Determinants of Real Estate Licensee Income

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Abstract. This paper examines the factors that influence the income of real estate licensees. An empirical human capital earnings model is developed from a 1995 survey of Florida real estate brokers and salespeople. In seeking to explain earnings of real estate licensees, this study expands from previous studies by measuring several additional human capital components.

A number of factors are seen to positively affect licensee income. These include (a) number of hours worked, (b) experience, (c) franchise affiliation, (d) being an owner/manager, (e) working in a metropolitan area, (f) level of job satisfaction, and (g) having errors and omissions insurance. Variables that have a negative effect on income include (a) being a female, (b) selling primarily residential properties, (c) age of licensee, (d) image perception, and (e) working weekends.

Segmenting the data by income into thirds and comparing the means of the variables for the high- and low-income groups, several variable means are significantly different. The high income group has significantly higher means for these variables: (a) hourly income, (b) number of hours worked, (c) working full-time, (d) working on the weekend, (e) utilizing correspondence to satisfy continuing educational requirements, (f) work experience, (g) membership in clubs/professional organizations, (h) holding a broker's license, (i) length of current affiliation, (j) being a manager/owner, (k) holding professional designations, and (l) belonging to the state's Realtor association. The low-income group has a significantly higher variable mean for participation in residential sales.

Introduction

Real estate sales has been characterized as an industry with high turnover, low per capita income, and increasing competition (see Johnson, Dotson, and Dunlap, 1988). Competing in this type of industry requires a critical understanding of those factors that maximize customer satisfaction and improve service quality. The principal asset of the real estate sales firm is its workforce; understanding this human capital component is thus critical to the success of the firm. Prior empirical research of human capital theory has sought to explain differences in earnings across industries based upon characteristics of the occupation or the human capital used in a given industry (see, for example, Polachek, 1981; McDowell, 1982, and Willis, 1986).

Several previous studies have examined the determinants of earnings of real estate licensees (see Follain, Lutes and Meier, 1987; Crellin, Frew and Jud, 1988; and Glower

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and Hendershott, 1988). All these studies have utilized a human capital model similar to the one employed in this study to explain earnings of real estate licensees. The purpose of this work is to further examine the determinants of real estate licensee income by examining additional human capital components.[1] The data are results from a 1995 survey of a random sample of Florida real estate licensees that includes both brokers and salespeople.

Determining Licensee Income

The standard human capital earnings model sets income as a function of education and experience (see Mincer, 1974). Earnings, of course, are considered to be positively related to education at a constant rate. The rationale is that each licensee begins his/her career with a stock of human capital determined by the level of education. Additional increases in this level of human capital would presumably be constant across licensees since all licensees face the same continuing education requirements.[2] Experience is typically measured as a quadratic function with experience being positively related to income and a squared term to measure nonconstant marginal returns. Rosen (1976) significantly developed this aspect of the human capital earnings model by incorporating experience as part of a lifetime earnings function.

In addition to experience and education, other variables have been included in previous studies to measure the human component of real estate sales (see Follain et al., 1987; Crellin et al., 1988; Glower and Hendershott, 1988). Such variables have been the number of hours worked, type of license, location, gender, race, age, etc. Equations have also typically included some firm characteristics such as size of firm and whether the firm is a franchise affiliation.

This study expands the human capital aspect of the real estate sales profession by examining additional licensee characteristics that may have some effect on the earnings of a licensee. This allows certain interesting questions regarding licensee income to be answered. For example, once a relationship is established, does a buyer's or seller's loyalty lie with the realty firm or the salesperson? In other words, do those salespeople who change affiliations earn less than those who remain with one firm? In addition, do those licensees who choose real estate sales as a second or third occupation earn less than those who choose real estate as their first occupation? Also, is willingness to work weekends a factor in a licensee's earnings?

