Marriage and Earnings: An Investigation into the Causes of the Male Marriage Wage Premium

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Abstract

This paper investigates how marriage affects the wages of men in Germany. A variety of reasons have been proposed for why married men earn higher wages than single men. However, tests of the main explanations have been inconclusive. Using data from the German Socio-Economic Panel, it is found that married men enjoy a wage premium even after controlling self-selection into marriage. In contrast to the popular household specialisation hypothesis, men do not substantially reduce their housework time after marriage; neither does the housework time significantly affect the wage rate. This finding contrasts the prevailing view that the wage differential between married and single men results from the division of labour within the household. However, men married to non-working partners receive a larger wage premium than do men married to a full-time working partner. Another finding is that married men feel less satisfied with their financial situation than do their single counterparts. These results suggest that a lower level of pay satisfaction induce married men to put more effort in their work, which leads to higher wages.

Introduction

Much research has been conducted on the positive effects associated with marriage. Married men and women enjoy several advantages over singles, such as better physical and mental health, lower mortality and higher life satisfaction (Lucas et al., 2003; Waite and Gallagher, 2000). In addition, wage analyses usually find that married men enjoy an earnings advantage over comparable men who are not married. This income differential has been termed the "male marriage wage premium." Holding human capital and other characteristics constant, married male workers typically earn 5% to 30% more than their single counterparts (Schoeni, 1995). This makes the wage differential associated with

marital status at least the same magnitude as that associated with sex or ethnical background (Reed and Harford, 1989).

While there is widespread evidence for the male marriage wage premium, the reason for this premium has not been sufficiently established. Literature in this area suggests several explanations for the wage differential (Bardasi and Taylor, 2008; Chun and Lee, 2001; Korenman and Neumark, 1991). First of all, there is the question of causality. Does marriage positively affect the wage rate of men? Or, are men with higher earnings more likely to get married? And, if marriage does have a causal effect on wages, what are the mechanisms that generate this earnings advantage? Do married men earn more because they are freed from housework and can devote their time and effort solely to paid work? Do employers pay higher wages to men with family responsibilities? Or, do married men take jobs with adverse conditions to maximise their income?

This paper investigates the presence and causes of a marriage wage premium among German men. Several hypotheses developed in the literature are tested to explain the relationship between marriage and wages. The majority of studies on the marriage wage premium attribute the earnings advantage of married men on specialisation within the marriage. However, this hypothesis has rarely been adequately tested due to data limitations. Having access to panel data and information on the time spent on various household tasks, this paper explicitly tests the hypothesis that the marriage wage premium is primarily due to household specialisation.

The association between marriage and wages is of importance in understanding the roots of gender income inequality. The male marriage wage premium can be seen as one of the mechanisms of gender inequality. Considering that married men earn more than comparable single men, whereas married women face a marriage penalty (Waite, 1995), it is evident that marriage contributes to the income inequality between men and women. Both effects, the male marriage wage premium and the female marriage wage penalty, widen the gender gap in earnings over the life cycle of men and women. As Korenman and Neumark (1991) note, the opposed relationship between marriage and wages for men and women accounts for one-third of the gender wage gap. Revealing the mechanisms that lie behind the marriage premium therefore contributes to an understanding of gender inequality within the labor market.

The paper is organised as follows. The following section summarizes theoretical explanations for the male wage premium. The empirical analysis consists of three parts. The

first part analyses the relationship between marriage and time spent on housework. Here, the hypothesis advocated by Becker's theory of the family that men reduce their housework time after marriage to devote more time and energy to labor market activities is tested. In the second part, an analysis of the association between marriage, housework time, and wages is carried out. The third part examines the effect of marriage on labor market mobility to test if married men seek to maximise their income by taking up jobs with adverse working conditions. A final section summarises the results and discusses their implications on prevailing explanations of the male marriage wage premium.

Explanations for the marriage premium

The existing literature offers four main hypotheses to explain the wage differential between married and single men: the selection hypothesis, the productivity hypothesis, the discrimination hypothesis, and the compensating wage hypothesis. According to the selection hypothesis, the observed marriage wage premium reflects self-selection patterns into marriage. This hypothesis argues that men possessing attributes that are rewarded in the labor market are also valued in the marriage market. Put another way, men with higher earnings are more likely to marry.

The productivity hypothesis reverses the direction of causality by proposing that marriage makes men more productive. The dominant explanation for the effect of marriage on workers' productivity refers to the household specialisation hypothesis (Becker, 1981). According to this hypothesis, marriage allows one spouse to specialise in labor market work and the other to specialise in home production. The household division of labour is determined by the earnings potentials that each spouse possesses. Given a family's need to earn an income and to take care of the children and home, the spouse with the highest earning potential will specialize in paid work, while the spouse with lower earning potential will specialize in housework. Typically, this translates into wives focusing on housework and husbands on paid work, since husbands often have a higher earning potential than their wives and mothers are more likely to leave the labour force or to work part-time compared to fathers. By devoting more time and effort to their job, married men may increase their productivity and promotion chances, which in turn lead to higher wages.

