A Note on the Earnings of Real Estate Salespersons and others in the Financial Services Industry

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Abstract

The earnings of females in various sales professions are less than their male counterparts. By expanding on the set of variables used by Jud and Winkler we were able to explain a large portion of this differential for most professions. Child rearing and marriage explain much of the differential in income in business sales outside of real estate. These variables fail to explain the remaining large gap in real estate sales, however.

Key Words: earning, real estate sales, demographics, females

Introduction

In a recent article in this Journal, G. Donald Jud and Daniel T. Winkler (JW) report on the earnings of real estate salespersons and others in the financial services industry. They note that prior research in the area of real estate sales found positive returns to education (except graduate school) and experience, and negative returns to female salespersons. While most of the prior work relied on samples from surveys administered by the researches JW utilize data from the 1990 U.S. Census. Such data are not only rich in terms of earnings of individuals in various occupational categories but also in terms of socio-economic data such as education age, gender race, and so forth. The raw descriptive data revealed that full-time real estate salespersons that were female earned $32,158 while their male counterparts earned an average of $48,629. That is, without taking into account such factors as education and experience, females working full time in real estate sales made sixty-six percent of the amount earned by males. The results were similar for part-time salespersons. Real estate sales persons made less than securities and insurance salespersons. There may be some fundamental differences between these occupations.

When JW run regressions and include variables such as education, experience, and part-time/full-time status they find that, *ceteris paribus*, females in real estate sales earn 47.46 percent less than their male counterparts. Their estimate of the gender-based difference in

earnings is, for the most part, greater than that found in previous studies but of the same order of magnitude. Another interesting aspect of their study is that there appears to be no gender-based difference in securities and insurance sales. Again, this suggests a fundamental difference in the occupations.

JW cite the literature in human capital which suggests that females may earn less because they do the bulk of the child rearing, have more career interruptions, and may pursue occupations that allow them to transfer easily from one location to another. As a result, they may have less incentive to invest in human capital. JW also indicate that some economists claim that employers may use the gender variable as a proxy to predict the degree of commitment to future work.

The purpose of this note is to amplify the employer discrimination theory and to further test the human capital hypothesis with an expanded set of socio-economic variables, notably marriage and child rearing.

The first thing that should be noted is the reference to employers using the gender variable as a predictor. This is unlikely to occur in real estate sales. For the most part, real estate salespersons are not ''hired'' in the traditional sense of employees. Most real estate salespersons are ''independent contractors''. Real estate brokers generally invite any licensee to affiliate with them (except in cases where the prospective affiliate may have a particularly blemished background). Real estate salespersons receive earnings as a commission on their own work. Thus, the gender-based difference in earnings is likely to be endogenous to the earner and not imposed exogenously by an employer, as could be the case in other occupations.

Next, it should be noted that the data collected by the United States Bureau of the Census includes a wealth of socio-economic data on each individual sampled. Furthermore, every March, the Census Bureau updates its survey in what is called the Current Population Survey. There is, then, much socio-economic data not utilized in the JW study that can be tapped to answer some of the questions they posed in their paper. Some of the socio-economic data include marital status, head of household status, presence and number of children, number of weeks worked in the year, ethnicity, education, disability status, and so forth. Including some of these variables in the regression equation could explain some or all of the gender-based difference in earnings. If it does not, then other explanations must be pursued in future research.

Methodology

In this paper we propose to determine if two variables in particular, marriage and child rearing, have an effect on the observed gender-based difference in earnings for those employed in real estate sales and other sales occupations. We do this by expanding JW's equation to include interaction variables. We include (in addition to other variables) two dummy interaction variables in the basic model, females that are married (FMARRIED) and females that have children (any number) (FCHILD). The addition of the interaction variables should reveal the portion of the gender-based difference in earnings that is based on marriage and child rearing. In addition, we casually look at some interaction variables

between female and different levels of education to determine if the returns to education are different between females and males.

