



Ecos de Economía

ISSN: 1657-4206

ocaiced1@eafit.edu.co

Universidad EAFIT

Colombia

Coavas Blanquicetta, Sami Gabriel; Gómez Duarte, Laura
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Ecos de Economía, vol. 20, núm. 42, 2016, pp. 70-89
Universidad EAFIT
Medellín, Colombia

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Research Article

FOR LOVE OR FOR MONEY? A STUDY OF THE MARRIAGE WAGE PREMIUM IN COLOMBIA

¿Por amor o por dinero? Un estudio de la prima salarial por matrimonio en Colombia

Sami Gabriel Coavas Blanquicett^a, Laura Gómez Duarte^{b*}

Key words: Married, non-married, Wage Gap, Marriage, Wage Premium, Colombia.

Palabras clave: Brecha salarial, prima salarial, matrimonio, casados, no casados, Colombia

JEL classification: C31, G14, G15

Received: 07/04/2016

Accepted: 11/05/2016

Published: 17/06/2016

Abstract

Being married may raise worker productivity and increase the probability of remaining in a job and, as consequence, obtaining a wage premium. Yet, this effect may be different for males and females. In developing countries, such as Colombia, the premium may be larger than in developed countries due to the differing social norms and labor market structures. Using cross-sectional data from Colombian Household Surveys, this paper examines the marriage wage premium and its evolution in Colombia both at the aggregate level and by gender. We find a marriage wage premium for both male and female populations; this wage premium is explained by the greater human capital endowment in married people and to employer favoritism due to the “social norms” which consider being married an appropriate behavior and reward it.

Resumen

Estar casado podría aumentar la productividad de los trabajadores y aumentar sus posibilidades de conservar su puesto de trabajo y como consecuencia, un salario mayor. Sin embargo, este efecto puede ser diferente si consideramos el género. En los países en desarrollo, como Colombia, la prima salarial puede ser mayor que en los países desarrollados debido a las normas sociales y diferencias en la estructura del mercado laboral. Usando la Gran Encuesta Integrada de Hogares (GEIH), este trabajo examina la existencia de la prima salarial por matrimonio en Colombia y su evolución, se hace para toda la población y diferenciando por género. Encontramos una prima salarial matrimonio para ambas poblaciones masculina y femenina; esta prima salarial se explica por la mayor dotación de

a, b. Universidad EAFIT, Colombia.

*Corresponding author.

E-mail address: lauragoduarte@gmail.com

capital humano en las personas casadas y al favoritismo empleador debido a las "normas sociales" que consideran el matrimonio como una conducta apropiada y se recompensa.

1. Introduction

Marriage creates the need to rethink the way men and women participate in the labor market due to the interdependence of the decisions that individuals have to make once they decide to be together. For this reason policymakers in the United States ([Ahituv, A., & Lerman, R. I.](#), 2005) build family-related provisions into welfare legislation, conscious of the link between family structures and poverty.

This interdependence, in turn, affects employer's behavior due to the presence of associated factors, such as trustworthiness, stability, and the productivity of the employee, creating different treatment of married and non-married populations. Moreover, employer behavior may be different for individuals of different genders due to the different roles that males and females have within households. While there is some evidence that shows a wage premium independent of the individual's gender ([Hidalgo](#), 1999); other studies indicate that married men earn more than non-married men, but married women do not earn more than non-married women. This phenomenon for females is called the motherhood penalty. In Colombia women without children earn on average 1.73% more than mothers ([Gamboa, L. F., & Zuluaga, B.](#), 2013). However, ([Olarte, L. & Peña, X.](#), 2010) found that the motherhood penalty is 17.6%. Therefore, the existing evidence on the size of the penalty is not conclusive.

The effects of marriage on men and women's wages can be ambiguous; it depends on the household role of each partner and their labor force participation, as well as the household structure. In accordance with [Social Trends Institute & Child Trends](#) (2014), in Colombia 20% of the population in the reproductive age, ranging between 18 and 49 years old, is legally married, the lowest share in Central and South America and worldwide. This rate can be compared to the share in Costa Rica of 62% and in Egypt of 80%. This estimate of the Colombian share coincides with the results of the Gran Encuesta Integrada de Hogares, that found shares of 21.9% in 2008, 20.9% in 2011, and 20.6% in 2013.

According to Charry (2004) women's labor participation has increased substantially in recent decades. As such, Colombia is an excellent country to study marital wage gaps in the context of an emerging country that formerly had a traditional family structure.

Researchers have had less interest in the marital wage premium for women. This paper analyzes this issue because we argue that women are increasingly important to the labor market. There are several studies of marriage wage premium in many countries or places such as the United States, Denmark, Great Britain, China, South Africa, Australia, Sweden among others, but in South America Brazil is the only country with a study of the marital wage premium. This paper is the first to examine this premium in Colombia.

This paper explores marriage wage premium (or penalty) in Colombia and its evolution over time using data from the Gran Encuesta Integrada de Hogares for the years 2008, 2011 and 2013 (GEIH 2008, 2011 and, 2013). These years were selected because these surveys have national representation and comparability and allow an overview of developments over a timeline of five years. To ensure the robustness of our results we employ parametric and non-parametric methods that allow a more accurate estimation of the marriage wage premium. In particular, we use the two methodologies of [Blinder-Oaxaca](#) (1973) and [Nopo](#) (2009).

Countries encourage marriage for several reasons, including the advantages of sharing labor market participation and household tasks, better conditions for children, and higher incomes for the household. All the papers we examined in the literature find that the wage gap benefit married people or those cohabiting, which suggests that in most families where there is marital union there is less poverty.

We still have many questions to answer: ¿Why is Colombia one of the countries with the highest percentage of children living without either parent? ¿Or why has Colombia the lowest percentage of married couples? In the United States there is considerable discussion of these issues, as well as whether or not to encourage healthy marriages to avoid poverty and reduce out-of-wedlock births.

