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Authors

Adler, Patrick

Öner, Özge

Publication Date

2013-05-15

WORKING PAPER

Occupational Class and the Marriage Premium: Exploring Treatment Mechanisms

Patrick Adler
University of California, Los Angeles

Özge Öner
Jonkoping International Business School

May 2013

INSTITUTE FOR RESEARCH
ON LABOR AND EMPLOYMENT
UNIVERSITY OF CALIFORNIA, LOS ANGELES

Abstract

This study explores the relationship between occupation, gender and the so-called "marriage premium". Previous studies have observed an earnings bonus for married men that is not present for women. This work has considered how much of the premium is causally related to marriage and how much is related to selection effects. The prior literature has also established that returns to marriage vary significantly by education, race and family size. Compared to these variables, the role of occupation in altering marriage premium has rarely been considered.

We study the wage premium through an analysis of the the 2007-2009 American Community Survey. We extend Mincer's wage premium framework to a study of the premium. The magnitude of the wage premium appears to vary by occupational class. We use OLS regressions to capture wage premiums for gender and occupational class groups.

This analysis suggests that the relationship between work type and the premium has been understudied. Occupational variation in the premium also allows us to reconsider traditional theories of its origin. While we find support for "specialization" and "discrimination" stories, our results are not consistent with the human capital-based mechanism.

1   Introduction

The goal of this paper is improve the discussion about the relationship between marriage and income by considering the effects of occupational type. Previous research points to a significant, positive relationship between income and marriage for men but not women. This so-called "marriage premium" has not been satisfactorily explained to this point; at least based on a current lack of consensus in empirical studies.

At the outset , our goal was to understand if the marriage/income relationship was consistent across occupational type. Our subsequent analysis suggests that this is not the case, and that a better understanding of occupational type might actually clarify current research on the premium.

We include a measure of job type in a traditional wage equation. Our results confirm that the marriage premium is more pronounced in routinzed occupations than "creative"types. The observed variation across occupational class might encourage future studies to stratify by occupation. It also acts as a basic test for previous marriage premium explanations. This study does not, ultimately, sort through issues of endogeneity that have plagued most studies.

Before presenting our analysis, We will synthesize previous marriage premium research. Having done this, we will describe our data, report basic findings and then interpret these in line with the literature.

2   Theories and Concepts

Economic investigation into the "marriage premium" is longstanding. The discussion of why married men earn more than their peers dates back at least to Hill's 1979 article on the subject, and has continued apace to the present exercise. Like the healthiest marriages, it is now long past its pearl anniversary. Like all marriages it has not escaped debate. Here we will summarize the key spats in this literature before briefly discussing work on occupational class.

Accepted Properties of the Marriage Premium

For all the discord, researchers do seem to agree on the basic properties of the marriage pemium. In almost every cross-sectional study of wage, gender and marriage, married men are found to earn more than non-married men. The effect of marriage on individual female wages is consistently very small or insignificant. The range in magnitude of the male marriage bonus varies from a lower limit of ten percent, to an upper-bound of one hundred (Rodgers and Stratton, 2005) and averages around thirty percent in most studies(Petersen et al., 2006).

Marriage specifically is agreed to be uniquely related to wages. Studies that compare marriage with cohabitation find that marriage is significantly more related to income. Evidence of a "cohabitation premium" is mixed (Mamun, 2011; Bardasi and Taylor, 2008; Cohen, 2002; Stratton, 2002; Loh, 1996). Similarly, results for divorced and widoId men waiver between pointing to a 'residual marriage premium' (Korenman and Neumark, 1991; Hill, 1979) and no premium at all for the non-married (Loh,1996).

The size of the male marriage premium is found to vary by race (Hill, 1979; Loh, 1996), with black men experiencing the smaller premium. For instance, Loh finds a range of premiums for black men of .22 and .27, compared to .26 and .31 for whites.g As a result, many wage premium studies focus on Caucasian, white men (see Korenman and Neumark, 1991; Loh , 1996; Ginther and Zavandony, 2001), while others control for race before they report their results.

Occupation has been widely ignored as a dimension along which the premium might vary. Researchers do not tend to report variation by occupation in their results. As we will see below, occupation is usually understood as a mechanism for the overall phenomenon, and not something that the premium varies along.

The male marriage premium is likely shrinking in magnitude over time. Loh(1996) finds that the earnings bonus for white men fell from 25% in the late 1960's to 11% in the late seventies. Gray (1997) observes a fall from 11% a decade later to just over 5% by 1990. Similarly Blackburn and Korenman (1994) report a drop from 29% to 19% between the late sixties and the late eighties. Cohen cautions, rightfully, that some studies will over-estimate the decline in the marriage premium, when they include cohabitators with non-married men that live alone. Among the explanations for a declining marriage premium are a higher incidence of divorce, delayed marriage , and the feminization of the workforce (Korenman and Neumark, 1991).

Debating the Sources of the Marriage Premium

Debates in the literature revolve around the causal mechanisms for the marriage premium. At the most basic level, there are two types of explanations; the premium can either be explained as the result of marriage itself or of the unrelated earning profile of "the married". In the first case, marriage produces some effect that allows married men to earn more. In the second, marriage has nothing to do with wages , but married men share some other quality(ies) that allow them to earn more. Researchers thus are attempting to decide whether marriage makes men more productive, or whether married men were already more productive *before* they said "I do".

Wihin the treatment and fixed effects categories there are specific paths along which independent variables are assumed to operate. By our reading, there are two major types of fixed effects mechanisms, and three major types of causal mechanisms, we will now review each of these in turn.