Presumably, social or professional interaction is important in a profession such as real estate sales so as to maintain or make "contacts". Does belonging to clubs or professional organizations such as the Chamber of Commerce or the Country/Golf Club have an effect on earnings?[3]

Does a real estate licensee's attitude toward the profession have a bearing on his/her income? The survey asked respondents to describe the image of the real estate agent in the public's eye as professional, salesperson, necessary evil, or a huckster. This study examines whether those licensees who feel they are viewed as professionals earn more than other licensees. Also, respondents were asked to give their general level of satisfaction with the profession. This would allow a determination of whether the level of job satisfaction affects income.

The real estate sales industry is currently sensitive to certain legal problems. These include dual agency, disclosure, etc. The study examines whether having errors and

omissions insurance affects licensee income. It also contrasts the income of licensees who received some compensation from the seller to the income for licensees who derived their income strictly from the buyer.

Education is assumed to have a positive effect on earnings (Becker, 1975). Some licensees have more general education than others (such as some college education versus merely finishing high school). For real estate-specific education within a single state, most licensees' education in terms of pre-licensing hour requirements would be comparable. However, does the source of those pre-licensing hours affect earnings? Survey results showed that 72% of respondents completed their original pre-licensing hours requirement through private real estate schools while 22% obtained their pre-licensing hours through a college or university. Also, as post-licensing continuing education requirements are fulfilled, does it matter whether those hours are obtained in a classroom setting or by correspondence? Thirty-two percent of survey respondents indicated that they completed none of their continuing education hours through correspondence while 52% indicated that 76%–100% of their continuing education hours were completed through correspondence.

Typical firm characteristics considered to affect licensee earnings appearing in previous studies are firm size and franchise affiliation. This study will also examine whether being a member of a national referral network or having a relocation/management company affects licensee income.

The Data and Empirical Model

The Model

Following the human capital approach of previous studies, the empirical model takes the form:

$$INCOME = f(WORK\ PROFILE,\ EDUCATION,\ EXPERIENCE,\ PERSONAL$$
$$CHARACTERISTICS,\ PROFESSIONAL\ CHARACTERISTICS,$$
$$FIRM\ CHARACTERISTICS,\ LOCATION)\ ,$$

where *INCOME* is the licensee's personal income from real estate activities for 1994. The model uses the natural log of income as the dependent variable.[4] The variables contained in the remaining categories are described below. Exhibit 1 contains variable definitions and Exhibit 2 provides summary statistics for the variables included in the model. Exhibit 2 shows that the average annual income per licensee was $37,380.[5] About one-fourth of licensees had 1994 annual income of $10,000 or less and about three-fourths of licensees earned $50,000 or less for 1994.

Work Profile. This category contains the natural log of the number of hours per week spent working in real estate activities (ln *HRS*). A positive relationship is expected between the number of hours worked and earnings. The average number of hours worked per week was 36.18.[6] The binary variable *FTIME* indicates that about 72% of licensees worked at least twenty-eight hours per week. The equation also contains a variable measuring the average number of weekend days worked per month (*WKEND*) which had a mean of 3.263 days. The relationship between *WKEND* and income is unclear. On one hand, a greater expenditure of effort should generate greater earnings. On the other hand,

Exhibit 1
Variable Definitions

Variable	Definition
INC	Licensee income from real estate activities for 1994
ln *INC*	Natural log of licensee income for 1994

Work Profile

ln *HRS*	Natural log of the number of hours per week spent by licensee working in real estate activities
FTIME	1=licensee works at least 28 hours per week, 0 otherwise
WKEND	Number of weekend days worked during a given month

Education

EDYRS	Number of years of education. Less than high school=10 years; high school=12 years; some college=14 years; college degree=16 years; graduate school=18 years
PRELIC	Source of pre-licensing education hours, 1=college or university, 0 otherwise
CORR	1=some continuing education hours completed through correspondence, 0 otherwise

Experience

EXP	Number of years actively involved in the real estate business
EXPSQ	The square of *EXP*

Personal Characteristics

AGE	Age of licensee
GEN	Gender of licensee, 1=male, 0=female
MIN	Licensee is a minority, 1=yes, 0=no
CLUB	1=licensee holds membership(s) in professional clubs/organizations, 0 otherwise
IMAGE	Perceived public image of real estate licensees, 1=professional, 0 otherwise (salesperson, huckster, necessary evil)
SATIS	Level of satisfaction of licensee with profession, 1=completely or generally satisfied, 0 otherwise