Other studies on the productivity hypothesis do not so much focus on household specialisation, but rather argue that married and single men hold different attitudes towards their work and their pay. Gorman (2000: 67) argues that marriage tends to raise an individual's material goals and enhance the value that individuals place on a comfortable standard of living. Lifestyle changes related to marriage may give rise to the purchase of a home and its furnishings, entailing increased household expenditures. Alternatively, married men may anticipate higher future expenditures that occur after starting a family. This especially applies to German households, where the majority of mothers with preschool kids drop out of the labor force or take up part-time jobs. Due to larger financial burdens, married men may devote more effort to their workplace to meet obligations to family members, irrespective of the degree of specialisation within the household. That is, married men who have higher financial responsibilities are willing to work harder than single men (Hill, 1979).

A marriage premium can also result from employer discrimination in favour of married men. From this perspective, employers favour married men when considering promotions and pay rises on the grounds that married employees have a family to support. Alternatively, employers may regard – correctly or erroneously – married men on average to be more productive than never-married men, as marriage is associated with a healthier lifestyle which could facilitate productivity. In this latter case, marriage is used as a signal for higher productivity. In contrast to the selection hypothesis and the specialisation hypothesis, the discrimination hypothesis does not necessarily rest on the assumption that married men are more productive than their single counterparts.

Finally, Reed and Harford (1989) propose an explanation of the marriage wage premium that relies upon differences in workers' tastes and compensating wage differentials. The theory of compensating wage differentials suggests that jobs with disagreeable characteristics, such as unpleasant tasks, a high work load, or a high probability of injury, will command higher wages than jobs without these characteristics. According to Reed and Harford (1989), married men have greater financial demands and thus seek jobs with adverse working conditions but greater wage compensation.

These explanations for the male marriage premium have been the subject of several studies. As yet, there is no consensus on the mechanisms generating the wage differential between married and single men. However, virtually all studies find that a substan-

tial proportion of the marriage wage premium is explained by selection processes into marriage that account for up to half of the male wage premium.

Most studies attribute the wage differential that remains after controlling for selection processes to productivity-enhancing effects of specialisation within marriage. Due to data limitations, this hypothesis has been rarely tested, though there is some indirect evidence that marriage increases men's productivity. According to Korenman and Neumark (1991), married men receive higher performance ratings from their supervisors than single men. Married men are also statistically more likely to receive company or on-the-job training (Lynch, 1992), which can be seen as an indicator for the higher productivity of married men.

Studies that focus explicitly on the specialisation hypothesis usually use a wife's working hours as a proxy for household specialisation (Birch and Miller, 2006; Gray, 1997; Jacobsen and Rayack, 1996). These studies find that the monetary gains associated with marriage vary according to the employment status of the wife and that the earnings advantage of marriage is greater where the wife is a homemaker. This finding is regarded as evidence for the specialisation hypothesis. However, as Gray (1997: 498) admits, "a wife's labour market hours is at best a crude measure of the degree of specialisation within the household". Research into the division of household labour indeed indicates that men reduce the time they spend on housework when they marry (Gupta, 1999). However, wage analyses usually find only a weak impact of men's housework time on their wages (Hersch and Stratton, 1997; Hersch and Stratton, 2000). Thus, the results by Hersch and Stratton cast doubt on the hypothesis that the male marriage wage premium is primarily due to the household division of labor.

Alternatively, married men may feel more strongly about pay and finances than unmarried counterparts do and, thus, may be more motivated to take steps to increase their income. Gorman (2000) indeed finds that married men are less content with their financial circumstances and tend to view money as more important as compared to unmarried workers. Gorman concludes that marriage is associated with an orientation toward pay and money that leads to greater effort.

The empirical evidence for the discrimination hypothesis is somewhat mixed. The most common analytical strategy to test the discrimination hypothesis is to compare the marriage premium of organisational employed and self-employed men. According to the discrimination hypothesis, wage and salary workers, but not self-employed workers

should enjoy a marriage premium. In line with this hypothesis, Coverman (1983) and Loh (1996) find no effect of marriage on the wages of self-employed men but strong effects of marriage for organisational workers. In contrast, according to Hundley (2000) and Hamilton (2000), self-employed men receive an even higher wage marriage premium than organisational workers. There is limited support for the compensation wage hypothesis of the marriage premium which states that the earnings advantages of married men reflect their willingness to trade favourable job amenities for greater monetary compensation (Hersch, 1991).