Data

We use the data from the 1995–1997 (three years) March supplements to the Current Population Survey. The data include the earnings and socio-economic information on individuals in the real estate sales, insurance sales, securities sales, advertising, and business services. The data are essentially the same as that collected for the census except that somewhat fewer individuals are surveyed. Nonetheless, there is a sufficient number surveyed over the three year span so as to provide an adequate sample size. For the three-year period we have data on 3,664 individuals 1,074 of which were in real estate sales.[1]

Table 1 shows the descriptive statistics for the sample. The average age of the sample is 42.08 years. Approximately 5 and 7 percent of the sample are of Black and Hispanic ethnicity, respectively. Ninety-seven percent of those included had a high school degree (HSG) and 43 percent had a college degree (COLGRAD). Females represented 44.8 percent of the sample. Sixty percent of females were married (FMARRIED, 26.88 percent of the sample) and 38.7 percent had children. Only eight per cent of the sample worked part-time. Most of the sample were employed a full year (mean and median WKSWORK = 47.74 and 52 respectively). Real estate salespersons represented 29.31 percent of the sample. About one third of the combined sample was represented by each of the three years. Included in the table is SMADUM an indicator variable for those living within or outside any SMA. It shows that 81.2 percent of the sampled resided within an SMA. Not shown in this table, for space considerations, are the descriptive data for each of the 88 largest SMAs. Essentially we found that whether the individual resides in a metropolitan area was much more important than which metropolitan area he or she resides in.

Empirical results

We run regressions on three samples: all financial services (including real estate sales), all financial services except real estate sales, and real estate sales only. For each of the three samples we run two regressions, one with and one without demographic variables of interest. By employing the log of earnings as a dependent variable one can interpret the coefficients on the independent variables as percentage impacts. Table 2 shows the results of the six regressions. Included is the percentage effect on earnings of selected variables.

As indicated above none of the equations show the coefficients on the SMA variables that were, nonetheless, included in all regressions. Partial F-statistics for the first regression for each data set show the significance of the set of MSA-indicators.[2] As explained in note two of JW, for dummy variables the percentage effect is not identical to the coefficient. The first equation is similar to that of JW in that it does not include the demographic variables of interest (marriage, child rearing, plus gender interaction terms). Looking at variables with significant t-values the following generalizations appear. The

Table 1. Descriptive statistics: three years combined data, 3664 observations.

	Mean	Median	Maximum	Minimum	Std. Dev.
AGE	42.08	41	90	18	13.17
AMERIN	0.38%	0	1	0	6.17%
ASIAN	1.94%	0	1	0	13.79%
BLACK	5.24%	0	1	0	22.29%
HISPANIC	6.77%	0	1	0	25.12%
HSG	97.19%	1	1	0	16.53%
SOMECOL	75.19%	1	1	0	43.20%
ASSOC	5.05%	0	1	0	21.90%
VOCED	3.22%	0	1	0	17.66%
COLGRAD	43.20%	0	1	0	49.54%
MASTER	6.36%	0	1	0	24.41%
PROF	0.60%	0	1	0	7.73%
PHD	0.38%	0	1	0	6.17%
FEMALE	44.76%	0	1	0	49.73%
DISABLED	2.95%	0	1	0	16.92%
MARRIED	65.28%	1	1	0	47.61%
CHILD	37.42%	0	1	0	48.40%
FMARRIED	26.88%	0	1	0	44.34%
FCHILD	17.30%	0	1	0	37.83%
FCOLGRAD	13.65%	0	1	0	34.33%
FMASTER	1.80%	0	1	0	13.30%
FPHD	0.08%	0	1	0	2.86%
PARTTIME	8.22%	0	1	0	27.46%
WKSWORK	47.74	52	52	0	11.12
EARNS	$41.192	$28,000	$454,816	− $9,999	$54.257
EXPER	22.84	22	74	0	13.22
INSURANCE	23.91%	0	1	0	42.66%
REALESTATE	29.31%	0	1	0	45.53%
ADVERTISING	6.20%	0	1	0	24.11%
SECURITIES	16.24%	0	1	0	36.89%
BUSSERV*	24.34%	0	1	0	42.92%
MSADUM	81.17%	1	1	0	39.10%

Note. *Reference group.

first year of experience added about five and one half percent to earnings. The negative coefficient on experience squared implies diminishing returns to subsequent years of experience (experience no longer enhances earnings after 28 years). A disability results in a 31 percent reduction in earnings. Hispanics earned about 22 percent less and African-Americans received about 19 percent lower income than others did. A college degree and a master's degree significantly increase earnings, while earning a doctorate reduces earnings.[3] Females earned significantly less than their male counterparts, approximately 31.3 percent less. Overall, the statistical results were similar to those found by JW and indicate that females earn about a third less than males in all sales occupations.