Professional Characteristics

BROK	1=licensee holds a broker's license, 0 otherwise
CURR	Number of years licensee has been affiliated with current firm
RES	1=major activity is new/existing residential property sales, 0 otherwise
MGTOWN	1=licensee is part owner or manager of real estate firm, 0 otherwise
SELLER	1=licensee received some compensation from the seller, 0=licensee received no compensation from the seller
DESIG	1=licensee holds a professional designation, 0 otherwise
FAR	1=licensee is a member of the Florida Association of Realtors, 0 otherwise
E&O	1=licensee holds errors and omissions insurance, 0=no
AFFIL	Number of real estate firms with which the licensee has been affiliated
CAREER	Licensee's first, second, third, fourth or more occupation

Firm Characteristics

FRAN	1=licensee is affiliated with a national franchise firm, 0=no
REFREL	1=licensee's firm is member of a national referral network and/or is a relocation/management company, 0=no
SIZE	Size of firm by number of affiliated licensees

Location

METRO	1=licensee's firm is located in a major metropolitan area, 0 otherwise

Exhibit 2
Summary Statistics of Variables
($n = 185$)

Variable	Mean	Std Dev.	Min.	Max.
INC	$37,390	35,924	5,000	150,000
ln *INC*	3.122	1.065		
Work Profile				
ln *HRS*	3.343	0.812		
FTIME	0.715	0.453	0	1
WKEND	3.263	2.890	0	22
Education				
EDYRS	15.704	2.020	11	22
PRELIC	0.196	0.398	0	1
CORR	0.681	0.467	0	1
Experience				
EXP	13.380	8.307	1	28
EXPSQ	247.628	242.975	1	784
Personal Characteristics				
AGE	50.106	11.504	22	67
GEN	0.564	0.497	0	1
MIN	0.078	0.269	0	1
CLUB	0.659	0.475	0	1
IMAGE	0.274	0.447	0	1
SATIS	0.570	0.496	0	1
Professional Characteristics				
BROK	0.425	0.496	0	1
CURR	6.260	6.714	1	25
RES	0.687	0.465	0	1
MGTOWM	0.263	0.441	0	1
SELLER	0.798	0.403	0	1
DESIG	0.274	0.447	0	1
FAR	0.777	0.418	0	1
E&O	0.575	0.496	0	1
AFFIL	2.656	1.410	1	5
CAREER	2.054	1.028	1	5
Firm Characteristics				
FRAN	0.302	0.460	0	1
REFREL	0.251	0.435	0	1
SIZE	35.709	84.684	2	500
Location				
Metro	0.290	0.455	0	1

a licensee with lower income may be willing to work weekends. In this case, a negative sign would be observed on this variable. Moreover, weekend work is generally associated with residential real estate and the literature has shown that those licensees selling primarily residential real estate earn less, on average.

Education. Education variables in the model include: *EDYRS*, which measures the number of years of formal education; the source of pre-licensing education denoted by *PRELIC*; and *CORR*, which indicates whether or not continuing education requirements were completed by correspondence. Since more education would increase the licensee's base of human capital, *EDYRS* is expected to have a positive relationship with earnings. Exhibit 2 shows that about 83% of respondents had some education past high school.[7]

About 72% of respondents indicated that they fulfilled their pre-licensing education requirements through private real estate schools. As Exhibit 2 shows, about 20% indicated a college or university as their source of pre-licensing education. Small percentages of respondents indicated sources such as vocational/technical schools, the Appraisal Institute, etc. This variable allows an exploration of whether the marginal contribution to human capital is different across education sources. Also, about 68% of respondents indicated that they satisfied at least some of their continuing education hours through correspondence.