Data and Methods

Data

The data used in this study is drawn from the years 1985 to 2005 of the German Socio-Economic Panel (GSOEP), an annual survey of private households in Germany (Wagner et al., 2007). The GSOEP is a longitudinal study where all household members over the age of 16 are interviewed annually. The first wave occurred in 1984 with a representative sample of 12,245 people in approximately 6,000 households. The respondents are interviewed on a wide range of subjects including household composition, employment status, working hours, income and time spent on household tasks. This dataset has two key attributes that make it more suitable for the research question at hand than other datasets. First, it contains information on wages of husbands and wives as well as the time spent on several household chores. Second, it provides panel data that allows estimating fixed effects regression, which is indispensable for controlling selection into marriage.

The analysis is restricted to employed men between the ages of 18 and 55 who were not students and who earned between 2€ and 100€ per hour (in 2005 euros). Civil servants are excluded from the analysis since they receive a monthly marriage and family bonus from the employer. Including these individually would seriously bias the estimates. The analysis is further limited to never-married men and men who are married for the first time. Divorced men, re-married men and married men living permanently separated from their spouses are excluded. Finally, the analysis is restricted to men who reside in western Germany.

Two samples are relevant. The housework time and wage regressions are based on yearly information of those respondents who have been interviewed at least twice. Unfortunately, information on time spent per week on housework from 1990, onwards is only available about every other year so that data from the years 1991, 1992, 1994, 1996, 1998, 2000, 2002 and 2004 was not used in this sample. This yields observations on 24,627 job years for 7,003 men. The job mobility analyses are based on spell data. The GSOEP provides monthly spell data containing information on the labor force status from the time the respondent entered the GSOEP. The spell data information makes it possible to identify job spells (start and end dates, and whether the spell is censored left or right). The sample restrictions described above will apply to this analysis as well. In addition, self-employed men were excluded, since these individuals hardly experience voluntary job-to-job transitions. This yields a sample of 5,925 employment spells of 3,479 workers who are observed for a total of 256,762 months in employment.

Analytical Strategy

According to former studies, a large part of the marriage wage premium is caused by the selection of men with wage-enhancing attributes into marriage, as suggested by the selection hypothesis. These attributes are usually invisible to the researcher. Technically speaking, omitted unmeasured characteristics that lead to higher wages are also positively correlated with marriage. The unmeasured characteristics are assumed to be time-invariant personal traits such as ability or motivation. In this case, wage estimates obtained by ordinary least squares (OLS) regressions capture both the selection and the treatment effect of marriage. Since we are primarily interested in the treatment effect, we would like to eliminate the selection effect. A simple way to eliminate the selection effect is to use fixed effects (FE) estimation methods (Halaby, 2004; Wooldridge, 2002). The base specification of the wage analysis is:

$$\ln W_{it} = \alpha + \beta_1 Coh + \beta_2 Marr + \beta_3 Edu_{it} + \beta_4 Exp_{it} + \beta_5 Exp^2_{it} + A_i + \varepsilon_{it}$$

where $ln\ W_{it}$ is the logarithm of the hourly wage (in 2005 euros) of an individual i at time t; *Coh* is a dummy variable indicating whether the individual is cohabiting and *Marr* is a dummy variable indicating whether the individual is married. *Edu* and *Exp* are the number of years of education and experience, respectively. In the wage equation, *A*

represents an unobserved individual fixed and time-invariant effect, such as ability or motivation. If this unobserved characteristic is genuinely time-invariant, FE analysis eliminates the unobserved heterogeneity and provides unbiased estimates of the return to marriage status. A comparison of FE estimates and OLS estimates provides information on the importance of selection processes.

Previous research has shown that the wage differential between married and single men can be attributed to a large degree to the presence of children (Eggebeen and Knoester, 2001; Glauber, 2008; Lundberg and Rose, 2002). To estimate the effect of marriage irrespective of children, three dummy variables indicating the number of children are included in the analysis (exactly one child, exactly two children, three or more children). Other key explanatory variables are time spent per week on household chores and the employment situation of the partner. Information about time spent on household chores is obtained as the response to the questions, ‘‘What is a typical day like for you? How many hours do you spend on the following activities on a typical workday/Saturday/Sunday?’’. Respondents are then given a list of eight different types of activities including errands and housework (i.e., shopping, laundry, cooking, cleaning), child care, and repairs in and around the house (including gardening and car repair). On the basis of this information we calculated the time spent per week on these activities. Up till 1989, time use on a Saturday is not available, so that time devoted to household chores on a Saturday had to be excluded in this calculation for all years. Since housework carried out on the weekend usually does not interfere with labor market activities and therefore does not significantly affect the labour supply of men, it is arguable that this limitation has only negligible effects on the results of this study.[1] The employment situation of the partner is captured by her employment status (non-employed, part-time employed, full-time employed) and her monthly gross income (non-employed, up to 2000 Euro, 2000 or more Euro).