Selection Explanations

The first type of selection effect has to do with lurking variables that might make someone attractive as a spouse and an employee. Cornaglia and Feldman (2010) suggest that personal attributes such as stability or good looks, might increase a person's success in the labor market and the mating market. Similarly, Mueller and Plug (2004) find that personality characteristics like openeess and antagonism are strongly correlated with earnings. It is possible (as Petersen et al., 2006 point out) that these characteristics also increase the likelihood that someone will marry. It is also possible that some hidden personal characteristic(s) , outside the detection or specification of the researcher, are responsible for the marriage premium.

Previous research has attempted to understand the impact of personal fixed effects on the marriage premium, through the use of panel data. A plurality of studies (see Loughran and Zissimopoulos,2009; Bardasi and Taylor,2005; Datta Gupta, Smith, and Stratton 2005; Rogers and Stratton 2005; Krashinsky, 2004; Ginther and Zavodny, 2001 and Korenman and Neumark, 1991) have used panels to see how much of the premium survives fixed effects controls.

According to Ribar's 2000 review of these studies, almost all find both evidence for fixed effects, but most also find evidence of a non-fixed effects residual. For example, in Korenman and Neumark's (1991) widely cited study, a full 80% of the marriage premium survived the fixed effects analysis. Antonovics and Town (2004) control for personal fixed effects using identical twins, and are left with a marriage premium. For the most part, personal fixed effects exercises suggest that these are not sufficient at explaining the marriage premium.

Another type of effect, sorting on occupations, might also help to explain higher wages for the married. Perhaps the occupations that earner higher wages, also fare better in the mating market. This might be called the 'Doctor Effect'. It is said that some cultures prize doctors and other high income professionals as mates. If this is the case than sorting in to certain occupations might improve a person's ability to arry. A smaller group of studies have investgigated the role of occupational sorting. Cornaglia and Feldman (2010) and Korenman and Neumark (1991) each control for occupation by looking at a narrow range of professions. In each case, they find that most of the marriage premium survives. In a 2006 study of Norwegian data, Petersen and colleagues estimate that between 50% and 70% of the premium is related to job sorting. By in large, married people in their sample ended up in professions and at establishments that paid more.

As with selection effects, the magnitude and universality of job sorting remains an open question.

Treatment Explanations

Generally, marriage is thought to transform men in three different ways to improve incomes. It can make them more productive through specialization, it can allow them to increase their human capital, or it can make them more attractive to employers. As with the previous explanations, none of these mechanisms have achieved a level of universal support.

According to the specialization hypothesis, married men earn more than single men because they are allowed to specialize in work outside of the home, while their spouses can specialize within it. A man can work more hours in the wage-earning sector because his spouse is performing his share of labor for him. A related notion is that the female spouse is a positive influence on her partner, performing support functions (ie proofreading resumes) that allow for more productivity on the job (Bellas, 1992), or a moderating influence that encourages the male spouse to behave more responsibly away from work (Waite and Leher, 2003). Another idea is that married men, having a responsibility to another person, are more willing to take jobs that require more hours (Ribar,2004)[1].

Obviously, this explanation is bound up with a very traditional division of labor, that is by no means universal. Indeed Petersen and colleagues (2006) cite Norway's position as a "progressive" country as one reason why occupational effects are relatively more significant there then they would be elsewhere. In addition, the feminization of the labor force has coincided with the previously discussed drop in an observed marriage premium, hinting that the two might be linked.

Nonetheless, some recent studies find evidence for specialization in North America (Bardasi and Taylor, 2005; Chun and Lee, 2001; Gray, 1997; Daniel,1995). Bardasi and

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[1] This explanation might imply that married men sorted into high pay occupational categories before they married (a al Petersen et al. , 2006). But there could just as easily be treatment effects, such as taking on a newer , high paying occupation or taking on more hours at the current occupation. These latter possibilities would be more reliant on specialization within the home.

Taylor analyze the relationship between a man's income and the number of hours his wife spends working outside the house. They find that the wife's outside work acts as a wage penalty for the husband's work. This finding is directly opposed by Loh (1996) who finds a positive relationship between male income and the time his wife spends working. Hersch and Stratton (2000) conclude that married men work an equivalent amount of time in the home as single men. This directly challenges the notion that married men save time at home.

The human capital explanation proposes that marriage helps men become more educated. And eventually mor productive. Both Kenny (1983) and Korenman and Neumark (199) find that the marriage premium is related to protracted income growth over the course of a marriage, and not some sudden causal benefit. Like Becker (1985,1991), Kenny attributes this to the relative propensity for married men to acquire education. While Becker suggests that human capital is marginally more useful to the married man, because he works more; Kenny emphasizes that it is easier to borrow funds for human capital investment from a spouse than another lender.

Korenman and Neumaark find that controlling for human capial does not significantly affect the marriage premium. They emphasize the role of higher performance ratings for married men, in accounting for higher wages. Mehay and Bowman (2005) draw a similar conclusion in their study of naval officers. Whether these ratings reflect greater productivity or simply greater perceived productivity, is a question they don't resolve.

The evaluation studies suggest that a final-selection based mechanism. Cornaglia and Feldman (2010), Cain (1986) and others propose that discriminatory perceptions of married men , on the part of employers, might reward married in the labor market. According to this view, married men have access to more advancement opportunities because they are thought to be more responsible or mature. In a study of professional baseball players, Cornaglia and Feldman(2010) are able to control for direct productivity measures such as team wins and individual statistics. They find that a marriage premium exists, even after productivity and individual fixed effects relationships are neutralized[2]. They argue that a management bias towards married players might be to blame. Using a slightly more representative sample, Jacobsen and Rayack (1996), find that self-employed men have a larger marriage premium than employed men. This would confound the employer based explanations .