Experience. The experience variables include the number of years the licensee has been actively engaged in the real estate business (*EXP*) and an experience squared term (*EXPSQ*) to capture any nonlinear marginal returns to experience. The relationship between income and experience is expected to be positive. A negative coefficient for experience squared would indicate decreasing marginal returns to experience. Exhibit 2 shows that the average licensee had about thirteen years of experience.[8]

Personal Characteristics. Personal licensee characteristics considered include age (*AGE*), gender (*GEN*), and minority race (*MIN*). As seen in Exhibit 2, the average age of licensees was about fifty years and about 56% were males.[9] Only about 8% of respondents indicated being a minority. Also included is a social interaction variable which should have a positive effect on income. This variable is measured by membership in a club or professional organization (*CLUB*). This variable has a value of one if the licensee indicated belonging to any of a number of clubs or professional organizations.[10] These included the Chamber of Commerce, Country/Golf Club, Kiwanis, Elks, Women's Club, etc. Exhibit 2 shows that about 66% of respondents reported belonging to at least one club or organization.

Presumably, a licensee's behavior would reflect the licensee's understanding of public perception. To measure this, a variable is included to reflect perceived image (*IMAGE*). This variable has a value of one if the licensee feels he/she is viewed as a professional and zero otherwise.[11] About 27% of respondents felt they were viewed as professionals. Also, assuming that the licensee's work habits reflect his/her level of job satisfaction, a variable (*SATIS*) is included that has a value of one if the licensee is completely or generally satisfied with the profession (about 57% of respondents) and zero otherwise.

Professional Characteristics. Professional characteristics are examined to determine their effect on income. These include the type of license held (*BROK*, which is one if the

licensee holds a broker's license (about 43% of respondents) and zero if a salesperson's license is held). The variable *CURR* provides a measure of the value of stability in generating income by measuring how long the licensee has been affiliated with his/her current firm. The average is 6.26 years.

To determine whether some activities in which real estate professionals engage produce greater income than others, two variables are included in the model. The variable *RES* is included to indicate the activity to which the licensee devotes most of his/her time. This variable has a value of one if the primary activity is residential property sales and zero otherwise. About 69% of respondents indicated that selling new/existing residential property was their major focus. Also, to determine income differences for typical licensees versus those who are firm owners or firm managers, *MGTOWN* is included which has a value of one if the licensee is an owner and/or manager (about 26% of respondents) and zero otherwise.

To determine whether the degree of professionalism attained by the licensee has an effect on income, the variable *DESIG* is included. *DESIG* has a value of one if the licensee holds a professional designation and zero otherwise. About 27% of licensees reported holding a professional designation. The *GRI* was the major designation reported with about 16% of respondents holding this designation. Respondents indicated the holding of designations such as the *CRS*, *CRB*, etc. One would expect professionalism to have a positive impact upon earnings since holding the designation indicates a certain amount of effort and discipline on the part of the licensee.

In order to measure any advantage in being a member of an association that may allow the licensee to stay better informed of changes in the real estate environment and, in general, to stay closer to the market, a variable (*FAR*) is included to indicate whether or not the licensee is a member of the Florida Association of Realtors. About 78% of licensees indicated membership in *FAR*.

To determine the effect of agency form on income the variable *SELLER* is included. This variable allows a comparison of income between those licensees who derived some or all their income from the seller as opposed to those licensees whose total income came from the buyer. In the former case, the presumption is that licensees were operating under the common cooperative relationship in the form of subagency while in the latter case, where no income is from the seller, presumably the "buyer's brokerage" form of agency existed.[12] The survey results show that about 80% of licensees reported deriving at least some income from the seller.

AFFIL is included to determine whether mobility has an effect on licensee earnings. This variable, which is the number of real estate firms with which the licensee has been affiliated, should measure whether more frequent changes in affiliation affect earnings. The effect on income is unclear. On one hand, a licensee may change affiliations to maximize commission splits and therefore increase income. On the other hand, some customer income could be lost due to frequent affiliation changes.

Historically, Florida has experienced substantial in-migration of residents. Some people, having retired from one occupation, may choose real estate sales as a second, third, etc. career. *CAREER* measures whether real estate is the licensee's first, second, third, or fourth (or more) occupation.