For the first sample, in order to trace how gender effects earnings, we introduce variables for family status (MARRIED, CHILD, FMARRIED, and FCHILD). We also

Table 2. Regression results.

	All Financial Services				All Except Real Estate				Real Estate Only			
	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect
Constant	3.5697 16.6669***		3.4986 15.7105***		3.5001 15.9575***		3.4785 15.3469***		3.806** 6.5094***		3.7895 6.0235***	
INSURANCE	0.1972 3.7292***	21.80%	0.1980 3.7381***	21.90%	0.1854 3.7574***	20.3%	0.1880 3.8065***	20.69%				
REALESTATE	0.0021 0.0390	0.21%	0.0095 0.1775	0.96%								
ADVERTISING	−0.0564 −0.7147	−5.49%	−0.0462 −0.5847	−4.51%	−0.0877 −1.2097	8.40%	−0.0719 −0.9926	6.94%				
SECURITIES	0.2778 4.7285***	32.02%	0.2850 4.8270***	32.98%	0.2609 4.7778***	29.82%	0.2742 4.9921***	31.55%				
LWKSWORK	1.4624 29.6591***		1.4542 29.4108***		1.4578 28.3153***		1.4417 27.9325***		1.5736 12.2195***		1.5315 12.1877***	
EXPER	0.0560 11.7911***		0.0570 8.6055***		0.0595 11.3222***		0.0591 8.1910***		0.01857 3.5015***		0.0329 2.0695**	
EXPERSQ	−0.0010 −11.1217***		−0.0010 −8.6730***		−0.0010 9.7004***		−0.0010 7.578***		−0.0008 4.2887***		−0.0007 2.8912***	
DISABLED	0.3779 3.5773***	31.47%	−0.3785 3.5791***	−31.51%	−0.3519 −2.7546***	−29.67%	−0.3490 −2.7317***	−29.46%	0.4185 2.3007**	−35.50%	0.4466 2.3387**	36.02%
AMERIN	0.1636 −0.5774	−15.09%	−0.1621 −0.5721	−14.97%	−0.1588 −0.5123	−14.68%	−0.1380 −0.4455	−12.89%	−0.2701 −0.3790	−19.75%	−0.2763 0.4495	−24.14%
ASIAN	0.1594 1.2096	17.28%	0.1787 1.3537	19.56%	0.1420 1.0517	15.25%	0.1578 1.1681	17.09%	0.2171 0.6010	24.24%	0.2350 0.6478	26.49%
BLACK	0.2092 2.5616**	−18.87%	−0.2197 −2.6782***	−19.72%	−0.2239 −2.6826***	−20.06%	−0.2332 2.799***	−20.80%	0.0158 0.1581	3.52%	0.0630 0.2717	6.10%
HISPANIC	−0.2464 −3.2611***	−21.84%	−0.2493 −3.2942***	−22.07%	−0.2002 −2.3951**	18.14%	−0.1927 −2.3030**	17.52%	−0.2610 1.6795*	22.97%	0.2569 1.619*	22.66%

Table 2. (continued)