State of the Literature

If the total of the marriage premium literature suggests anything, it is that the marriage premium does not act consistently on a universal basis. While it is already accepted that the premium varies in magnitude (or sign) based on gender and race,

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[2] The appeal of the Cornaglia and Feldman study lies in its approach to directly measuring productivity. Sports statistics are rigorously collected, go back a long time, and also seem to directly measure a worker's performance. An unexpected critique to this idea comes from Lewis' popular analysis (2003). He shows that traditional individual baseball statistics might be unrelated to team performance (productivity).

perhaps it is even more context specific. For instance, the Petersen (et al., 2006) study points to the importance of geographic context in explaining the relevance of specialization or occupational sorting. The Cornaglioa and Feldman (2010), and Jacobsen and Rayack (1996) might lead us to think that the marriage premium varies by occupational type. In the following analysis, we explore the differentiating role of occupation more. We intend to determine two things:

1) If the marriage premium varies meaningfully according to occupational type.
2) If the variations across job types are consistent with the popular marriage premium explanations

Typology of Jobs

We differentiate job type according to Florida's (2002) 4-part typology. Building on previous theoretical work which identifies knowledge workers as a wholly distinct occupational category (Bell,1973 ; Brint,1984 ; Drucker,1988) Florida has placed every job title into one of four occupational categories.

"Creative Class" jobs are jobs which primarily involve the application of original thinking. Occupations in this category require workers to create new forms and ideas (designers, scientists, artists, researchers), or to conduct problem-solving under conditions of greater autonomt (doctors, lawyers, engineers).

"Working Class" jobs, are the traditional 'blue collar" occupations that require workers to manipulate heavy machinery or otherwise perform physically intensive services. Included are front-line manufacturing jobs, transportation jobs, and jobs in the skilled trades.

"Service Class " jobs are service providing occupations that do not require high levels of human capital. They can be heavily scripted or automated and generally do not offer high degrees of autonomy to the worker. Included are customer facing jobs in customer service, sales, and retail trade, in addition to office-support professions.

"Farming , Fishing and Forestry" jobs involve the direct extraction of natural resources from the earth. Included are most non-managerial jobs in agriculture, aquaculture and mining. In addition to beig the smallest category, it is the most rural and ultimately least relevant to the present study.

Florida's typology is useful because it has an intrinisic logic and is also a significant regressor in a number of contexts. For instance, even though these classes are not defined according to income, Florida's (2009) research does place each class at a discrete place on the income continuum. For instance, in Canada, Creative Class workers make up just over 30% of the labor force but command 48% of all wages, while Service Class Workers make up more than 40% of the workforce and only 31% of the wages. The Working Class share of income is 19.4%, just under its share of the workforce. Other objective criteria such as time worked, benefits, or geographical concentration are also related to occupational class.

Florida's (2002) own field research suggests that the values of creative workers break with the values of those in more routinized professions. For instance, creative workers

are supposed to be more meritocratic, more open to having friends and neighbors from other cultures, and less motivated by extrinsic factors. While Florida's qualitative fieldwork has been critiqued for its methodology (ie Marcuse,2003), this finding has substansial support elsewhere.

Ray and Anderson (2000) find that "cultural creatives" evidence higher levels of concern for the environment, gender equality and self-actualization. Astin (1998) finds that cultural creatives are more likely to supplement conventional healthcare with alternative medicine than are others. Inglehart (1977) observes an associated shift in values and attitudes concurrent with the rise of post-industrial economic systems, which he refers to as a shift from materialist to post-materialist social and political cultures. Industrial societies have a materialist orientation and prize economic security gained through economic growth and material Ialth. Post-industrial societies are also "post-materialist" in their values and orientations which favor secularism over religion, self-expression over conformity, merit over seniority, public goods like environmental quality over interest-group redistribution, and openness and acceptance of women, minorities and gay populations.

2.1   Data and Variables

The data used in the analysis is a cross-sectional individual level data, provided by U.S. Census Bureau. PUMS (Public Use Microdata Sample) is collected via American Community Surveys conducted between 2007 and 2009. We selected the individuals between the age 25 and 64 with wages higher than zero, which lets us obtain a samle with approximately 3,5 million observations. The analysis is conducted for four major occupational classes and genders separately in a multivariate setting. The variables that are used in the anaylsis are decribed below.

Dependent Variables

Wage

Wages or salary income an indivudal earned in the past 12 month is log-transformed and introduced as dependent variable to each regression model.

Explanatory Variables

Marriage

A dummy variable for the marital status is generated and employed to capture the impact of marriage on the wage level.

Partner

The dummy variable is introduced to the models to control for unmarried and cohabitating partners.

Number of Children

Total number of children is introduced as an explanatory variable.

Traditional Mincerian variables: Schooling, Experience and Experience[2]

The **Schooling** variable expresses the number of years spent in formal education, in keeping with Mincer (1974). Whereas **Experience** represents the accumulated labor market experience of an individual which is calculated by subtracting the first six years of a life time and the years in schooling from the age of an individual. It allows us to control for experience-related earnings, resulting from higher uncodified human capital, better social networks and other advantages that seasoned workers enjoy. Theory suggests that a squared experience variable should be introduced to the model to control for the decreasing returns to age from a certain point onwards (Mincer, 1974). Hence, **Experience[2]** is used to control for the quadratic relation between an individual's post-school experience and age.