Some previous studies on the marriage male premium further included control variables for job characteristics such as occupation or industry, whereas others did not. Cohen (2002: 353f.) points to the fact that higher occupational attainment and employment in better paying industries are themselves labour market rewards and thus including these

[1] The results of our analyses are basically the same when only the information on the time devoted to household chores on weekdays is used.

variables would bias the estimated effect of marriage. In this paper, we follow Cohen's argument and do not include controls for job characteristics.

– Please insert Table 1 about here –

Table 1 presents descriptive statistics of the wage-regression sample. As can be seen, married men earn the highest wages, at 16 € per hour. The average hourly wage of cohabiting men is 14.1 €, and single men who have never been married have the lowest wages of 12.5 €. These descriptive statistics confirm the presence of a wage premium of 28.8% for married men and 12.8 % for cohabiting men, relative to single men. However, a great proportion of these wage differentials probably can be attributed to differences in workers' characteristics such as work experience or the presence of children.
To analyse the effects of marriage on housework time, we have used an FE specification similar to the wage regression described above. The dependent variable is weekly hours spent on errands and housework, child care, and repairs in and around the house, respectively. The observable factors for which we control include marital status, number of children, partners employment status (not employed, working part-time, working full-time), and a series of dummy variables for the age of the individual.
In the third part of the analysis, the Cox proportional hazards regression model is utilized to analyse job-to-job transitions. In the Cox regression, the dependent variable is the hazard rate, or instantaneous risk that a particular event will occur in a given interval, given that the event has not previously occurred (Blossfeld and Rohwer, 2002). In the context of the model presented here, this event may be a change to a job with greater monetary returns. To identify whether and when a job change occurred, we combine spell data information with information on job changes from the individual waves. All respondents who experienced a job termination also report the reason for leaving the job, choosing from the following: quit, layoff, contract expired, training completed, employee requested transfer, employer requested transfer, and other. This information allows us to distinguish between voluntary and involuntary job changes. Respondents who reported a job change were asked if their current work situation has improved, worsened or remained unchanged compared to their previous work situation regarding income, work load, work hour regulation, commuting time, and other job aspects. All job spells that end in non-employment, self-employment, or further full-time training

and spells that end because of an involuntary termination are treated as right censored spells. In the analysis, we control for marital status, number of children, age (in years), qualification level (4 dummy variables), number of weekly hours worked, size of the establishment (5 dummy variables), sector of employment (8 dummy variables), and monthly unemployment rate.

Empirical results

Marriage and housework time

To investigate whether married men spent less time on housework compared to single men, we estimated three housework time equations (Table 2). The dependent variable in the first model is weekly hours devoted to housework and errands. According to the estimates, single men spend approximately 6.6 hours a week on these household chores. Since the model includes controls for the employment status of the partner, the marriage coefficient reflects the difference in time spent on housework by single men and married men whose partners do not work. The significant effect for marriage indicates that men whose wives are not employed reduce the time they spend doing housework and errands by 40 minutes a week after marriage.

– Please insert Table 2 about here –

The employment status of the partner seems to moderate the marital effect, with men whose partners are employed reporting more time spent on housework than men whose partners are homemakers. Men with full-time employed partners spend 1.5 additional hours per week on housework than men whose partners are not employed. Accordingly, the formation of households with full-time working females increases the housework time of men: husbands of full-time employed wives spend nearly one hour [=1.527-0.690] more on housework and errands than single men. These results are in line with previous research indicating that the division of household labour is affected by the labour force attachment of both spouses (Evertsson and Nermo, 2004; Fuwa, 2004; Knudsen and Wærness, 2008). The association between the presence of children in the home and housework time is also negative and statistically significant. Becoming a father involves a reduction in housework time by 0.3 hours per week. Men with two children

spend 0.6 fewer hours per week doing housework and running errands compared to men without children. However, men with three or more children spend about the same amount of time on housework as men without children.

The effect of the marital status on time spent on repairs in and around the house is examined in model 2 (Table 2, column 2). Obviously, neither cohabitation and marriage nor the presence of children substantially influences the time men spend on household maintenances tasks. Only the marriage coefficient is marginally significant, indicating that men increase the time spent on maintenance tasks by up to 0.5 hours per week when they get married. Finally, model 3 (Table 2, column 3) estimates the time men spend caring for their children. The results show that men with one child devote approximately 7 hours per week on child care. Fathers of two or more children spend slightly more time with their kids than fathers with one child. Surprisingly, men with full-time employed partners spend almost 90 fewer minutes per week on child care than men whose partners are not employed. The reason for this contra-intuitive finding might be that children of dual career couples more often attend child care centres or kindergartens so that the overall time devoted to child care activities by these households is lower than in single earner households.

The results presented above indicate that men whose wives are not employed reduce their time spent on housework, whereas men with full-time working wives increase their housework time. These findings are in line with the household specialisation hypothesis. However, the overall difference in housework time between married men, regardless of wives' employment status, and single men is rather low. The analysis provides only little support for the hypothesis that men substantially reduce their housework time after marriage and, accordingly, suggests that specialisation within the household cannot explain the earnings advantage that married men enjoy over comparable single men.