The paper is structured as follows. The next section presents a brief literature review. The third section explains the empirical strategy. The fourth section presents the data. The fifth section presents the results. The sixth section presents the conclusions.

2. Literature review

A. Why is there a wage premium?

The empirical findings on wage differences in the literature suggest that there is commonly a premium for married versus non-married men and a penalty for women in the same circumstances ([Hill, 1979](#)) ([Korenman & Newmark, 1990](#)) ([Jacobsen & Rayack, 1996](#)), leading to a persistent gender gap. The explanation for this difference is that remuneration in the labor market for married women is less than for men because women perform more household work.

[Becker G.](#) (1971, 1981, 1985) developed a marriage theory, also known as the specialization hypothesis or causal explanation, that married women are focused on home production, allowing married men to focus on activity in the labor market. In addition, the greater increase in human capital and wages of married men is due to a productivity gap relative to non-married men, while married women exhibit the opposite effect.

[Korenman & Neumark](#) (1991) adopt the ideas of Becker and conclude that 20% of married men's wage difference is attributable to marital invariant factors over time, such as real work experience, the geographical area, conditions of self-employment, the presence of dependents, and union. Further, married men get better performance evaluations, more frequent promotions, and rapid salary increases after marriage. [Gray](#) (1997), using data from the National Longitudinal Surveys, found a decrease in the marital wage premium and decreased productivity associated with marriage over time; instrumental variables estimation suggests that the declining productivity effects can be explained by a reduction in the average degree of specialization combined with an increase in the wage penalty associated with wives' labor market participation. [Datta Gupta, Smith, & Stratton](#) (2007) estimated the wage gap for married men in Denmark using OLS and found a premium between 3.2 and 4%; they attributed the low premium to a trend toward more equal division of household labor.

[Chun & Lee](#) (2001) examined the causes behind their findings that show a higher salary for married men over their unmarried counterparts. They concluded that the marital wage premium is positively related to the degree of specialization within the household, but that factors such as human capital, race, and geographic location may explain a larger share of the gap. [Korenman & Newmark](#)

(1990) carried out an analysis of wage differentials between married and unmarried women with and without children in the United States, using data from 1982 and a subsample from 1980. They concluded that there is no penalty on wages for married women or for maternity because they did not find a causal relationship between marriage, motherhood, and wages. [Bellas](#) (1992) found that male faculty with homemaking spouses not only had higher salaries than men whose wives were employed, but also that they published significantly more scholarly articles and books. [Birch & Miller](#) (2006) found that men benefit from labor specialization within marriage, because those who have working wives earned 12% less than those whose wives remained at home.

The selection hypothesis raises the possibility that marriage is correlated with unobserved attributes that are valued in the labor market such as integrity, the work ethic, and honesty, among others. It differs from the causal explanation in the direction of causality; the implication is that married people are more productive, not because they become more productive after marriage, but because they were more productive before marriage.

Using fixed effects panel methods, [Dougherty](#) (2006), [Rodgers & Stratton](#) (2010) and [Casale & Posel](#) (2010) tested this hypothesis, controlling for human capital, family background, years of marriage, and job training. Their results were consistent with the idea that income increases with maturation and that the effect is evident at least five years before marriage, and maybe even a few years earlier. There is a growing wage premium after one year, at which time the premium is 14%. The premium continues to rise for a few years after marriage, reaching a maximum of 19 or 20 percent, and then stabilizes. [Antonovics & Town](#) (2004), using data on monozygotic twins, found within pairs of twins that the twin who marries receives a wage premium of 30%.

On the other hand, [Ginther & Zavodny](#) (2001) studied the marriage premium derived from the selection hypothesis, focusing on the effect of unexpected marriages, finding differences in the wages of married men with premarital conception and shotgun weddings. [Bardasi & Taylor](#) (2008) suggest that employers use marriage as a signal for unobservable characteristics that are valued by wives and employers without rejecting the reasoning proposed by Becker. Likewise, [Geist](#) (2005) examined the effect of marital status on wages of men and women from 15 countries using data from Wave V of the Luxemburg Income Study (LIS). Her study concludes that there is a universal premium for the wages of married men that can be explained by human capital and selection.

In the third hypothesis, discrimination, [Nock](#) (2005) argues that social norms favor marriage, family, and stable relationships; employers consciously or not, reward them. [Hersch & Stratton](#) (2000) using fixed effects models of panel data found the marriage premium is not primarily due to the selection of more productive men into marriage. Married men could get preferential treatment from employers, such as more training or promotions, or men could become better workers because of the job stability induced by marriage.

[Jacobsen & Rayack](#) (1996) present evidence of a wage premium for traditional marriage to be explained by discrimination. [Hill's](#) (1979) analysis includes detailed controls for human capital, work history, health status, industry, and the number of children. Using data from the Panel Study of Income Dynamics (PSID 1976), she found a marriage premium for men (and no effect of marriage status on women's wages) as a result of statistical discrimination. Using the methodology of quantile treatment effect, [Maasoumi, Millimet, & Dipanwita](#) (2009) conclude that discrimination plays an important role for low-wage workers.

Finally, (Lincoln, 2008) (Greenhalgh, 1980) (Richardson, 2000) (Loh, 1996) find unlikely that the marriage premium is caused only by productivity differences between married and unmarried workers. They attribute an unexplained portion of the premium to selection and employer favoritism.

3. Empirical Strategy

We use two techniques to analyze the marital wage premium in Colombia: the first one is [Blinder-Oaxaca](#) (1973) and the second is [Nopo](#) (2009). We use both techniques because they have different strengths as analytic methodologies. [Blinder-Oaxaca](#) (B-O) has two advantages, 1) It separately calculates the effects of worker endowments and payments and, 2) It separates the coefficient for each comparison group that can be measured for each endowment ([Cassells & McNamara](#), 2009). The [Nopo](#) technique is more disaggregated in that it recognizes the difference of both groups in the support, and for that reason, not all the married people are comparable to the non-married ([Nopo](#), 2008). [Nopo](#) decomposes wages by the distribution of the variables and provides a more accurate estimate of the wage gap than B-O.