Hours Worked

This is the average hours per week each individual worked during the last 12 months, taken directly from the ACS.

Classes

Each occupation in the PUMS is sorted into one of four broad "occupational classes" consistent with Florida's (2002) typology. Florida's classification system purports to divide up the occupational spectrum according to the basic role of each job in the economy. Four fundamental job roles have been identified: "Creative", "Working", "Service" and "Primary Extraction".

Gender

This dummy variable is employed to control for the gender in the first regression model via which all individuals are investigated together for all sectors. However in the following regression models, the sample is divided between *male* and *female* to capture the variation across occupational classes for different genders. These methodological decisions are rooted firmly in the previous literature which finds differential effects across gender.

White

A dummy variable to control for a possible impact from the race is employed in the regressions.

Metropolitan

To control for heterogeneity in large city mating markets (Costa and Kahn, 2000) dummies for the metropolitan statistical areas where individuals are introduced.

Commuting

Assuming that commuting between counties for work would be companseted by its own wage premium, we introduced a dummy variable to control for the individuals residing in one county and employed in another.

2.2   Data Results

The focus of our analysis is on the relationship between marriage and income for each occupational class. Because the literature discusses a more robust wage premium for men, particular attenion is paid to male results. Although the the analysis is conducted only all four occupational classes only the the results for the first three are presented below, being *Creative Class, Service Class* and *Working Class*. (Detailed results are available in the appendix.) In this section, we briefly report pertinent descriptive statistics and regression results. In the next section, we reflect on our results in light of the literature. In the appendix, we also provided scatter plots for the relationship between MSA population and earnings by occupational classes.

In order to understand the significance of Florida's occupational class in our sample, we calculated descriptive statistics for human capital and earnings. Below, we list mean values for earnings and education in each of the classes. Here we show results for married residents of metropolitan areas; full results are listed in Appendix 3. In our sample, mean Creative Class values are significantly higher for both dependent variables than they are for the two routinized classes. Married women and men in the creative class have around fifteen years of education on average, roughly four years more than those in in the working and service classes. Women in our sample earn considerably more than men do on average across the classes but both women and men in the creative class earn more than their peers.

Table 2-1 Mean Wages by Class, Gender and Metro Status

		Female	Male
Creative	NonMetro	0.99	1.35
	Metro	0.97	1.44
Service	NonMetro	1.00	1.42
	Metro	1.01	1.55
Working	NonMetro	0.98	1.28
	Metro	0.97	1.37

Table 2-2 Education Differential by Class, Gender and Metro Status

		Female	Male
Creative Class	**Non-metro**	0.16	0.32
	Metro	0.19	0.4
Service Class	**Non-metro**	0.13	0.5
	Metro	0.1	0.38
Working Class	**Non-metro**	0.01	0.15
	Metro	-0.15	0.1

In order to observe the impact of the variables that are described above on wage, several OLS regressions are performed. As dicussed previously, we aim to capture the variation of the wage premium with respect to different genders and occupational classes. Hence the tests are performed for each gender corresponding to each occupational class separately in a multivariate setting.

A base model, in which both genders and all occupations are included, is performed in the analysis to give an overall idea. Since the first six models are regressed for each gender and occupational class separately, both the gender dummy and occupational class variable are omitted. Further details on the regession results can be found in the appendix together with a detailed descriptive table.

The model used in the regression analysis is shown below. The dependent variable is log transformed wages and income salaries for the last 12 months. In accordance with Mincer's (1974) wage equation, we introduce schooling years, experience, experience squared and average hours worked per week as explanatory variables. The model is also extended by introducing variables for occupational class, gender, race and most importantly marriage.

We didn't observe any multicollinearity between the variables of the regression. Also, the coefficients that are obtained from the different regressions are tested for statistically significant difference. All coefficients are statistically significantly different from each other, which allows for a comparison.

$LnWage = \beta_0 + \beta_1 Schooling + \beta_2 Experience + \beta_3 Experience^2 + \beta_4 Hours\ Worked + \beta_5 Gender\ Dummy + \beta_6 Marriage\ Dummy + \beta_7 Partner\ Dummy + \beta_8\ White\ Dummy + \beta_9 Metro\ Dummy + \beta_{10}\ Commuting\ Dummy + \beta_{11} Creative\ Class + \beta_{12} Creative\ Class + \beta_{13} Service\ Class + \beta_{14} Working\ Class + \varepsilon_t$

Table 2-3 Regression Results

	Base Model	FEMALE			MALE		
VARIABLES	All Classes	Creative	Service	Working	Creative	Service	Working
Constant	6.917***	6.986***	6.642***	7.113***	7.501***	7.063***	7.799***
	(0.00388)	(0.00883)	(0.00860)	(0.0226)	(0.00932)	(0.0107)	(0.00872)
Schooling	0.0805***	0.0813***	0.0666***	0.0499***	0.0808***	0.0625***	0.0471***
	(0.000171)	(0.000405)	(0.000427)	(0.000957)	(0.000397)	(0.000504)	(0.000416)
Experience	0.0285***	0.0317***	0.0197***	0.0212***	0.0484***	0.0334***	0.0291***
	(0.000170)	(0.000369)	(0.000379)	(0.00110)	(0.000417)	(0.000539)	(0.000435)
Experience^2	-0.000424***	-0.000575***	-0.000258***	-0.000261***	-0.000856***	-0.000563***	-0.000440***
	(3.48e-06)	(8.19e-06)	(7.52e-06)	(2.02e-05)	(9.10e-06)	(1.09e-05)	(8.36e-06)
Hours Worked	0.0404***	0.0448***	0.0524***	0.0460***	0.0257***	0.0377***	0.0284***
	(4.03e-05)	(8.67e-05)	(8.93e-05)	(0.000258)	(9.52e-05)	(0.000126)	(9.93e-05)
Marriage	0.121***	0.00372*	0.0551***	0.0373***	0.189***	0.262***	0.262***