Finally, on a professional level, the variable *E&O* indicates whether or not the licensee has errors and omissions insurance. About 58% of respondents indicated they held E&O insurance which was paid for either by the licensee, the firm, or both. This variable

should be positively related to income since having this protection may be an incentive for the licensee to be more aggressive in pursuing sales.

Firm Characteristics. Does the type of business with which the licensee is affiliated have an effect on individual licensee earnings? Can licensees be more successful with one type of firm versus another? To examine these questions, the variable *FRAN* is included which distinguishes franchise firms from independent, stand-alone firms. About 30% of respondents indicated they worked with a national franchise company. Also, the variable *REFREL* indicates whether the real estate firm belongs to a national referral network and/or is a relocation/management company (25% of respondents). Lastly, the variable *SIZE* indicates the size of the real estate firm in terms of the number of licensee affiliates. Exhibit 2 shows that the average firm had thirty-six licensee affiliations.[13]

Location. A location variable is included to determine whether those licensees working in major metropolitan areas earn more than those working in lesser populated areas. The variable *METRO* has a value of one if the licensee indicated working in a major metro area (about 29% of respondents) and zero otherwise. In general, one would expect a positive relationship with earnings since licensees in more densely populated areas should have greater opportunities to generate income.

The Data

The data are the results of a 1995 survey sent to a random sample of 1200 active real estate brokers and salespeople in Florida. Of the respondents, a total of 185 observations containing complete data are used in the study. The characteristics measured in the survey included (1) personal information such as age, experience, income, education, etc., (2) sources of education (both pre- and post-licensing), (3) professionalism (holding of professional designations, membership in the Florida Association of Realtors, etc.), (4) firm characteristics such as size, franchise affiliation, etc.

Results

The results for the empirical models are given in Exhibits 3 and 4.

The Full Model

Exhibit 3 contains the results for the full regression model. The model has an adjusted R^2 of 61% and the variables behave generally as expected.[14]

Work Profile. Not surprisingly, the number of hours worked has the strongest effect on income.[15] However, the *FTIME* variable indicates that those licensees who work full-time do not earn more per hour than those who work less hours. Although *WKEND* is not significant at the 10% level, the size of the *t*-statistic and the negative coefficient imply that those licensees who work more weekend days tend to earn less.

Education. The lack of significance for the education variable (*EDYRS*) seems to indicate that the level of education does not create differences in human capital that may

Exhibit 3
Regression Results for Full Model
(Dependent Variable=in *INC*)

Independent Variable	Regression Coeff.	*t*-Statistic
Intercept	0.178	0.28
Work Profile		
In *HRS*	0.910	5.97*
FTIME	−0.107	−0.43
WKEND	−0.025	−1.22
Education		
EDYRS	−0.004	−0.13
PRELIC	−0.042	−0.33
CORR	0.113	0.91
Experience		
EXP	0.102	3.78*
EXPSQ	−0.003	−3.30*
Personal Characteristics		
AGE	−0.018	−3.36*
GEN	0.281	2.45*
MIN	−0.185	−0.92
CLUB	−0.0004	−0.003
IMAGE	−0.211	−1.72*
SATIS	0.231	2.10*
Professional Characteristics		
BROK	−0.666	−0.53
CURR	0.007	0.64
RES	−0.337	−2.38*
MGTOWM	0.309	2.23*
SELLER	−0.010	−0.06
DESIG	0.082	0.68
FAR	−0.035	−0.25
E&O	0.260	2.22*
AFFIL	−0.021	−0.40
CAREER	−0.015	−0.28
Firm Characteristics		
FRAN	0.279	2.11*
REFREL	−0.015	−0.12
SIZE	−0.0002	−0.35
Location		
METRO	0.240	2.00*
*R*² (Adj.)	0.61	
n	185	

*indicates significance at the 10% level (two-tailed test)

significantly affect income.[16] Likewise, the source of pre-licensing education (primarily private real estate schools versus colleges and/or universities) has no significant effect on income. Lastly, there is no significant difference in earnings for those licensees who use correspondence to satisfy continuing education requirements versus those who do not.