The Blinder-Oaxaca decomposition involves estimating separate equations of Mincer-type earnings for each study group (married/non-married, male married/non-married, female married/non-married) which decomposes the differential found to two causes 1) the differences between allocations attributed to groups, or to controlled observable characteristics, such as human capital variables and 2) the existence of differences in payments attributable to non-observable characteristics, such as productivity, quality of education, vocational training, family history and local labor market conditions. (Fortin, Lemieux, & Firpo, 2010)

To formalize, the wage gap is given by:

$$\ln \widehat{W}_m - \ln \widehat{W}_n = \widehat{X}_m \widehat{B}_m - \widehat{X}_n \widehat{B}_n$$

Where, $\ln \widehat{W}_m$ and $\ln \widehat{W}_n$ are the estimates of the natural log of married and non-married wages, respectively. From separate wage regressions by group, \widehat{X}_m and \widehat{X}_n are vectors of the mean values of the married and non-married characteristics. Finally \widehat{B}_m and \widehat{B}_n are vectors of the estimated regression coefficients from the married and non-married wage regressions.

By rearranging this expression, we obtain the decomposition of wage differentials to their causes:

$$\ln \widehat{W}_m - \ln \widehat{W}_n = \widehat{B}_m (\widehat{X}_m - \widehat{X}_n) - \widehat{X}_n (\widehat{B}_m - \widehat{B}_n)$$

Thereby:

$\widehat{B}_m (\widehat{X}_m - \widehat{X}_n)$ = Portion of the differences in payments attributable to the differential in endowments.

$\widehat{X}_n (\widehat{B}_m - \widehat{B}_n)$ = Portion of the differences in payment although having the same endowments.

B-O has some shortcomings that could generate drawbacks in the results; these are: The decomposition of Blinder-Oaxaca provides information only about the average wage gap and does not provide information on the rest of the distribution. On the other hand, it does not restrict the comparison to comparable individuals that could generate bias in the results. Additionally, (Heckman, 1979) argues

that a correction for selection bias is required in this regression because not all participants in the labor market have positive wages, yet we do not include this correction.

For these reasons, we also use a non-parametric matching approach, introduced by [Nopo \(2009\)](#). The observable characteristics of married and non-married people are used to match both groups, decomposing the part of the distribution that is within the common support and out of the common support.

In this approach to model the individuals' earnings let Y denote the outcome, X the individual characteristics, and F^M and F^N the cumulative distribution function that conditions the characteristics of each individual of the two groups respectively. The relationship between the expected value, conditioning on the characteristics and the marital status, is represented by $g^M(x)$ and $g^N(x)$.

$$E[Y | M] = \int_{S^M} g^M(x) dF^M(x) \quad (1)$$

$$E[Y | N] = \int_{S^N} g^N(x) dF^N(x) \quad (2)$$

To estimate the wage gap we use the difference of the wage's expected value for the distribution of characteristics for married S^M , and the distribution of characteristics for non-married S^N , as follow:

$$\Delta = E[Y | M] - E[Y | N] \quad (3)$$

Replacing equations (1) and (2) into (3), we have:

$$\Delta = \int_{S^N} g^M(x) dF^M(x) - \int_{S^N} g^N(x) dF^N(x) \quad (4)$$

Now we divide each integral into two parts, where each one contains the intersection of the common support and out of the support. Considering that the distribution S^N is different than S^M :

$$\begin{aligned} \Delta = & \left[\int_{S^N \cap S^M} g^M(x) dF^M(x) + \int_{S^N \setminus S^M} g^M(x) dF^M(x) \right] \\ & - \left[\int_{S^N \cap S^M} g^N(x) dF^N(x) + \int_{S^N \setminus S^M} g^N(x) dF^N(x) \right] \end{aligned} \quad (5)$$

After some algebraic manipulation, we have four components:

$$\begin{aligned} \Delta = & \int_{S^M \cap S^N} [g^M(x) - g^N(x)] \frac{dF^N(x)}{\mu^N(S^M)} + \left[\int_{S^N} g^M(x) \frac{dF^M(x)}{\mu^M(S^N)} - \int_{S^N} g^M(x) \frac{dF^M(x)}{\mu^M(S^N)} \right] \mu^M(\overline{S^N}) \\ & + \left[\int_{S^M} g^N(x) \frac{dF^N(x)}{\mu^N(S^M)} - \int_{S^M} g^N(x) \frac{dF^N(x)}{\mu^N(\overline{S^M})} \right] \mu^N(\overline{S^M}) \\ & + \int_{S^M \cap S^N} g^M(x) \left[\frac{dF^M(x)}{\mu^M(S^N)} - \frac{dF^N(x)}{\mu^N(S^M)} \right] (x) \end{aligned} \quad (6)$$

$$\Delta = \Delta_o + \Delta_M + \Delta_F + \Delta_X$$

The first component can determine the discrimination given the unobservable characteristics. And, the last three $\Delta_X + \Delta_M + \Delta_F$ can be attributed to differences in the observable characteristics.

$\Delta_0 = \int_{S^M \cap S^N} [g^M(x) - g^N(x)] \frac{dF^N(x)}{\mu^N(S^M)}$: This component of the wage gap can be attributable to the unobserved characteristics. (Discrimination)

$\Delta_M = \left[\int_{S^N} g^M(x) \frac{dF^M(x)}{\mu^M(S^N)} - \int_{S^N} g^M(x) \frac{dF^M(x)}{\mu^M(S^N)} \right] \mu^M(\overline{S^N})$: It is the part of the wage gap explained by the differences in characteristics between unmatched and matched married people.

$\Delta_N = \left[\int_{S^M} g^N(x) \frac{dF^N(x)}{\mu^N(S^M)} - \int_{S^M} g^M(x) \frac{dF^N(x)}{\mu^N(S^M)} \right] \mu^M(\overline{S^M})$: It is a portion of the wage gap that results from the differences in characteristics between unmatched and matched non-married people.

