	(.01)	(02)		(01)		(01)		(02)	(02)		(02)	
Potential Experience	19.62	19.08		19.32		19.83		19.71	19.63		20.05	
(years)	(.16)	(57)		(42)		(32)		(31)	(36)		(42)	
Paid hours (weekly)	44.35	35.14	***	42.27	***	44.55	***	46.17	47.57	***	50.06	***
	(.16)	(50)		(40)		(26)		(27)	(38)		(52)	
Disabilities (0/1)	.02	.05	***	.03	**	.02		.01	.02		.01	
	(.00)	(01)		(01)		(00)		(00)	(01)		(01)	
Routine housework	.62	.69		.55	*	.61		.63	.66		.54	*
(hours per day)	(.01)	(05)		(04)		(03)		(03)	(04)		(04)	

Table 1Weighted descriptive statistics by percentile groups for 25 to 54 year old men earning more than \$1.00, 2010-2012 ATUS

Non-routine housework	.44	.38	**	.35	***	.42	**	.56	.48		.37	***
(hours per day)	(.02)	(06)		(04)		(04)		(05)	(05)		(04)	
Childcare	.42	.32	**	.38		.36	**	.44	.55	**	.57	***
(hours per day)	(.01)	(04)		(04)		(02)		(03)	(04)		(04)	
Female partner has	.36	.14	***	.18	***	.31	***	.43	.56	***	.67	***
university degree (0/1)	(.01)	(02)		(01)		(01)		(02)	(02)		(02)	
N	6,937	668		1,082		1,668		1,763	1,063		693	

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

Notes: Significance levels refer to whether the weighted means for variables at the different percentiles are significantly different from those at the 50^{th} to 75^{th} percentile.

Hours per week in paid and unpaid work among 25 to 54 year old men earning >\$1.00 by Table 2

Bottom earnings decile 10th-25th											
					Previously				Previously		
	Married		Single	Cohab	Married	Married	Single	Cohab	Married		
Paid work	36.62	*	34.15	33.89	33.85	42.79	42.11	41.11	40.71		
(hours/week)	(80)		(81)	(-1.48)	(-1.21)	(49)	(83)	(88)	(-1.58)		
Routine hswk	.68	.57 1.14		.70	.58	.48	.77	.48			
(hours/day)	(06)		(09)	(27)	(13)	(05)	(06)	(20)	(07)		
Non-routine	.55	*	.18	.33	.43	.40	.22	.28	.49		
(hours/day)	(11)		(06)	(14)	(15)	(05)	(09)	(15)	(12)		
Childcare	.57		.03	.59	.11	.57 *	* .10	.29	.15		
(hours/day)	(08)		(01)	(23)	(04)	(06)	(05)	(11)	(04)		
Ν	308		210	48	102	597	284	57	144		

marital status, 2010-2012 ATUS

25th-50th

50th-75th

			a : 1	G 1 1	Previously			a. 1	G 1 1	Previously
	Married		Single	Cohab	Married	Married		Single	Cohab	Married
Paid work	44.42		45.52	42.91	44.43	46.24		45.57	45.36	47.48
(hours/week)	(32)		(63)	(-1.11)	(74)	(34)		(56)	(94)	(-1.07)
Routine hswk	.61		.59	.59	.65	.63		.65	.66	.60
(hours/day)	(04)		(06)	(10)	(08)	(04)		(06)	(15)	(07)
Non-routine	.53	*	.23	.14	.39	.60	*	.37	.42	.77
(hours/day)	(05)		(05)	(05)	(09)	(06)		(08)	(15)	(23)
Childcare	.53	*	.06	.20	.13	.61	*	.09	.15	.06
(hours/day)	(04)		(03)	(09)	(04)	(04)		(03)	(05)	(02)
Ν	987		375	91	215	1168		305	83	207

		75th-	-90th		Top earnings decile							
				Previously				Previously				
	Married	Single	Cohab	Married	Married	Single	Cohab	Married				
Paid work	47.34	47.34	52.12	48.03	49.87	49.63	53.79	51.88				
(hours/week)	(42)	(-1.34)	(-1.78)	(-1.43)	(58)	(-1.42)	(-2.74)	(-2.11)				
Routine hswk	.66	.60	1.05	.54	.51	.62	1.52	.58				

(hours/day)	(04)	(13)	(30)	(07)	(05)		(11)	(83)	(11)
Non-routine	.54 *	.33	.09	.40	.41	*	.19	.34	.16
(hours/day)	(06)	(09)	(05)	(11)	(05)		(07)	(19)	(07)
Childcare	.69 *	.01	.20	.19	.70	*	.00	.17	.08
(hours/day)	(05)	(01)	(10)	(05)	(05)		(.00)	(13)	(04)
Ν	782	128	35	118	547		80	15	51

* indicates those with a z-test of difference of at least p<.05, between Married and Single at each percentile group for paid work, routine housework, and nonroutine housework; and between Married and Cohabiting in childcare.