Experience. Both experience variables are significant. The positive coefficient for *EXP* indicates that income increases with experience. However, the negative coefficient on *EXPSQ* shows decreasing marginal returns to experience. This result is consistent with Glower and Hendershott (1988) who also show that experience increases the productivity of licensees but, beyond some point, additional experience is of lesser value.

Personal Characteristics. Several personal characteristics of licensees affect income. Age is negatively related to income while the gender variable, *GEN*, shows that income for male licensees is significantly higher than income for female licensees. Neither the minority (*MIN*) nor the club (*CLUB*) variable is significant. The negative coefficient for *IMAGE* is interesting. Recall that this variable indicates that the licensee feels that the market perceives him/her as a professional. This result implies that licensees who feel they are viewed as professionals earn less than those who feel they are viewed by the public as salespeople, hucksters, or necessary evils.[17] The significant positive coefficient for *SATIS* shows that the more satisfied the licensee is with the profession, the greater the income.[18]

Professional Characteristics. The results show no significant difference in income between brokers and salespeople.[19] Also, the length of time a licensee is affiliated with one firm does not significantly affect income. Those licensees who primarily sell residential property earn less than others. Being an owner of a real estate firm or being involved in firm management helps licensees earn greater income.

The lack of significance for *DESIG* seems to indicate that the holding of professional designations does not contribute to a higher base of human capital which may increase income. Nor does there seem to be an advantage in belonging to the Florida Association of Realtors (FAR).

The lack of significance for the *SELLER* variable, which measures the source of income (seller versus buyer), indicates that licensee income derived from both the seller and buyer is not significantly different from income derived exclusively from the buyer. The results do show that those licensees who carry errors and omissions insurance (*E&O*) earn significantly higher incomes than those who do not.

The *AFFIL* variable shows that income is not affected by the number of affiliations that the licensee has had. It appears there is no advantage to either maintaining a constant affiliation or to more frequent changes. Also, the *CAREER* variable shows that licensees entering the real estate profession as a first occupation do not earn significantly higher incomes than those who choose real estate as a second, third, etc. career.

Firm Characteristics. Only one firm characteristic is significant. The *FRAN* variable shows that licensees affiliated with franchise firms have higher incomes than other licensees. This could be due to greater name recognition or other factors such as 100% commission firms. However, neither the size of the firm nor being a member of a referral or relocation service has a significant effect on income.

Location. The significant coefficient for *METRO* indicates that licensees working in major metropolitan areas generate significantly higher average income than their counterparts in less populated areas. This could be the result of a number of factors including higher real estate prices and a greater number of transactions.

The Final Model

In order to better compare these results to previous studies, Exhibit 4 gives the results for a reduced model comparable to models from previous studies. These results are consistent with those in Exhibit 3 with the exception that the *WKEND* variable becomes significant. Also, the explanatory power of the model is increased as indicated by the higher R^2 of 63%.

Comparisons across Studies

Variables Common across Studies

Exhibit 5 provides a comparison of the results from this study with previous studies. As seen, the studies are in general agreement on most factors. For example, all studies show a positive effect on income of hours worked and experience. At least three studies show a

Exhibit 4
Regression Results for Final Model
(Dependent Variable=ln *INC*)

Independent Variable	Regression Coeff.	*t*-statistic
Intercept	0.268	0.52
ln *HRS*	0.852	12.26*
WKEND	−0.031	−1.64*
EDYRS	−0.0003	−0.01
EXP	0.107	4.64*
EXPSQ	−0.003	−3.72*
AGE	−0.191	−3.81*
GENDER	0.277	2.53*
MIN	−0.195	−1.02
IMAGE	−0.199	−1.73*
SATIS	0.257	2.48*
BROK	−0.053	−0.46
RES	−0.366	−2.99*
MGTOWM	0.354	2.84*
E&O	0.238	2.16*
FRAN	0.319	2.55*
METRO	0.258	2.31*
R^2 (Adj.)	0.63	
n	185	