$\Delta_X = \int_{S^M \cap S^N} g^M(x) \left[\frac{dF^M(x)}{\mu^M(S^N)} - \frac{dF^N(x)}{\mu^N(S^M)} \right] (x)$: It considers the common support in the distribution of the observed characteristics of married and non-married people.

The basis for our dependent variable is the logarithm of the personal individual wage per hour for each year. We use it because is more appropriate to measure the productivity of each individual. The transformation to log form is convenient because the empirical distribution of the logarithm of the income is closer to a normal distribution than the income distribution, also because the change in the logarithm per hour corresponds to the percentage change in the personal income per hour.

The set of control variables used to make the decomposition to measure human capital are the following: education (measured as years of schooling), experience (measured in years of work experience and with learning by doing) and experience squared; these variables are taken from the equation proposed by [Mincer](#) (1974). Furthermore, we include the sectors of the economy, namely, the primary sector that covers agriculture (dummy); the secondary sector, related to commerce and industry with low technology and the rest of manufacturing (dummy); and the tertiary sector which covers the services (water, gas, banks, finances, etc) but is not included in the model. Lastly, we use a dummy in case the population resides in an urban area.

4. Data

The empirical analysis uses data from the Gran Encuesta Integrada de Hogares (GEIH 2008, 2011 and 2013) collected by the National Administrative Department of Statistics (DANE). The GEIH survey collects information about household conditions, the composition and characteristics of the household, education, health, and labor market participation. The GEIH (2008, 2011 and, 2013) cover 24 principal cities, county seats, and rural areas. These surveys have national coverage, and they allow inference of population parameters through the use of expansions factors to maintain representativeness. Within the surveys, the expansion factors were divided into 12, which correspond to each month of the year.

Considering the importance of the data offered by these surveys, we sought to analyze what happens in terms of marriage wage premium during this period of time. To identify the wage premiums, we restrict the data in some dimensions. As the wage-setting process is different according to employment status, we only consider employees in the private and public sectors. We exclude individuals over retirement age (65 years old) and under the average age of marriage in Colombia (21 years). In addition, individuals who did not provide information about wages, education, marital

status, or age were excluded from the data. The cities are heterogeneous; for this reason, we plan to include this variable in further studies.

In the literature it is conventional to restrict the analysis to legally-married individuals to test for the preferential treatment of employers. Also, studies of the marital wage premium typically treat separated and divorced couples similarly.

For comparison we separate the sample between men, women, and the total population between married/non-married as shown in [Table 1](#).

Table 1: Descriptive Statistics

Characteristics	Married	Non-married	Married	Non-married	Married	Non-married
	2008		2011		2013	
A. Total population						
Age	41.35 (9.67)	35.21 (10.28)	41.97 (9.92)	34.82 (10.32)	42.30 (9.75)	35.11 (10.54)
Hourly wage (\$)	4791.90 (3872.2)	3479.88 (2816.58)	5914.2 (4636.52)	3961.684 (3156.223)	6206.427 (5121.18)	4363.901 (3507.42)
Years of schooling	9.98 (4.81)	9.19 (4.49)	10.98 (4.68)	9.55 (4.38)	10.74 (4.73)	9.65 (4.48)
Experience	25.36 (11.36)	20.02 (11.78)	24.91 (11.37)	19.23 (11.90)	25.55 (11.62)	19.46 (12.3)
Lives in urban area	76%	70,87%	79.79%	71,52%	76,81%	73,76%
Lives in rural area	24%	29,12%	20.20%	28,47%	23,18%	26,23%
Sectors of the economy						
Primary %	20,18%	24,19%	16,20%	19,32%	10,62%	13,96%
Secondary %	22,91%	30,38%	24,86%	34,98%	23,96%	36,26%
Tertiary %	56,9%	45,42%	58,93%	45,69%	65,4%	49,76%
Employee type						
Private Employee	70%	83,63%	72,28%	87,30%	74,93%	88,20%
Public Employee	30%	16,63%	27,71%	12,69%	25,06%	11,72%
B. Women						
Age	40.02 (9.20)	35.70 (10.15)	41.01 (9.63)	35.14 (10.18)	41.12 (9.33)	34.52 (10.25)
Hourly wage (\$)	5691.78 (4069.03)	3892.55 (3128.33)	7069.84 (5155.16)	4290.97 (3633.72)	7437.07 (5790.71)	4760.829 (4102.67)
Years of schooling	12.54 (4.08)	10.99 (4.18)	13.07 (3.86)	11.09 (4.04)	12.7 (4.23)	11.43 (3.97)
Experience	21.45 (10.06)	18.71 (11.33)	21.91 (10.24)	18.07 (11.32)	22.42 (10.71)	17.09 (11.31)
Lives in urban area	80.48%	82.69%	88,88%	81,82%	83,68%	81.66%
Lives in rural area	19.51%	17.3%	11,11%	18,17%	16,31%	18.33%
Sectors of the economy						
Primary	8.57%	9.17%	6,32%	7,76%	1.83%	3.97%
Secondary	21.87%	32.72%	22,14%	41,52%	23,24%	43.35%
Tertiary	69.55%	58.09%	71,53%	50.71%	74,92%	52.66%
Employee type						
Private Employee	56,82%	73,16%	59,14%	80,66%	62,78%	82,64%
Public Employee	43,17%	26,83%	40,85%	19,33%	37,21%	17,35%
C. Men						
Age	42 (9.82)	34.95 (10.34)	42.48 (10.03)	31.07 (9.72)	42.91 (9.90)	35.46 (10.68)
Hourly wage (\$)	4354.87 (3694.69)	3252.30 (2601.03)	5293.36 (4203.12)	3784.72 (2851.27)	5560.86 (4602.53)	4132.627 (3085.01)
Years of schooling	8.75 (4.65)	8.20 (4.35)	9.84 (4.70)	8.71 (4.33)	9.71 (4.65)	8.61 (4.43)
Experience	27.24 (11.48)	20.74 (11.95)	26.55 (11.63)	19.86 (12.16)	27.20 (11.75)	20.84 (12.63)

