Marital Status and Wage Rate for Men: Evidence from Japan

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1. Introduction

◆ Marriage wage premium
Wage gap between married people and single people after controlling individual information such as ages and working based information.

◆ Motivation
Verify what components make wage difference between married men and single men.
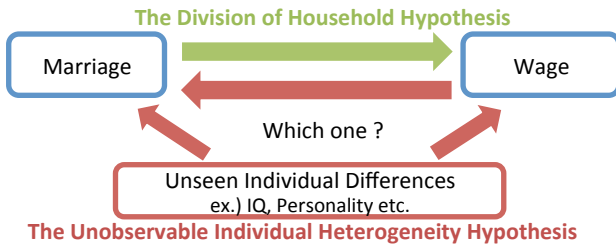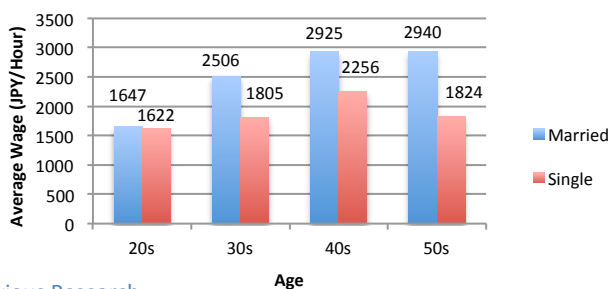Contribute to the wage disparities between men and women.

The Division of Household Hypothesis

Marriage → Wage
Which one ?
Unseen Individual Differences
ex.) IQ, Personality etc.

The Unobservable Individual Heterogeneity Hypothesis

Figure 1: Wage Difference –Men–

Previous Research

◆ **Western Countries**

— The Division Household hypothesis
Loh (1996), Gray (1997), Bardasi and Taylor (2006), Vernon (2009)

— The Unobservable Individual Heterogeneity hypothesis
Korenman and Neumark (1991), Loh (1996), Antonovics and Town (2004)

◆ **Japan**

— Kawaguchi (2005)
Panel data for only married men
Support the Unobservable Individual Heterogeneity hypothesis.
⇒ **Difference: I use the data containing both married and single men.**

— Sato (2012)
Panel data for married men and single men (KHPS)
Propensity Score Matching
Focus on the Unobservable Individual Heterogeneity hypothesis.
⇒ **Difference: I mainly focus on the Division of Household hypothesis.**

— Yukawa (2013)
Panel data for married men and single men (KHPS)
The effect of the marriage on labor supply (working time)
Husband who has a higher education than his wife works much more.
⇒ **Difference: I look at the effect of the marriage on wages.**

2. Data and Descriptive Statistics

◆ The Keio University Household Panel Survey (2004 – 2012)

Table 1: Descriptive Statistics

	Married	Single
	Mean	Mean
Wage per hour (JPY)	2776.391	1813.755
Age	49.890	40.057
Years of education	13.288	13.660
Years of experience	29.522	19.262
Tenure	13.925	7.149
Company size: Big	0.234	0.202
Sample Size	9176	2386

Table 2: Descriptive Statistics (Cont.)

	Married
Age of getting married (Now)	28.122
Duration of married (Now)	21.792
Partner: Wage per hour (JPY)	1540.392
Partner: Regular worker	0.145
Partner: Irregular worker	0.305
Partner: Full-time housewife	0.321 ← 32.1%
Education: Husband＞Wife	0.318 ← 31.8%
Education: Husband＝Wife	0.444
Education: Husband＜Wife	0.152
Sample Size	9176

Transition Matrix for Marriage

		T + 1		Total	
		Single	Married		
T	Single	1,672	76	1,748	n
		95.65	4.35	100	%
	Married	40	7,125	7,165	n
		0.56	99.44	100	%
Total		1,712	7,201	8,913	n
		19.21	80.79	100	%

Table 3: Descriptive Statistics (Cont.)

	Hourly wage (JPY)
Partner: Regular worker	2621.334
Partner: Irregular worker	2577.927
Partner: Full-time housewife	2911.496
Education: Husband＝Wife	2692.303
Education: Husband＞Wife	3187.733
Education : Husband＜Wife	2339.535

3. Estimation and Results

Variables for verifying the Division of Household hypothesis

◆ Interaction term "Marriage dummy × Partner's Working Status"
(Housework, Irregular worker etc.)

◆ Interaction term "Marriage dummy × Education difference of couples"
⇒ According to Yukawa (2013)

1) Equation Model: Partner's Working Status

$$\ln(hwage_i) = \alpha + \beta_1 (Marriage)_i + \beta_2 (Duration\ of\ Marriage)_i$$
$$+ \beta_3 (Marriage \times Housework)_i + X_i\beta_4 + \beta_5 d_t + c_i + v_i$$

Result

・Marriage Wage Premium is 20.9% in OLS. (1)

・The effect of full-time housewife on wages is about 10.5% in OLS. (2)
The effect of the marriage on wages is about 15.3% in OLS. (2)

→ Marriage Wage Premium becomes 25.8%.
⇒ Partner's Working Status (Housewife) increases Marriage Wage Premium.

・Company Size and Job Type lead marriage wage premium upward bias. (3)

・The effect of full-time housewife of wages disappear in FE. (5) (6)
⇒ The Unobservable Individual Heterogeneity
leads Male Marriage Wage Premium appeared!

Table 3: Result "Working Status"

	(1) OLS	(2) OLS	(3)FE	(4) FE
Married	0.209	0.153	-0.026	-0.014
	(0.038)***	(0.042)***	(0.047)	(0.05)
Duration of Marriage	0.004	0.005	-0.001	-0.001
	(0.002)**	(0.002)***	(0.003)	(0.003)
Married × Full-time Housewife		0.105		0.002
		(0.029)***		(0.024)
Experience Years／Tenure	Yes	Yes	Yes	Yes
Education Years	Yes	Yes	No	No
Years／Big City	Yes	Yes	Yes	Yes
Size of Company／Job Type	No	No	No	No
Married × Other Working Status	No	Yes	No	Yes
R^2	0.19	0.19	0.04	0.04
N	11,024	10,822	11,024	10,822
Hausman test	—	—	0.000	0.000
* $p<0.1$; ** $p<0.05$; *** $p<0.01$.				

2) Equation Model: Education Difference between Husband and Wife

$$\ln(hwage_i) = \alpha + \beta_1 (Marriage)_i + \beta_2 (Duration\ of\ Marriage)_i$$
$$+ \beta_3 (Marriage \times Education\ Difference)_i + X_i\beta_4 + \beta_5 d_t + c_i + v_i$$

Result

・Marriage wage premium is 14.5% to 14.9% in OLS.

・No marriage wage premium observed in FE.

・No effect of Education Difference between Couples on wages
in both OLS and FE.
⇒ The Comparative advantage may not be based on education…?

4. Conclusion

◆ No evidence to support the division of household hypothesis in Japan.

◆ Unobservable individual heterogeneity is a main reason for the wage gap between married and single men.