		ק	Model	1	٦	Model	2	Δ M1- M2	٦	Model	3	Δ M2- M3	٦	Model	4	Δ M3- M4
		В	10401	SE	В	10401	SE	Z	В	10401	SE	Z	В	louor	SE	Z
10^{th}	Married	.287	***	(.051)	.180	***	(.048)	1.528	.171	***	(.049)	0.131	.117	*	(.054)	0.741
	Previously Married	.126	*	(.062)	.142	*	(.059)		.137	*	(.058)		.133	*	(.059)	
	Cohabiting	012		(.091)	005		(.083)		006		(.083)		048		(.085)	
	Child	.079	*	(.037)	.071		(.037)		.056		(.038)		.049		(.038)	
	Routine hswk								001		(.010)		001		(.010)	
	Non-routine hswk								.027	***	(.007)		.027	***	(.007)	
	Childcare								.016		(.009)		.013		(.009)	
	Partner University												.109	**	(.035)	
25^{th}	Married	.301	***	(.037)	.213	***	(.035)	1.728	.206	***	(.035)	0.141	.113	**	(.039)	1.775
	Previously Married	.127	**	(.043)	.156	***	(.040)		.151	***	(.040)		.144	***	(.040)	
	Cohabiting	.053		(.062)	.089		(.054)		.087		(.054)		.015		(.056)	
	Child	.019		(.028)	007		(.028)		023		(.029)		034		(.029)	
	Routine hswk								.011		(.008)		.011		(.008)	
	Non-routine hswk								.028	***	(.006)		.028	***	(.006)	
	Childcare								.014		(.008)		.009		(.008)	

Table 3Marriage premia among 25 to 54 year old U.S. men earning > \$1.00, 2010-2012 ATUS

	Partner University												.189	***	(.027)	
50 th	Married	.269	***	(.030)	.180	***	(.028)	2.169	.170	***	(.028)	0.253	.085	**	(.030)	2.071
	Previously Married	.113	***	(.034)	.133	***	(.031)		.128	***	(.031)		.121	***	(.031)	
	Cohabiting	.034		(.048)	.080		(.043)		.079		(.043)		.012		(.044)	
	Child	.053	*	(.024)	.018		(.023)		004		(.024)		014		(.024)	
	Routine hswk								.003		(.006)		.003		(.006)	
	Non-routine hswk								.027	***	(.005)		.027	***	(.005)	
	Childcare								.024	***	(.006)		.019	**	(.006)	
	Partner University												.174	***	(.023)	
75^{th}	Married	.240	***	(.032)	.121	***	(.030)	2.713	.116	***	(.031)	0.116	.025		(.032)	2.042
	Previously Married	.091	*	(.038)	.088	*	(.035)		.085	*	(.035)		.079	*	(.035)	
	Cohabiting	033		(.050)	.020		(.047)		.019		(.047)		052		(.048)	
	Child	.126	***	(.028)	.090	***	(.026)		.076	**	(.028)		.065	*	(.028)	
	Routine hswk								.000		(.008)		.000		(.008)	
	Non-routine hswk								.009		(.006)		.009		(.006)	
	Childcare								.015		(.009)		.010		(.009)	
	Partner University												.184	***	(.028)	
90 th	Married	.170	***	(.035)	.063		(.035)	2.162	.058		(.035)	0.101	029		(.035)	1.758

	Previously													
	Married	018		(.038)	021		(.039)	023		(.039)	029		(.039)	
	Cohabiting	080		(.051)	043		(.048)	042		(.048)	110	*	(.049)	
	Child	.111	***	(.031)	.084	**	(.031)	.079	*	(.032)	.068	*	(.032)	
	Routine hswk							014		(.010)	014		(.010)	
	Non-routine hswk							.001		(.007)	.000		(.007)	
	Childcare							.010		(.012)	.005		(.012)	
	Partner University										.178	***	(.032)	
Compa	rison across percenti	les (z-sc	ores)											
	10th-90th	1.892			1.970			1.877			2.269			
	10th-50th	0.304			0.000			0.018			0.518			
	50th-90th	0.573			1.697			1.739			2.732			

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

Notes: Model 1 controls only for residing with own children younger than 18; remaining models include further controls for a university degree, log weekly work hours, potential experience (age-years of education+6), potential experience squared, university*potential experience, and university *potential experience squared. *Z*-scores significant at least p < .05 (one-tailed test) are highlighted in bold.

	10th percentile			25th percentile			50th percentile			75th	n perce	ntile	90th percentile		ntile
	В		SE	В		SE	В		SE	В		SE	В		SE
Child	053		(.050)	066		(.035)	.014		(.029)	.092	**	(.034)	.079	*	(.034)
University	.598	*	(.237)	.614	***	(.168)	.474	***	(.130)	004		(.139)	214		(.132)
Experience	.044	*	(.020)	.046	***	(.013)	.053	***	(.008)	.029	***	(.007)	.010	*	(.005)
Experience ²	001	*	(.000)	001	**	(.000)	001	***	(.000)	.000	*	(.000)	.000		(.000)
Uni*Experience	025		(.023)	007		(.017)	.014		(.014)	.077	***	(.017)	.070	***	(.017)
Uni*Experience^2	.000		(.001)	.000		(.000)	.000		(.000)	002	***	(.000)	001	**	(.000)
Log paid hours	1.381	***	(.114)	.799	***	(.069)	.560	***	(.049)	.533	***	(.061)	.460	***	(.068)
Disabilities	336		(.181)	077		(.098)	177	*	(.076)	080		(.093)	056		(.083)
Routine housework	005		(.013)	.001		(.010)	.000		(.008)	.003		(.011)	025	*	(.011)
Non-routine house	.031	***	(.009)	.027	***	(.007)	.018	**	(.006)	.010		(.007)	003		(.007)
Childcare	.013		(.011)	.016	*	(.008)	.018	*	(.007)	.018		(.010)	.007		(.011)
Partner University	.218	***	(.042)	.262	***	(.032)	.184	***	(.026)	.184	***	(.029)	.117	***	(.028)
Constant	.211		(.481)	2.668	***	(.294)	3.833	***	(.202)	4.474	***	(.239)	5.554	***	(.262)

Table 4Impact of unpaid domestic work on married men's log annual earnings (Model 4 only)

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