Marriage and wages

Table 3 presents the results regarding the effect of cohabitation, marriage, and children on the hourly wages of men. We first carried out a pooled cross-sectional regression (model 1). These coefficients are compared with FE estimates to estimate whether and to what extent the wage differential between married, cohabiting and single men is due to selection processes into marriage and cohabitation. Because the wage variable is

logged, the coefficients can be interpreted as the percentage change in men's hourly wage.

– Please insert Table 3 about here –

Men in partnerships enjoy higher wages than single men, irrespective of whether or not they are legally married. The OLS results indicate that married men earn about 9 % more than single men, holding constant education, experience, and number of children. The earnings difference between cohabiting and single men is considerably smaller, amounting to only 2.5 %. These estimated wage premia are much lower than the wage differentials observed in the raw data (Table 1), indicating that married and cohabiting men compared to single men have observable characteristics, such as longer work experience or a higher level of education, that positively affect the wage rate. A "fatherhood premium" is only found for men with two children, whereas fathers of three and more children do not receive higher wages than men without children. This result is rather unexpected; however, the FE estimates will show that the latter finding is entirely due to negative selection.

The FE estimates of the marital wage differential shown in column 2 (Table 3) is considerably smaller than that observed in column 1, the marriage coefficient having fallen from 0.089 to 0.051. This suggests that, consistent with the selection hypothesis, a large part of the marriage wage differential observed in the OLS regression is due to unobserved characteristics that are positively correlated with both marriage and wages. However, strong evidence is not found for selection into cohabitation. Both the OLS and the FE regressions indicate that cohabitation tends to increase wages by approximately 2%. There are also differences between the OLS and the FE estimates concerning the fatherhood premium. While the coefficient for two children slightly decreases from 0.033 to 0.022 when taking selection processes into account, the coefficient for three and more children doubles from 0.017 to 0.037. This means that although fatherhood itself increases wages, men with lower wages are more likely to have three or more children.

To assess the extent to which the marriage wage premium is attributable to household specialisation, measures of time spent on household chores are included in model 3. If the marriage premium is solely caused by household specialisation, the included household time measures should deflate the marriage differential to zero. However, all three

housework activities seem to have no effect on wages. All three coefficients are very small and not statistically significant. Moreover, the inclusion of these measures has virtually no impact on the magnitude of the cohabitation and the marriage wage differential. The coefficients remain essentially the same, when we replace the three housework time variables with only one variable capturing total time spent on housework, repairs and child care (not shown). Thus, neither selection into marriage nor household specialisation seems to fully explain the observed marriage wage premium.

Models 4 and 5 (Table 3) include measures for the partner's work hours and earnings. The marriage and cohabitation premium for men whose partners do not work is indicated by the main effects in models 4 and 5. Thus, married men whose partners do not work earn 5.9 to 6.6 % more than single men. The coefficients further suggest that married men whose wives work part-time enjoy a wage premium of 5.3% [=0.0666-0.0135] compared to single men, whereas married men whose wives work full-time only receive a wage premium of 3.4 % [0.0666-0.0330]. In terms of the effect of the partners income on men's wages, there are no differences between married men whose partners earn up to 2000 € and married men whose partners earn 2000 € or more. Both groups of men enjoy a wage premium of 4.1 % [=0.0589-0.0174 and 0.0589-0.0173]. The estimates presented in models 4 and 5 (Table 3) indicate that the size of the marriage and cohabitation premium is considerably affected by the partner's employment situation. However, these results have to be interpreted with caution. A wife's labour supply could be endogenous to her husband's earnings (Devereux, 2004; Hotchkiss and Moore, 1999; Song, 2007). An increase in the husbands' wages may lead to a reduction in his partner's market work. If this is the case, the FE estimates may provide upwardly biased estimates and the real impact of the partners' employment on men's wages would be smaller.

In summary, there is little support for the specialisation hypothesis of the marriage premium. The finding that the earnings advantage of married men remains after controlling for time men spent on household chores indicates that the marriage premium is not due to specialisation within the household. However, married men with non-working partners seem to receive a higher wage premium than men whose partners do work. In combination, these results suggest that it is not specialisation within the household, but rather increased household expenditures of married people that trigger men to put more effort into their work. To examine this hypothesis, we analysed the impact of marital

status on attitudes toward financial matters. We expect that married men are less satisfied with their financial situation and are more likely to think they are paid less than they actually deserve as compared to single never-married men.