Characteristics	Married	Non-married	Married	Non-married	Married	Non-married
	2008		2011		2013	
Lives in urban area	73.82%	64,36%	74,92%	65,98%	73.20%	69.16%
Lives in rural area	26.17%	35,63%	25,07%	34,01%	26.79%	30.83%
Sectors of the economy						
Primary	25.82%	32,47%	21,50%	25,54%	15.22%	19.78%
Secondary	23.41%	29,08%	26,32%	31,46%	24.35%	32.13%
Tertiary	50.75%	38,43%	52,16%	42.99%	60.41%	48.07%
Employee type						
Private Employee	77.01%	89,41%	79,35%	90.86%	81,31%	91,54%
Public Employee	22,89%	10,58%	20,64%	9,13%	18,68%	8,45%

For the years studied non-married people have lower wage than their counterparts, although, married people on average are increasing their level of education. The hourly wage calculated from the principal wage divided by the working hours for the principal employment shows that there is a wage gap between married women and non-married women, also for married men and non-married men. For married women the average hourly wage gap is increasing rapidly through time. Similarly for married men the hourly wage gap increases between 2008 and 2011 and then it stabilizes around 42%. These gaps are not comparable because of the existence of different characteristics related to earnings, such as schooling, experience, age, sectors of the economy, and employee type that indicates if the worker works in the public or private sector.

The mean age for married workers is between 41 years old and 42 years old, in 2011 the difference between married and unmarried is about 7 years, and in 2013 as well.

Comparing the participation of the labor force in the sectors of the economy, we observe that for 2008 and 2011 married people had a greater participation in the tertiary sector of economy. However, in the tertiary sector the participation increases through the years and decreases in the primary sector. On average more government employees are married than non-married.

5. Results

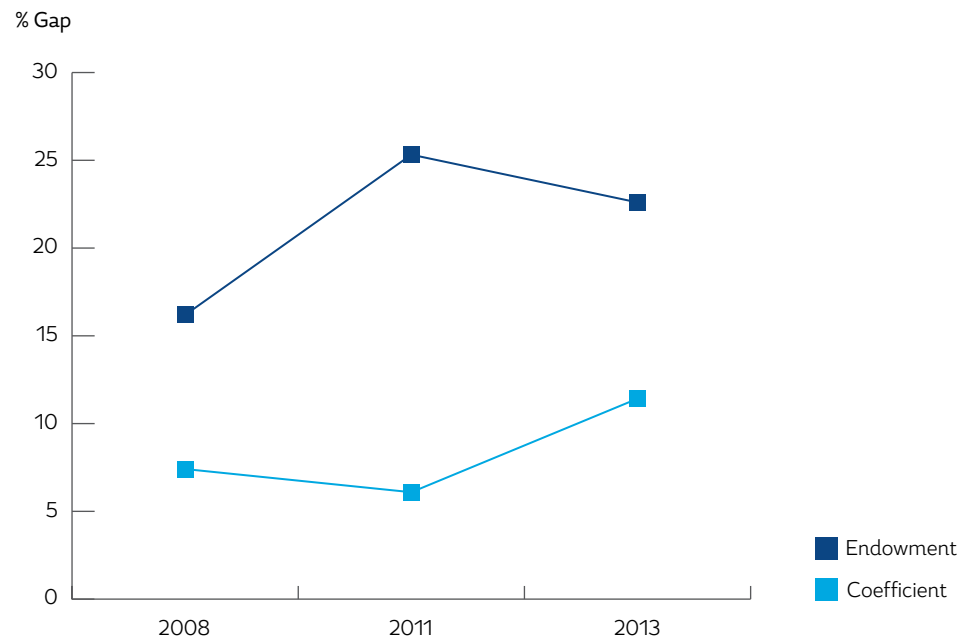
Table 2: Blinder-Oaxaca Decomposition

	Difference ($\ln W_m - \ln W_n$)	Endowment ($X_m - X_n$) β_m	Coefficient $X_n (\beta_m - \beta_n)$	Interaction ($\epsilon_m - \epsilon_n$)
A. Total Population				
2008	27.2%***	16.19%***	7.38%***	3.63%**
2011	34,71%***	25,32%***	6,09%***	3,28%
2013	30.44%***	22.6%***	11.42%***	-3%*
B. Women				
2008	36.08%***	24.52%***	9.09%***	2.45%
2011	47,92%***	37,78%***	7,56%***	2,57%
2013	43.56%***	33.26%***	17.14%**	-6.84%*

	Difference ($\ln W_m - \ln W_n$)	Endowment ($X_m - X_n$) β_m	Coefficient $X_n (\beta_m - \beta_n)$	Interaction ($\epsilon_m - \epsilon_n$)
C. Men				
2008	23.49%***	14.69%***	4.83%*	3.96%*
2011	27.49%***	19.93%**	4.02%***	3.53%***
2013	23.76%***	17.94%***	7.41%**	-1.59%

Note: This table reports the results of the Blinder Oaxaca decomposition. The significance level is: ***p < 0.001; **p < 0.05; *p < 0.1. Estimates were made per year. Column one, represents the mean outcome of the difference of the logarithm of the salary between the married and non-married; column two represents the endowment that is the differential of the salary attributable to the different characteristics among the two groups; column three represents the coefficient of the differential in the salary attributable to different remuneration for each marital status; and the last column represents the interactions. It takes into account the fact that it exists simultaneous differences between both groups in coefficients and endowments.