	(0.00105)	(0.00222)	(0.00215)	(0.00564)	(0.00279)	(0.00338)	(0.00258)
Partner	0.0183***	0.00940**	-0.00398	0.0309***	0.0463***	0.0541***	0.0457***
	(0.00188)	(0.00442)	(0.00404)	(0.00962)	(0.00485)	(0.00543)	(0.00410)
Num of Children	0.00604***	-0.0319***	-0.0396***	-0.0358***	0.0433***	0.0341***	0.0239***
	(0.000459)	(0.00107)	(0.00104)	(0.00273)	(0.00108)	(0.00146)	(0.00104)
White	0.0633***	-0.0142***	0.0432***	0.0218***	0.0916***	0.138***	0.146***
	(0.00111)	(0.00250)	(0.00233)	(0.00584)	(0.00281)	(0.00324)	(0.00259)
Metropolitan	0.0899***	0.0856***	0.0789***	0.0147*	0.159***	0.0694***	0.0353***
	(0.00142)	(0.00320)	(0.00308)	(0.00750)	(0.00363)	(0.00463)	(0.00302)
Commuting	0.0624***	0.0840***	-0.000154	-0.0933***	0.135***	0.0569***	0.00417*
	(0.00111)	(0.00240)	(0.00239)	(0.00629)	(0.00269)	(0.00352)	(0.00253)
Gender	0.250***						
	(0.000971)						
Class dummies	Yes						
Observations	3,547,550	717,942	758,800	106,557	577,656	355,397	573,501
R-squared	0.385	0.330	0.344	0.261	0.230	0.302	0.197

Standard errors in parentheses, Dependent Variable: Ln Wage; Standart terrors in parentheses; ***p<0.01, **p<0.05, *p<0.1
Base for the class categories that are introduced to the first regression model is 'forestry&fishery'.
Regression table with detailed results can be found in the appendix.

Results from our regression analyses can be seen on the table 3-2. Among all of the variables in the models, the marriage variable registers the highest coefficients across both genders. The marriage coefficients for men are the highest in the entire matrix. At the most basic level, this finding confirms that the relationship between marriage and income is worthy of exploration. In the next section, we seek to do this.

The regression results also support an investigation of marriage, independent of co-habitation. Cohabitating (that is the"partner" variable) appears to be significantly and positively related to income across the occupational class spectrum but at a much lower magnitude than marriage. The same could be said of living in a metropolitan area, or of having a higher human capital. Given the multitude of literature discussing the influence of human capital on incomes, our results for marriage are slightly surprising; the literature on marriage premia is not nearly as extensive.

As expected, the relationship between income and children varies by gender. For men, the two variables are positively and significantly related, for women the relationship is positive, but not significant at the highest level in all cases (ie for Creative Women). In addition, the magnitude of earnings variation (ie the coefficient) explained by marriage is a lot lower for men than women. In keeping with the literature, our remaining analysis focuss on accounting for the male marriage premium.

3   Discussion

The performance of occupational measures in the income model suggests that occupational type is an underacknowledged influence on the marriage premium. It also acts as a useful tool through which the conventional theoretical explanations can be evaluated.

Occupation as an Explanatory Mechanism?

Previous studies have confirmed that relationship between marital status and income may vary considerably by gender and race. While some studies have hinted that wealthy occupations earn more, and hence that occupation may explain the entwere phenomenon (Petersen et. al, 2006) there has been scant evidence suggesting that the premium is only active in some occupational groups. Our findings show suggest that marriage is much more strongly associated with wage for men in the routinized occupations, than the "creative class".

There are two implications of this finding, one methodological and one conceptual.

Subsequent studies on marriage premia might be able to improve the precision of their estimates by dividing their sample by occupational type. Just as the literature has, to this point, decided that it is more fruitful to discuss the impact of marriage on income for white men (eg Loh, 1996), it might make sense for future discussions of the premium to focus on particular work types. If other wage datasets do not contain occupational information then researchers might opt to stratify by educational attainment. Glaeser's (2006) analysis of the "creative class" methodology concludes that the two measures are correlated enough to be used interchangeably.

Previous studies hint that the magnitude of the wage premium is shrinking over time (Loh, 1996; Gray, 1997; Blackburn and Korenman, 1994). Our results hint, that this decline might be related to a change in the occupational structure. Florida (2002) reports that the US share of the creative class grew from roughly 17 percent in 1950 to more than 32% in 2000. If there is something atemporal about creative occupations that makes them less sensitive to marriage, then a shift to a more creative workforce may be responsible for this decline. For instance, perhaps creative class workers , as higher earning workers, have less incentive to marry than routinized workers who might rely more on the supplemental labor and income of a spouse.