Model 1 in Table 4 tests the hypothesis that financial satisfaction is lower for married men than for single men. To measure financial satisfaction, the GSOEP asked the respondent to rate his or her satisfaction with their household income on an 11-point Likert scale (0, totally unhappy; 10, totally happy). Model 2 in Table 4 tests the hypothesis that married men more often perceive their income to be unjust and thus think they deserve a higher income than they actually receive. Here, we resort to the justice evaluation function proposed by Jasso (1978). According to this model, the justice evaluation of income is a function of the natural logarithm of the ratio of an individual's actual income to the income he or she assesses as just for herself/himself [ln(actual income/just income]. The justice evaluation score for an individual who earns exactly the amount he or she assesses as a just income would be zero, which is the logarithm of the ratio one. When the real income exceeds the just income, the ratio is larger than unity and its logarithm is a positive number, indicating that the individual feels overrewarded. When the just income exceeds the real income, the ratio is smaller than unity and its logarithm is a negative number, indicating that the individual feels underrewarded. The GSOEP respondents were asked if they consider their individual income as just. Those respondents who assessed their income to be unjust were asked to state the amount they considered to be just. For those respondents who assessed their income as just, the just income is set equal to the actual income. Unfortunately, information on the just income is available only for one year, 2005, so that this model amounts to a cross-sectional regression analysis.

– Please insert Table 4 about here –

As expected, married and cohabiting men are significantly less satisfied with their household income than single men (model 1, Table 4). Further, financial satisfaction is significantly lower for fathers of one child as compared to men without children. The results from the justice evaluation regression confirm the finding that marriage affects men's attitudes toward financial matters. As can be seen from model 2, married men are more likely to feel underrewarded than single men. The same applies to cohabiting men.

Surprisingly, and contrary to the results presented in model 1, fathers of one child are more likely to feel overrewarded than married men without children. In all, the results corroborate the hypothesis that married men are less satisfied with their financial situation and may therefore be more motivated to take steps to increase their income as compared to single workers.

Next, we evaluate if the marriage wage premium can be attributed to an employer's preferential treatment of married workers by conducting separate analysis for wage and salary workers and self-employed workers. According to the specialisation hypothesis, married self-employed men should receive a wage premium comparable to that of wage and salary workers, since marriage enhances the productivity of all men. In contrast, the discrimination hypothesis implies that marriage increases the wage rate of wage and salary workers but not of self-employed workers.

– Please insert Table 5 about here –

The results in Table 5 show that wage and salary workers receive wage premia for marriage and fatherhood that are similar to those displayed in Table 3. The effect of cohabitation, although positive, does not attain statistical significance. On the contrary, the wage rate of self-employed workers seems to be unaffected by men's marital and parental status. These results contradict the specialisation hypothesis and support the discrimination hypothesis. However, as Loh (1996) notes, caution should be exercised in interpreting these results since a certain proportion of the self-employed workers income represents returns to physical capital. Thus, the analytical strategy used here is far from optimal. A better strategy to investigate the discrimination hypothesis is to analyse marital wage differentials within occupation-establishment units by using matched employee-employer data. Petersen et al. (2006) who use this strategy in analysing Norwegian data found no evidence for the discrimination hypothesis.

Marriage and job mobility

Finally, we examine the compensating wages hypothesis of the marriage premium. The theoretical foundation of this hypothesis comes from the theory of compensating wage differentials which suggests that the labor market places a wage premium on jobs that involve disamenities like physical strain, or poor work hour regulations. Accordingly,

the compensating wage hypothesis of the marriage premium suggests that the marriage wage premium reflects willingness of married men to accept jobs that are associated with adverse working conditions, but also offer higher wages.
Using GSOEP data, Villanueva (2007) shows that such wage premia for the presence of disamenities do exist, as suggested by the theory of compensating wage differentials. However, it is unclear if married men exploit such trade-offs between wages and less favorable job characteristics more often than single men in order to increase their income. To test this hypothesis, job mobility patterns are analysed with regard to four job aspects: income, work load, work hour regulation, and travel-to-work time. According to the compensating wages hypothesis of the marriage premium, in comparison with single men married workers should exhibit higher transition rates to jobs that offer higher wages but also involve disamenities such as a higher work load, poorer work hour regulations, and a longer commuting time.

– Please insert Table 6 about here –

Table 6 reports the results from the Cox proportional hazard regression. All regressions are corrected for possible clustering of errors at the individual level. Model 1 shows a significant effect of marriage on job changes that involve earnings gains. The coefficient indicates that married men are 40% more likely than single men to experience a job transition to a better paying job. The effect for cohabitation is also significant at the 5% level and of the same size as the effect to marriage. However, as can be seen in the remaining models, married men do not experience job changes to better paying jobs which also involve increased disamenities such as a higher work load, poorer work hour regulations or a longer commuting time. Therefore, the results do not support the compensating wage hypothesis of the marriage premium.

Conclusions

Wage analyses usually indicate that married men earn more than single men, controlling for observable worker characteristics that affect worker productivity. The literature provides ample empirical evidence for the earnings advantage for married men, though there is little consensus on the underlying causal mechanism. Four main explanations for the male wage premium have been proposed: first, successful men are more likely to

marry; second, married men are more productive; third, employers pay higher wages to married men though there are no actual productivity differences between married and single workers; fourth, married men work under adverse conditions and are thus able to command a wage premium.