Graph 1: Behavior of Blinder-Oaxaca decomposition %Gap Total population



The results for the Blinder-Oaxaca decomposition are shown in [Table 2](#). They show that there is a marriage wage premium in the Colombian labor market. For

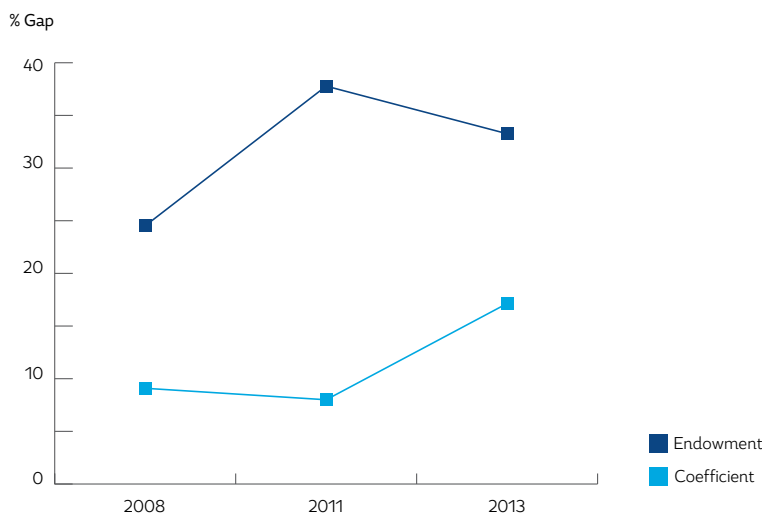
2008 the wages for married workers are 27.2% higher than for non-married workers. 59% of this gap is explained by less endowments in non-married people; 27% by higher payments to married people if they have the same characteristics of the unmarried (employee favoritism); and, 14% for the interactive term.

Also, we found that the marriage wage premium increased to 34.7% in 2011. According to the decomposition of the differential, as stated in the Blinder Oaxaca methodology, the endowment component is 25.3%, which denotes the mean increase in the wage that non-married people would enjoy if they had the same productivity or endowment as married people. Now, if the endowments were the same for married and non-married people there would still be a gap of 6.1% (Coefficient effect).

Additionally, for 2013 the gap was 30.4%, which was less than previous years, showing a decrease in the payment to endowments (22.6%), and an increase in the coefficient (11.4%), meanwhile, the interactive term has somewhat of an equalizing effect on the wage gap (-3%).

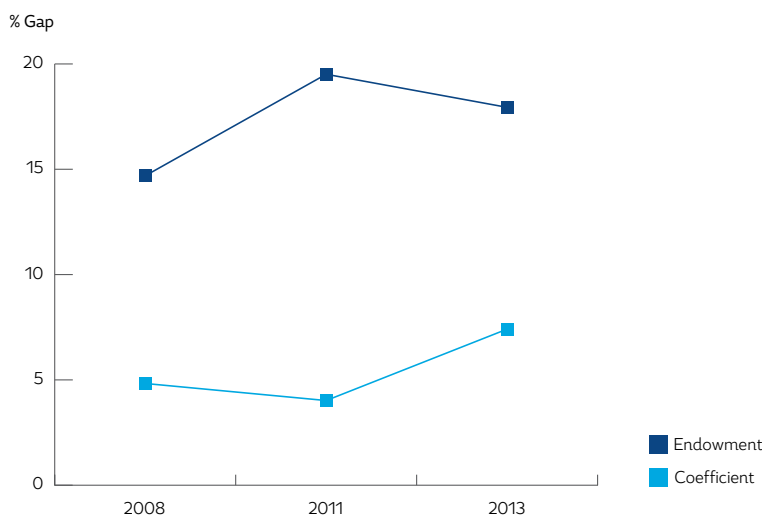
For these years the marriage wage premium is mainly explained by higher payments to the best endowment for married people, 59.5% in 2008, 72.9% in 2011 and, 74.2% in 2013.

Graph 2: Behavior of Blinder-Oaxaca decomposition %Gap Women



There is a female marriage premium in Colombia. The wage gap between married and non-married women is highly explained by endowments. As married women have better endowments than the non-married, their wage was higher by 24.5% in 2008, 37.8% in 2011, and 33.3% in 2013. Similarly, if we compare married and non-married women with the same characteristics, we found a rising portion attributable to better payment in favor of married women of 9.1% in 2008, 7.6% in 2011, and 17.2% in 2013.

Graph 3: Behavior of Blinder-Oaxaca decomposition %Gap Men



Married men earn more than non-married men; the marriage wage premium is 23.5%, 27.5% and 23.7% for the years 2011, 2008, and 2013 respectively. It is important to note that the share of the payment for the greater endowment of married men increases from 52.1% in 2008, 72.5% in 2011 to 73.8% in 2013. If non-married men had the same characteristics as married men, they would incur a penalty of 4.8% in 2008, 4.1% in 2011, and 7.4% in 2013. The interactive term measures the effects of differences in endowments and coefficients that occur simultaneously, showing that if the married men had the same productivity as the non-married men, their wages would increase 4.0% and 3.5% for the years 2008 and 2011. For 2013 the effect is not significant.

Table 3. Ñopo Decomposition

	Delta	Delta O	Delta M	Delta N	Delta X	Unexplained Component	Explained Component
Total Population 2008	37%						
Specification 1		34%	0,08%	2,9%	-0,07%	34%	3%
Specification 2		28%	-6%	15%	-0.03%	28%	9.%
Specification 3		23%	-15%	24%	5%	23%	14%
Specification 4		9%	-5%	13%	20%	9%	28%
Total Population 2011	49%						
Specification 1		49%	-	-	-	49%	0%
Specification 2		47%	-5%	8%	-1%	47%	2%
Specification 3		36%	-8%	11%	10%	36%	11%
Specification 4		9%	-2%	5%	37%	9%	40%
Total Population 2013	42%						
Specification 1		38%	-17%	21%	-	38%	4%
Specification 2		36%	-54%	65%	-5%	36%	6%
Specification 3		40%	-25%	30%	-3%	40%	2%
Specification 4		18%	-11%	14%	21%	18%	24%
Women 2008	46%						
Specification 1		37%	14%	-4%	-0.3%	37%	9%
Specification 2		34%	-9%	30%	-9%	34%	12%
Specification 3		30%	-12%	10%	18%	30%	16%
Specification 4		25%	-10%	24%	7%	25%	21%
Women 2011	64%						
Specification 1		60%	-11%	15%	-	60%	4%
Specification 2		59%	-5%	10%	-	59%	5%
Specification 3		57%	-3%	4%	-	57%	7%
Specification 4		51%	-11%	17%	7%	51%	13%
Women 2013	56%						
Specification 1		48%	-47%	55%	-	48%	8%
Specification 2		48%	-47%	55%	-	48%	8%
Specification 3		48%	-41%	47%	2%	48%	8%
Specification 4		51%	-24%	29%	-	51%	5%