In order to better understand the role of secular occupational change in the marriage premium, it would be useful to analyze panel data over multiple decades with individual fixed effects. As our analysis stands right know, we acknowledge that it doesn't deal with issues in relation to unobserved ability bias and endogeneity. Better data would allow us rigorously decide if the decline in the marriage premium is negatively and significantly related to the decline in routinzed work. A multi-national study of the marriage premium across different countries with different occupational mixes might also sort through these issues. Inglehart (1990) has already suggested that economically advanced countries have less traditional values systems. Future studies might extend

the concept of "economically advanced" to a particular occupational level, while examining marriage in particular. Nevertheless, rather than trying to capture a precise impact of the marital status, our results signal the direction of the relationship, which we find to be a useful step to take towards a more sophisticated analysis.

The Marriage Premium Re-Explained?

In lieu of a proper instrument, we will try to establish how the occupational variation in the marriage bonus helps to adjudicate some of the treatment mechanisms from the literature.

To review , three types of treatments have been identified:

> 1. Marriage makes men more productive through specialization within the household
> 2. Married men are given more freedom to invest in human capital , (due to labor pooling) and these investments translate to higher wages
> 3. Married workers are valued more (either for rational or irrational reasons) in the labor market.

The utility of specializing should vary with income. Married households with lower incomes relative to the mean should optimize their division of labor more than households with higher incomes. This is because the cost of outsourcing work outside the home (ie hiring a cleaner or childcare provider) is relatively fixed compared to income. The percentage of income saved by performing work inside the house is higher for lower earners.

All things equal, we would expect for returns to specialization (income) in the lower earning occupational groups, and and inverse relationship between social class and marriage. These findings are , consistent with the specialization hypothesis. In households with service and working-class men, it makes more sense to "in-source" household reproduction, while those with creative class men are probably more able to pay the higher margins associated with market-based services.

The human capital explanation for the marriage premium predicts that marriage allows male spouses to acquire human capital , and that this in turn allows males to earn higher incomes. Our descriptive data shows that people in the creative class do have higher human capital levels, but our regression data shows that they gain less from marriage than those in the other classes. It seems unlikely that creative class men are benefitting much from better access to human capital. Perhaps, greater access to higher education is moot because creative men are more likely to start families after obtaining human capital. But if the human capital explanation has any salience, it is likely more applicable to routinized workers.

Finally, the discrimination hypothesis would predict that working and service class workers would gain more from marriage than creative workers. According to Florida

(2002), Inglehart (1990) and others , creative workers are less anchored to traditional values systems that would prize marriage. If there is a significant degree of employer bias, that would skew the marriage premium relationship, we would expect to find it more in settings such as factories, and hotels where rouinized work predominates than in say law offices and internet startups[3]. In fact, routinized workers do seem to be gaining more from marriage, maybe because they receive favorable treatment from their employers. Occupational variation in the premium lends some support to the idea that employers are biased towards married men.

In addition to an IV study on the premium, it would helpful if a future study could combine quantitative data with say, survey data that could better chronicle how perceptions of married men vary across occupational sector, or how different workers benefit differently from marriage.

At this point, there does seem to be marginal more support for the discrimination and specialization hypotheses, as well as evidence that the human capital mechanism is not relevant to all male-workers.

Any future research on occupation, using more detailed data will be welcome. In some cases, previous studies could be extended to either stratify by occupation, control for occupation, or provide more information about how occupation explains the mechanisms for the marriage premium.

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[3] Obviously, we am trading in intuitive stereotypes here. Still, the literature on this topic does not offer much in the way of hard evidence that employers are biased, beyond stereotypes. For instance, the Cornaglia and Feldman study observes a residual marriage premium, not accounted for by productivity and assumes that a less than rational bias must be active.