	All Financial Services				All Except Real Estate				Real Estate Only			
	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect
HSG	0.0170 (0.1470)	1.71%	0.0268 (0.2318)	2.71%	0.0203 (0.1668)	2.05%	0.0219 (0.1797)	2.21%	0.0609 (0.2171)	5.91%	−0.0404 (−0.1432)	3.96%
SOMECOL	0.0222 (−0.4237)	−2.20%	0.0288 (−0.5478)	2.84%	0.0211 (−0.3621)	2.09%	0.0366 (0.6256)	3.60%	0.0145 (0.1145)	1.44%	−0.0154 (0.1421)	1.53%
ASSOC	−0.0767 (−0.8877)	7.38%	−0.0708 (−0.8196)	6.84%	0.1140 (1.1629)	12.07%	0.1273 (1.2998)	13.7%	04.46 (2.4463**)	−34.60%	0.4235 (−2.4380**)	34.52%
VOCED	0.1342 (1.2874)	14.36%	0.1441 (1.3823)	15.50%	0.1831 (1.5813)	20.10%	0.1852 (1.6008)	20.35%	0.0960 (0.447)	10.08%	0.1133 (0.5273)	11.99%
COLGRAD	0.2861 (5.9445***)	33.12%	0.2764 (4.8513***)	31.83%	0.3485 (6.6176***)	41.69%	0.2975 (4.8683***)	34.65%	0.1578 (1.5010)	17.10%	0.2535 (1.9421*)	28.85%
MASTER	0.1386 (1.7805*)	14.86%	0.0840 (0.9113)	8.76%	0.2545 (2.9379***)	28.99%	0.1974 (2.0143**)	21.83%	0.0474 (−0.2915)	−4.63%	0.2170 (−1.0140)	−19.51%
PROF	−0.1807 (−0.7783)	−16.53%	−0.1889 (−0.8138)	17.22%	0.1620 (0.5503)	17.58%	0.1399 (0.4756)	15.01%	−0.6278 (1.5783)	46.62%	0.6947 (−1.7379*)	−50.08%
PHD	0.7924 (2.7243***)	−54.72%	−1.0010 (−3.0244***)	−63.25%	−0.5515 (−1.4943)	−42.39%	07.253 (1.6670*)	−51.58%	−0.8655 (−1.7457*)	57.91%	−0.9768 (−1.7758*)	−62.35%
SLFEMP	0.2287 (5.2472***)	−20.44%	−0.2335 (−5.3513***)	20.82%	−0.3162 (−5.9568***)	−27.11%	0.3297 (6.1890***)	−28.09%	−0.1119 (−1.4242)	10.59%	−0.1121 (1.4234)	−10.61%
Y96	0.0649 (1.5179)	6.71%	0.0667 (1.5602)	6.90%	0.0783 (1.6614*)	8.14%	0.0852 (1.8161*)	8.89%	0.0123 (0.1339)	1.23%	0.0181 (0.1963)	1.82%
Y97	0.1244 (2.8952***)	13.25%	0.1242 (2.8915***)	13.22%	0.1203 (2.5708**)	12.78%	0.1240 (2.6727**)	13.20%	0.0921 (0.9851)	9.65%	0.0944 (1.0053)	9.90%
FEMALE	0.3754 (10.0165***)	−31.30%	−0.1856 (−1.5760)	16.91%	−0.3740 (−9.0026***)	31.20%	0.2052 (1.6950**)	18.55%	0.4347 (5.3594***)	−35.26%	0.4326 (1.3080***)	35.12%
MSADUM	0.2337 (3.7608***)	26.33%	0.2316 (3.7267***)	26.06%	0.2686 (4.0044***)	30.82%	0.2660 (3.9691***)	30.47%	0.3538 (3.4683***)	42.45%	0.3320 (3.2461***)	39.38%

Table 2. (continued)

	All Financial Services		All Except Real Estate		Real Estate Only	
	Coefficient	Percent Effect	Coefficient	Percent Effect	Coefficient	Percent Effect
MARRIED	0.1761 2.7648***	19.25%	0.2271 3.3429***	25.50%	0.0620 0.4230	6.39%
CHILD	−0.0034 −0.0592	0.34%	0.0266 0.4375	−2.63%	0.0880 0.6416	9.20%
FMARRIED	−0.2601 −3.0315***	−22.90%	0.2512 2.6409***	−22.21%	−0.3352 −1.8072*	−28.48%
FCHILD	−0.0176 −0.2098	1.74%	0.0894 0.9833	−8.55%	0.4466 0.0847	56.30%
FCOLGRAD	0.0007 0.0082	0.07%	0.0870 0.9872	9.09%	−0.1925 −1.0957	−17.51%
FMASTER	0.1505 0.8797	16.25%	0.2166 1.0375	24.18%	0.3107 0.9501	36.43%
FPHD	0.8439 1.2069	132.55%	0.4375 0.5327	54.88%	1.1627 0.8529	219.85%
FEXPER	−0.0056 −0.5727	0.56%	0.0013 −0.115	−0.13%	0.0068 0.3028	0.68%
FEXPERSQ	0.0001 0.7973	0.01%	5.82E-06 0.0252	0.00%	6.13E-05 0.1631	0.01%
Adjusted R-squared	0.3467	0.3482	0.4226	0.4195	0.2123	0.2149
Number of Observations	3595		2540	2540	1055	1055
F-Statistic for Equation	17.8783***	18.8134***	17.5938***		7.4568***	6.4445***
Partial F7	1.3585**	1.38**			1.8849**	
Partial F Gender	1.9178**		2.4682**			1.3737