	Delta	Delta O	Delta M	Delta N	Delta X	Unexplained Component	Explained Component
Men 2008	34%						
Specification 1		30%	2%	2%	-	30%	4%
Specification 2		22%	2%	6%	4%	22%	16%
Specification 3		20%	-5%	5%	14%	20%	14%
Specification 4		6%	6%	14%	8%	6%	28%
Men 2011	39%						
Specification 1		39%	-	-	-	39%	0%
Specification 2		37%	2%	-	-	37%	2%
Specification 3		35%	-7%	8%	3%	35%	4%
Specification 4		21%	-4%	7%	15%	21%	18%
Men 2013	34%						
Specification 1		32%	-49%	50%	1%	32%	2%
Specification 2		30%	-70%	74%	-	30%	4%
Specification 3		30%	-36%	21%	-7%	30%	4%
Specification 4		25%	-13%	14%	8%	25%	9%

Note: This table reports the Ñopo decomposition. Estimates were made per year. The columns represent the outcomes for the years 2008, 2011, and 2013. Furthermore, the table is divided in three panels (total population, women and, men).

Specification 1: age, years of education, experience, and square experience.

Specification 2: age, years of education, experience, square experience and sectors of the economy.

Specification 3: age, years of education, experience, square experience, sectors of the economy, and urban area.

Specification 4: age, years of education, experience, square experience, sectors of the economy, urban area, and employee type.

Each panel has the decomposition of the gap in the following order: the first row represents the total wage gap, the second row the unexplained part of the gap, the third row is the difference between the group of married that are closer to the characteristics of the non-married and those that are not in the common support, the fourth row is similar to the third but for the group of non-married, the fifth is the part of the gap that can be explained by differences in the distribution of the observable characteristics, and the last two represent the percentage of individuals that are in the common support of married and non-married.

After controlling for the set of characteristics of the total population, our findings suggest that married people earn 37% more than non-married people for the year 2008, 49% for 2011, and 42% for 2013. We can observe what happened with the unexplained component of the gap in each specification. The first specification shows that after controlling only for human capital variables, the gap remains unexplained, but after including characteristics of the economy, such as urban areas and employee type, the gap is better explained. The values in the table show that employee type has a significant explanatory effect on the marriage wage premium, reducing the unexplained portion to 9%.

Table 3 presents the results for the Ñopo decomposition. According to Specification 4 of Ñopo's decomposition, the part of the gap that shows the difference between the characteristics of married that are in and out of the matching with non-married people is -5% and that would disappear if the existence of characteristics of married are never met with the other group. The average for non-married is 13% that represents the part of the characteristics of the non-married that are not matched with the married. Further, the common support of the two groups is 20%, close to the results with BO.

For 2011, we found that the gap is 49.3% for the total population, with the married workers the ones that earn more. According to Specification 4, only 18% of the total gap is not explained by observable characteristics and it can be attributed to discrimination in favor of married workers, while $\Delta_x + \Delta_n + \Delta_m$ explain the remaining 82%. According to the Ñopo decomposition, married women earn about 64.8% more compared to married women outside of common support, which reduces this wage premium in 11%; it is also important to note that non-married women with different characteristics from married ones increase the gap by 17%. We also found employer favoritism for married women of 7%. For married men, it is important to show that the wage premium is 39.9%, but if we have a group of married and non-married men with similar characteristics, we observe that the wage is reduced by 4% for those who do not have similar characteristics, and the wage is increased a 15% for those who have the same characteristics as married men.

Regarding the results obtained in 2011 and 2013 the marriage wage premium decreased 14%, which is particularly observable in married men. For married women this decrease is due to the observable factors Δ_m , while for men the distribution of a set of characteristics over common support for non-married and married is such that rewards of 8% go to married men.

5. Conclusions

This paper begins the discussion about the existence of a marriage wage premium in Colombia, an issue about which further research is needed, considering that Colombia has the lowest legally-married share of the population in the world and that a link may exist between family structures and poverty. Using data from the Gran Encuesta Integrada de Hogares for the years 2008, 2011, and 2013 (GEIH 2008, 2011, and 2013) to investigate if there is a marriage wage premium, we conclude that marital status is associated with a “premium” for men and women in Colombia.

Married workers earn more than non-married workers, and this premium grows between 2008 and 2011, but falls in 2013. According to Blinder-Oaxaca decomposition, the marriage wage premium is largely a reflection of married workers’ larger stock of human capital. Likewise, the BO decomposition shows that the marriage wage premium is largely explained by this endowment effect, although there also is employer favoritism. While the Ñopo decomposition indicates a wage premium higher than the Blinder-Oaxaca decomposition, this difference occurs because Ñopo compares individuals within and outside of the common support, while Blinder-Oaxaca only compares average individuals.

With respect to the different characteristics of human capital, the Ñopo decomposition shows that the demographic area and the kind of employer explain the largest shares of the marriage wage premium. If we compare individuals within the common support, the marriage wage premium is greater for men than for women.

Our findings are comparable to those presented in the literature, specifically for the U.S. case in which the premium is between 10% and 40% for men. In contrast, for women there is a significant difference in Colombia where there is evidence of a wage between 36% and 48% higher for married women. The studies show that marriage has a positive effect on the wages of Colombian married women, regardless of whether they have children or not, which can be explained according to [Gamboa & Zuluaga](#) (2013). They suggest that mothers have a lower elasticity of labor supply compared to non-mothers, which does not mean that they are willing to engage in lower-paid but more time-flexible jobs.