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Appendix I

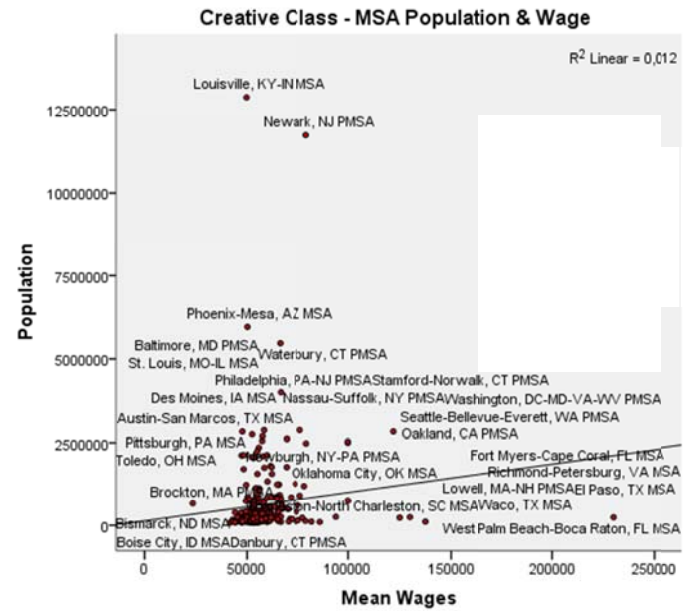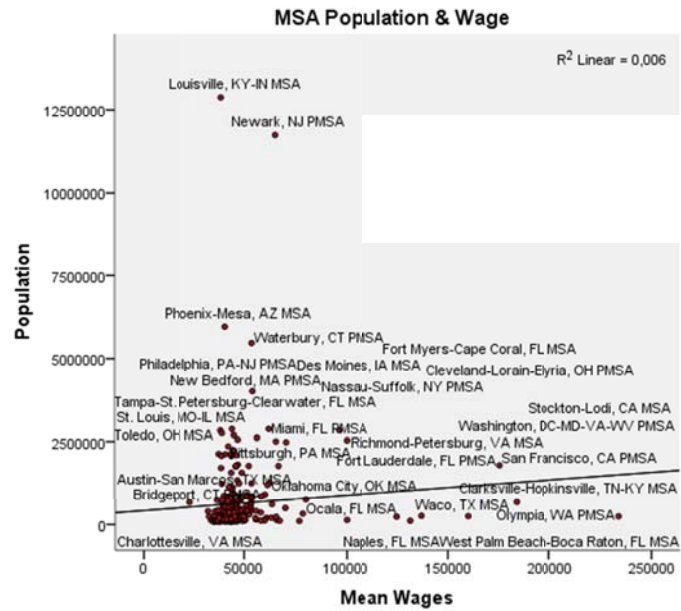| VARIABLES	F&M Ln_Wage	Female Creative	Service	Working	Forest	Male Creative	Service	Working	Forest
YearsinEducation	0.0805***	0.0813***	0.0666***	0.0499***	0.0615***	0.0808***	0.0625***	0.0471***	0.0466***
	(0.000171)	(0.000405)	(0.000427)	(0.000957)	(0.00660)	(0.000397)	(0.000504)	(0.000416)	(0.00394)
Schooling	0.0285***	0.0317***	0.0197***	0.0212***	0.0157*	0.0484***	0.0334***	0.0291***	0.0210***
	(0.000170)	(0.000369)	(0.000379)	(0.00110)	(0.00868)	(0.000417)	(0.000539)	(0.000435)	(0.00492)
Experience²	-0.000424***	-0.000575***	-0.000258***	-0.000261***	-0.000196	-0.000856***	-0.000563***	-0.000440***	-0.000263***
	(3.48e-06)	(8.19e-06)	(7.52e-06)	(2.02e-05)	(0.000149)	(9.10e-06)	(1.09e-05)	(8.36e-06)	(9.11e-05)
Hours Worked	0.0404***	0.0448***	0.0524***	0.0460***	0.0315***	0.0257***	0.0377***	0.0284***	0.0195***
	(4.03e-05)	(8.67e-05)	(8.93e-05)	(0.000258)	(0.00226)	(9.52e-05)	(0.000126)	(9.93e-05)	(0.000907)
Gender	0.250***								
	(0.000971)								
Marriage	0.121***	0.00372*	0.0551***	0.0373***	-0.0542	0.189***	0.262***	0.262***	0.327***
	(0.00105)	(0.00222)	(0.00215)	(0.00564)	(0.0543)	(0.00279)	(0.00338)	(0.00258)	(0.0321)
Partner	0.0183***	0.00940**	-0.00398	0.0309***	0.0612	0.0463***	0.0541***	0.0457***	0.114**
	(0.00188)	(0.00442)	(0.00410)	(0.00962)	(0.0932)	(0.00485)	(0.00543)	(0.00410)	(0.0497)
Number of children	0.00604***	-0.0319***	-0.0396***	-0.0358***	-0.102***	0.0433***	0.0341***	0.0239***	0.0185
	(0.000459)	(0.00107)	(0.00104)	(0.00273)	(0.0227)	(0.00108)	(0.00146)	(0.00104)	(0.0121)
White	0.0633***	-0.0142***	0.0432***	0.0218***	-0.0475	0.0916***	0.138***	0.146***	0.0931***
	(0.00111)	(0.00250)	(0.00233)	(0.00584)	(0.0530)	(0.00281)	(0.00324)	(0.00259)	(0.0318)
Metropolitan	0.0899***	0.0856***	0.0789***	0.0147*	-0.121*	0.159***	0.0694***	0.0353***	-0.0110
	(0.00142)	(0.00320)	(0.00308)	(0.00750)	(0.0715)	(0.00363)	(0.00463)	(0.00302)	(0.0307)
Commuting	0.0624***	0.0840***	-0.000154	-0.0933***	-0.360***	0.135***	0.0569***	0.00417*	-0.123***
	(0.00111)	(0.00240)	(0.00239)	(0.00629)	(0.0654)	(0.00269)	(0.00352)	(0.00253)	(0.0303)
Class1 (Creative)	0.0732***								
	(0.00145)								
Class2 (Service)	-0.269***								
	(0.00148)								
Class3 (Working)	-0.202***								
	(0.00160)								
Constant	6.917***	6.986***	6.642***	7.113***	7.777***	7.501***	7.063***	7.799***	8.113***
	(0.00388)	(0.00883)	(0.00860)	(0.0226)	(0.193)	(0.00932)	(0.0107)	(0.00872)	(0.0930)
Observations	3,547,550	717,942	758,800	106,557	1,673	577,656	355,397	573,501	4,750
R-squared	0.385	0.330	0.344	0.261	0.241	0.230	0.302	0.197	0.171

Dependent Variable is logged transformed income.