introduce interaction terms between gender and education (FCOLGRAD FMASTER, and FPHD) and between gender and experience (FEXPER, FEXPERSQ). We find a significant positive coefficient on MARRIED and a significant negative coefficient on FMARRIED. This implies that married men earn 19 percent more than unmarried males, but married females earn eight percent less than unmarried females. The coefficient on female now implies that an unmarried female earns 16.94 percent less than an unmarried male does. Taking all occupations together, earnings are less for women in general and married women in particular which they are more for married males. All other gender and family variables are statistically insignificant. There is no evidence that women are rewarded less than men for human capital investments. In summary, for all sales occupations the added demographic variables have significant explanatory power.

The second pair of regression results in Table 2 looks at all business sales occupations *except real estate*. The higher adjusted R^2 implies that discarding real estate sales occupations results in a more homogenous data set. The returns to education and experience are essentially identical to the first group of regressions, although the depressing effect of a Ph.D. is no longer statistically significant. The wage disparity between males and females drops from 31.2 percent to 18.55 percent when the marriage and child rearing terms are introduced. As before there is no indication that women experience lower returns to human capital investments.

The final set of regressions in Table 2 concentrates on the 1,055 individuals employed in real estate sales. In contrast to other business services sales occupations, real estate salespersons receive a lower return to experience and their earnings peak in approximately 22 years. College graduates earn only about half the premium in real estate that they do in other business services occupations. Females employed in real estate sales receive 35 percent less than males do and this discrepancy is unaffected by the introduction of the marriage and child-rearing variables. However, when one looks at the coefficients of FMARRIED and FCHILD an interesting story emerges. While married females earn 28.48 percent less, females with children earn 56.3 percent more than others in real estate sales. Perhaps females who have children experience a need for additional income. Real estate sales may be an occupation for which relatively easy entry affords this opportunity. For whatever reason, the demographic variables of marriage and child rearing differentially impact the earnings of females in real estate sales versus other sales professions. Finally there is no support for the belief that women receive a lower return on investment in education. In fact, attaining a Ph.D. seems to depress male earnings more than those of females.

Overall the results suggest that valuable information concerning the earnings of females in sales professions, including real estate can be gathered by including such demographic variables as marriage and child-rearing. Further research in this area appears warranted.

Conclusion

By including variables such as marriage and presence of children we have been able to explain a portion of the gender based difference in earnings of business sales outside of

real estate. The 30 percent reduction in the earnings of women can partly be attributed to a premium earned by married men and a discount earned by married women. There is no evidence that women in business services occupations receive a lower return on their investment in human capital.

Within real estate sales occupations, however the story is different The 35 percent discrepancy between the earnings of men and women remains even after introducing interaction terms for marriage, child rearing education, and experience. Unmarried female real estate agents earn 35 percent less than unmarried male real estate agents, who earn approximately the same as married male real estate agents. However, married female real estate agents earn 28.48 percent less than other female real estate agents. The statistical insignificance of child rearing variables makes it even more difficult to understand the presence of a marriage penalty for women.

Acknowledgments

Notes

1. Since logarithmic regressions were estimated, individuals with zero or negative earnings were omitted.
2. Significantly higher earnings were made by salespersons in Phoenix (49 percent) Middlesex-Somerset-Hunterdon, NJ (59 percent), Charlotte, NC (73 percent), Richmond, VA (137 percent) and Sacramento, CA (94 percent), while significantly lower earnings were made in Tampa, FL (-41 percent) New Orleans LA (-58 percent) and Fayetteville, AR (-45 percent).
3. The educational indicators were coded so that coefficients measure marginal effects. Hence, HSG equals 1 for all high school graduates. SOMECOL $= 1$ for everyone who attends college regardless of whether they graduate.

References

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