What are the implications for public policy of these results? Although there is a positive association between marriage and wages, we have not established the order of causality, yet policies to stimulate healthy marriages could have an impact on the labor market. Through this conduit marriage could have positive effects on wages, and these effects in turn could incentivize marriages, generating a “spiral beneficial to society”. Finally, both evaluation techniques provide evidence of a wage premium for marriage, explained by both productivity and the perception that market participants could have desirable characteristics that are associated with marriage, such as greater maturity and experience.

Appendix: Oaxaca decomposition per characteristics

Characteristics in 2008	Difference	Endowments	Coefficients	Interactions
For total population				
Years of schooling	27,2%***	4,78%***	20,48%**	1,76%**
Experience	27,2%***	8,01***	-10,30%	-2,74%
Experience square	27,2%***	-4,18%**	12,07%**	5,20%**
Primary (Sector)	27,2%***	-0,16%	0,41%	-0,06%
Secondary (Sector)	27,2%***	1,23%***	2,75%	-0,06%
Lives in urban area	27,2%***	0,49%**	-1,60%	-0,11%
Public employee	27,2%***	5,99%***	0,33%	0,26%
For women				
Years of schooling	36,08%***	13,16%***	21,85%	3,09%
Experience	36,08%***	3,80%**	(-33,56%*)	-4,92%
Experience square	36,08%***	-0,76%	19,84%*	3,44%
Primary (Sector)	36,08%***	-0,05%	-0,61%	0,03%
Secondary (Sector)	36,08%***	1,51%**	-0,92%	0,30%
Lives in urban area	36,08%***	-0,13%	-3,46%	0,09%
Public employee	36,08%***	7%***	0,67%	0,40%
For men				
Years of schooling	23,49%***	2,83%**	21,36%**	1,41%*
Experience	23,49%***	9,57%***	-1,23%	-0,38%
Experience square	23,49%***	(-5,66%**)	8,43%	4,42%
Primary (Sector)	23,49%***	-0,01%	1,96%	-0,40%
Secondary (Sector)	23,49%***	0,86%**	3,81%*	-0,74%
Lives in urban area	23,49%***	1,17%**	-2,94%	-0,43%
Public employee	23,49%***	5,92%***	0,07%	0,08%

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.001$

Characteristics in 2011	Difference	Endowments	Coefficients	Interactions
For total population				
Years of schooling	34,71%***	9.47%***	30.08%***	4.5%***
Experience	34,71%***	7.24%***	-2.49%	-0.73%
Experience square	34,71%***	-1.95%**	4.89%	2.28%**
Primary (Sector)	34,71%***	-0.39%***	2.03%**	-0.33%**
Secondary (Sector)	34,71%***	1.62%***	2.46%**	-0.71%**
Lives in urban area	34,71%***	0.48%***	1.54%	0.16%
Public employee	34,71%***	8.83%***	-1.6%***	-1.87%***
For women				
Years of schooling	47,92%***	16.76%***	39.61%***	7.06%***
Experience	47,92%***	4.82%***	-29.61%**	-6.29%**
Experience square	47,92%***	-0.10%	18.34%***	5.26%***
Primary (Sector)	47,92%***	-0.07%	1.81%***	-0.31%
Secondary (Sector)	47,92%***	4.57%***	3.07%*	-1.44%*
Lives in urban area	47,92%***	0.17%	-4.55%	-0.36%
Public employee	47,92%***	11.63%***	-1.2%**	-1.32%
For men				
Years of schooling	27.49%***	6.89%***	25.93%***	3.37%***
Experience	27.49%***	8.56%***	6.30%	2.12%
Experience square	27.49%***	-3.02%**	0.18%	0.10%
Primary (Sector)	27.49%***	-0.57%**	2.19%**	-0.36%*
Secondary (Sector)	27.49%***	0.37%***	1.05%	-0.17%
Lives in urban area	27.49%***	0.75%***	3.24%	0.40%
Public employee	27.49%***	6.94%***	-1.55%***	-1.94%***
	27.49%***	6.89%***	25.93%***	3.37%***

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.001$

Characteristics in 2013	Difference	Endowments	Coefficients	Interactions
For total population				
Years of schooling	30,44%***	6.68%***	24.41%***	2.75%**
Experience	30,44%***	7.23%***	-34.94%**	-1093%**
Experience square	30,44%***	-1.83%	16.24%**	7.90%**
Primary (Sector)	30,44%***	-0.03%	1.14%	-0.35%
Secondary (Sector)	30,44%***	2.90%***	3.27%	-1.11%
Lives in urban area	30,44%***	0.18%	-0.20%	0.00%
Public employee	30,44%***	7.46%***	-1.61%*	1.83%*
For women				
Years of schooling	43,56%***	9.95%***	24.15%	2.68%
Experience	43,56%***	1.25%	-45.88%*	-14.29%*
Experience square	43,56%***	3.57%	20.24%*	9.50%***
Primary (Sector)	43,56%***	-0.03%	0.06%	0.03%
Secondary (Sector)	43,56%***	5.33%***	1.61%	-0.75%
Lives in urban area	43,56%***	0.09%	3.01%	-0.07%
Public employee	43,56%***	13.08%***	-3.51%*	-4.02%*
For men				
Years of schooling	23,76%***	6.36%***	19.56%**	2.49%**
Experience	23,76%***	10.48%**	-34.26%*	-10.44%
Experience square	23,76%***	-5.01%**	16.51%*	7.88%*
Primary (Sector)	23,76%***	0.05%	2.21%	-0.50%
Secondary (Sector)	23,76%***	1.26%**	2.28%	-0.55%
Lives in urban area	23,76%***	0.28%	-0.89%	-0.05%
Public employee	23,76%***	4.5%***	-0.34%	-0.42%

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