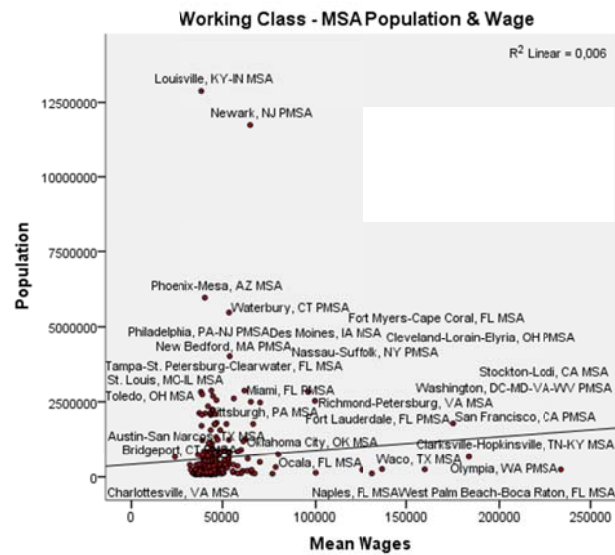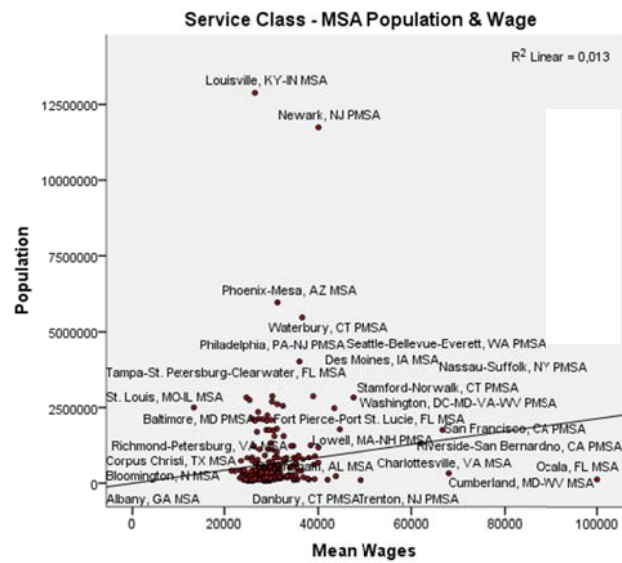Standard errors in parentheses   *** p<0.01, ** p<0.05, * p<0.1

Base for class variable used in the first regression is "forestry and fishery".

MSA Population & Wage

Creative Class - MSA Population & Wage

Service Class - MSA Population & Wage

R^2 Linear = 0,013

Louisville, KY-IN MSA

Newark, NJ PMSA

Phoenix-Mesa, AZ MSA

Waterbury, CT PMSA

Philadelphia, PA-NJ PMSA Seattle-Bellevue-Everett, WA PMSA

Des Moines, IA MSA Nassau-Suffolk, NY PMSA

Tampa-St. Petersburg-Clearwater, FL MSA

Stamford-Norwalk, CT PMSA

St. Louis, MO-IL MSA

Washington, DC-MD-VA-WV PMSA

Baltimore, MD PMSA Fort Pierce-Port St. Lucie, FL MSA

San Francisco, CA PMSA

Richmond-Petersburg, VA MSA Lowell, MA-NH PMSA

Corpus Christi, TX MSA Riverside-San Bernardno, CA PMSA

Oklahoma City, OK MSA

Bloomington, N MSA al, AL MSA Charlottesville, VA MSA Ocala, FL MSA

Cumberland, MD-WV MSA

Albany, GA MSA Danbury, CT PMSA Trenton, NJ PMSA

Population / Mean Wages

Working Class - MSA Population & Wage

R^2 Linear = 0,006

Louisville, KY-IN MSA

Newark, NJ PMSA

Phoenix-Mesa, AZ MSA

Waterbury, CT PMSA Fort Myers-Cape Coral, FL MSA

Philadelphia, PA-NJ PMSA Des Moines, IA MSA Cleveland-Lorain-Elyria, OH PMSA

New Bedford, MA PMSA Nassau-Suffolk, NY PMSA

Tampa-St. Petersburg-Clearwater, FL MSA

Stockton-Lodi, CA MSA

St. Louis, MO-IL MSA

Washington, DC-MD-VA-WV PMSA

Toledo, OH MSA Miami, FL PMSA

Richmond-Petersburg, VA MSA

Pittsburgh, PA MSA Fort Lauderdale, FL PMSA San Francisco, CA PMSA

Austin-San Marcos TX MSA

Clarksville-Hopkinsville, TN-KY MSA

Bridgeport, CT Oklahoma City, OK MSA

Ocala, FL MSA Waco, TX MSA Olympia, WA PMSA

Charlottesville, VA MSA Naples, FL MSA West Palm Beach-Boca Raton, FL MSA

Population / Mean Wages

Appendix 3	Class	Dummy Metro	Yearsin Education Mean	WAGP Mean	Column3	Class Dummy	Dummy Metro	Years in Education Mean	WAGP Mean
Married Female	CC	0	14.81	38244.51	**Non-Married Female**	CC	0	14.65	38559.63
	CC	1	15.37	48708.95		CC	1	15.18	49795.88
	SC	0	12.8	22572.88		SC	0	12.67	21429.63
	SC	1	12.99	26301.62		SC	1	12.89	26453.81
	WC	0	11.83	23724.75		WC	0	11.82	23636.09
	WC	1	11.52	25052.84		WC	1	11.67	24743.42
	FC	0	10.33	25358.58		FC	0	11.27	25963.35
	FC	1	8.8	17599.4		FC	1	9.91	18104.63
Married Male	CC	0	15	66353.93	**Non-Married Male**	CC	0	14.68	49096.71
	CC	1	15.61	89222.17		CC	1	15.21	61979.69
	SC	0	13.32	39345.47		SC	0	12.82	27649.53
	SC	1	13.32	47361.93		SC	1	12.94	30612.76
	WC	0	12.09	41300.46		WC	0	11.94	32361.27
	WC	1	11.97	44107.09		WC	1	11.87	32147.56
	FC	0	11.68	37938.33		FC	0	11.56	31189.69
	FC	1	11.13	38346.93		FC	1	11.49	26404.29