In accordance with previous studies, the analysis carried out in this paper has shown that a large part of the marriage wage premium is due to selection processes. However, after accounting for selection effects, a significant wage differential remains. The findings presented here contradict the popular hypothesis that the earnings advantage of married men over single men results from the division of labour within the household. Previous studies testing the specialisation hypothesis of the marriage wage premium have used the wife's working hours as a proxy for household specialisation. Finding a lower wage premium for men whose wives are employed as compared to men with homemaking spouses, these studies suggest that married men are able to devote more time and energy to their job and thus receive higher wages.

In this paper, the specialisation hypothesis is more thoroughly tested by measuring household specialisation on the basis of the time men spent on household chores. The estimates have shown that married men hardly spend less time on housework than single men do. Moreover, men's time spent on housework does not affect the wage rate at all. Both findings contradict the specialisation hypothesis. If marriage makes men more productive, it obviously does not do so because of specialization within the household. Although the patterns of household time allocation obviously have no effect on men's wages, the results presented here show that men whose wives are homemakers do indeed receive higher wages than men whose wives are employed.

The finding that men's wages are affected by women's working hours but not by men's time spent on home production is compatible with the argument advanced by Gorman (2000) that marriage is associated with increases in existing or future expenditures which lead to an orientation towards pay and money and subsequently trigger married men to put more effort into their work. This hypothesis is supported by the finding that married men are less satisfied with their income and are more likely to feel underrewarded than single men. Therefore, it is conceivable that the wage premium of married men results from higher financial needs, especially when the wife does not participate in the labour market.

The analysis has shown that only wage and salary workers, and not self-employed workers, enjoy a marriage wage premium. This finding is in line with the hypothesis that the marriage wage premium is due to employer discrimination in favour of married men. However, this result has to be interpreted with caution as income data for the self-employed often contain more noise than comparable data for wage workers. The analysis presented here does not support the compensating wage hypothesis of the marriage wage premium, which argues that married men tend to choose jobs with more disamenities and greater wage compensation.

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Table 1: Descriptive statistics

	Single	Cohabiting	Married
Wage (in Euro)	12.5	14.1	16.1
One child (%)	0	16.8	28.7
Two children (%)	0	5.6	29.4
Three or more children (%)	0	1.7	11.8
Education (years)	11.3	12.1	11.4
Experience (years)	7.8	8.7	19.7
Weekly hours spent on housework	7.6	9.7	6.4
Weekly hours spent on repairs	4.6	4.9	6.2
Weekly hours on child care	0.3	3.2	7.8
Partner not employed (%)	-	16.5	45.5
Partner's income 1-1999 Euro (%)	-	25.6	31.5
Partner's income 2000+ Euro (%)	-	57.9	23.0
Partner full-time employed (%)	-	72.2	28.1
Partner part-time employed (%)	-	11.2	26.4
N (person-year observations)	4,763	1,469	18,372

Source: GSOEP 1985-2006, author's calculations.

Table 2: Fixed Effects Regressions predicting the time men spend on household chores

	Housework		Repairs		Child care	
	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.
Cohabiting	-0.109	0.300	0.257	0.287	-	-
Married	-0.698*	0.289	0.474^{+}	0.276	-	-
One child	-0.291^{+}	0.170	0.068	0.162	7.114**	0.213
Two children	-0.617**	0.207	0.013	0.198	10.214**	0.264
Three or more children	-0.019	0.287	0.231	0.275	11.382**	0.379
Partner not employed	-	-	-	-	-	-
Partner full-time employed	1.552**	0.160	0.085	0.151	-1.439**	0.198
Partner part-time employed	0.452**	0.144	0.216	0.137	-0.016	0.194
Constant	6.591**	0.300	5,905**	0,287	0,020	0,392
Level of significance: ** = p<0.01; * = p<0.05; $^{+}$ = p<0.1.						
N (person-year observations)	24,627		24,627		24,627	
R^2	0.01		0.01		0.27	
R^2 within	0.03		0.01		0.18	

All models also include series of dummy variables for the age of the individual.

Source: GSOEP 1985-2006, author's calculations.

Table 3: Fixed Effects Regressions predicting men's wage rate

	Model 1 (OLS)		Model 2 (FE)		Model 3 (FE)		Model 4 (FE)		Model 5 (FE)	
	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.	Coef.	s.e.
Cohabiting	0.0255^{+}	0.0146	0.0217^{+}	0.0120	0.0212^{+}	0.0120	0.0343**	0.0129	0.0462**	0.0131
Married	0.0887**	0.0132	0.0514**	0.0120	0.0507**	0.0121	0.0589**	0.0125	0.0666**	0.0126
One child	0.0043	0.0100	0.0062	0.0073	0.0059	0.0075	0.0036	0.0076	0.0004	0.0076
Two children	0.0333**	0.0113	0.0229**	0.0087	0.0225*	0.0090	0.0189*	0.0092	0.0141	0.0092
Three or more children	0.0176	0.0155	0.0375**	0.0122	0.0368**	0.0125	0.0320*	0.0127	0.0270*	0.0127
Education	0.0666**	0.0017	0.0305**	0.0039	0.0305**	0.0039	0.0304**	0.0039	0.0304**	0.0039
Experience	0.0247**	0.0014	0.0195**	0.0012	0.0194**	0.0012	0.0199**	0.0012	0.0198**	0.0012
Experience squared/100	-0.0443**	0.0038	-0.0360**	0.0031	-0.0359**	0.0031	-0.036**	0.0031	-0.0371**	0.0031
Time per week spent on housework					0.0003	0.0003	0.0003	0.0003	0.0004	0.0003
Time per week spent on repairs					0.0002	0.0003	0.0002	0.0003	0.0002	0.0003
Time per week spent on child care					0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Partner not employed							-	-	-	-
Partners income 1-1999 Euro							-0.0174**	0.0061		
Partners income 2000+ Euro							-0.0173*	0.0076		
Partner part-time employed									-0.0135*	0.0064
Partner full-time employed									-0.0330**	0.0071
Constant	1.5547**	0.0219	2.0505**	0.0441	2.0482**	0.0442	2.047**	0.044	2.0486**	0.0442
Level of significance: ** = p<0.01; * = p<0.05; $^{+}$ = p<0.1.										
N (person-year observations)	24,627		24,627		24,627		24,627		24,627	
R^2	0.241		0.225		0.225		0.226		0.230	
R^2 within			0.048		0.048		0.049		0.050	

Source: GSOEP 1985-2006, author's calculations.

Table 4: Estimates of men's financial satisfaction (Fixed Effects Regression) and justice evaluation of own income (OLS regression)

	Financial satisfaction		Justice evaluation of own income	
	Coef.	s.e.	Coef.	s.e.
Cohabiting	-0.3621**	0.0527	-0.0940**	0.0257
Married	-0.1834**	0.0536	-0.0779**	0.0220
One child	-0.0898**	0.0313	0.0435*	0.0177
Two children	-0.0608	0.0375	0.0223	0.0184
Three or more children	-0.0331	0.0529	0.0347	0.0249
Level of significance: ** = p<0.01; * = p<0.05; $^{+}$ = p<0.1.				
N (person-year observations)	23,599		2,024	
R^2	0.08		0.03	
R^2 within	0.03			

Models also control for education, experience, experience squared, size of establishment (4 dummy variables), self-employed (1 dummy variable), gross household income.

Source: GSOEP 1985-2006, author's calculations.

Table 5: Fixed Effects Regressions predicting men's wage rate for wage and self-employed workers

	Wage workers		Self-employed workers	
	Coef.	s.e.	Coef.	s.e.
Cohabiting	0.0126	0.0106	0.0124	0.1009
Married	0.0596**	0.0105	-0.0540	0.1102
One child	0.0030	0.0066	0.0297	0.0527
Two children	0.0168*	0.0080	0.0535	0.0648
Three or more children	0.0306**	0.0112	-0.0019	0.0829
Level of significance: ** = p<0.01; * = p<0.05; $^{+}$ = p<0.1.				
N (person-year observations)	22,272		2,355	
R^2	0.27		0.01	
R^2 within	0.07		0.01	

Models also control for education, experience, experience squared, time spent on housework, repairs, and child care.

Source: GSOEP 1985-2006, author's calculations.

Table 6: Cox Proportional Hazard Regression estimates of job changes (Hazard ratios)

	Higher income		Higher income & higher work load		Higher income & poorer work hour regulation		Higher income & longer commuting time	
	H. R.	s.e.	H. R.	s.e.	H. R.	s.e.	H. R.	s.e.
Cohabiting	1.362*	0.207	1.788^{+}	0.530	1.635	0.575	0.894	0.246
Married	1.395*	0.224	1.314	0.426	1.482	0.542	1.184	0.360
One child	0.999	0.163	1.195	0.379	0.912	0.337	1.058	0.340
Two children	0.782	0.137	0.879	0.301	0.533	0.212	0.812	0.268
Three or more children	1.109	0.215	1.238	0.475	0.889	0.396	1.369	0.483
Level of significance: ** = p<0.01; * = p<0.05; $^{+}$ = p<0.1.								
N spells/job transitions	5925/500		5925/124		5925/94		5925/173	
Wald Chi^2 (D.f. = 20)	169.38**		91.69**		51.43**		94.05**	

Models also control for experience, level of qualification (4 dummy variables), weekly hours worked, size of establishment (4 dummy variables), sector of employment (8 dummy variables).

Source: GSOEP 1985-2006, author's calculations.