*indicates significance at the 10% level (two-tailed test)

Exhibit 5
Determinants of Real Estate Licensee Income

Variable*	Follain, Lutes & Meier (Illinois)	Glower & Hendershott (Ohio)	Crellin, Frew & Jud (National)	Sirmans & Swicegood (Florida)
Broker's License	positive	positive	positive	ns
Hours Worked	positive	positive	positive	positive
Schooling	positive	positive	positive	ns
Experience	positive	positive	positive	positive
Experience Squared	—	negative	—	negative
Professional Training	positive	—	positive	—
Female	ns	negative	negative	negative
Race	—	—	negative	ns
Firm Size	positive	—	positive	ns
Residential	—	negative	negative	negative
Franchise Affiliation	—	—	negative	positive
Owner/Manager	—	positive	positive	positive
Metropolitan Area	positive	positive	—	positive
Age	—	—	ns	negative
Working Weekends	—	—	—	negative
Source of Prelic. Education	—	—	—	ns
Use of Correspondence	—	—	—	ns
Club Membership	—	—	—	ns
Perceived Image	—	—	—	negative
Job Satisfaction	—	—	—	positive
Years w/Current Firm	—	—	—	ns
Professional Designations	—	—	—	ns
Membership in FAR	—	—	—	ns
Buyer vs. Seller Income	—	—	—	ns
Having E&O Insurance	—	—	—	positive
Referral/Relocation Network	—	—	—	ns
Career			ns	

*The table shows the direction of effect of the independent variables on income
ns=not statistically significant

positive effect of (a) type of license, (b) schooling, (c) being an owner/manager, and (d) working in a metro area; and a negative effect of (a) selling residential property and (b) being a female. Other common results across studies are: (a) a negative effect for experience squared and (b) a positive effect for professional training.

The Sirmans and Swicegood (S&S) study and the Crellin, Frew and Jud (CF&J) study (1988) examine the effect of race and age on income. While CF&J find that minorities earned less, S&S find no significant effect of race on income. In contrast, while S&S find a negative effect of age on income, CF&J find no significant relationship between age and income.[20] While Follain, Lutes and Meier (FL&M) (1987) and CF&J (1988) find that income increased with firm size, S&S find no significance between firm size and income.[21]

Conflicting results are found in S&S and CF&J for franchise affiliation. S&S find that franchise affiliation increases income while CF&J find the opposite.

Variables Unique to the Sirmans and Swicegood Study

This study seeks to expand the analysis of the determination of real estate licensee income by examining additional factors that may contribute to the licensee's base of human capital. Some of these factors have a significant effect on income. For example, licensees who work on weekends earn less. Job satisfaction is seen to have a positive effect on income and those licensees who perceive themselves as being viewed by the public as professionals earn less. Also, licensees holding errors and omissions insurance earn more than those who do not.

Also interesting are the variables that have no significant effect on income. These include (a) source of pre-licensing education, (b) use of correspondence for continuing education, (c) membership in clubs and/or professional organizations, (d) years with current firm, (e) professional designations, (f) membership in FAR, (g) source of income (buyer versus seller), (h) access to a referral/relocation network, (i) the number of affiliations the licensee has had, and (j) whether the real estate profession is the licensee's first, second, etc. occupation. Though they may often be assumed to benefit the licensees in their profession, these variables in fact appear to add no direct economic advantage.

Testing for Differences in Means

For further insight, the sample is segmented into thirds by income, and characteristics of the top one-third income producers are compared to the bottom one-third by testing for differences in the variable means. The results are given in Exhibit 6. The differences in the variable means, shown in column two, are calculated by subtracting the variable means for the lower income segment from the variable means for the upper income segment.

Results indicate the top income producers have a different work profile than lower income earners. For example, they earn significantly more per hour than the licensees in the bottom one-third. Higher income earners also work significantly more hours per week and more of them work full-time. They also work more on the weekends than lower income licensees.

There does not seem to be a significant difference in education across the two income segments. There is no significant difference in the means of the number of years of formal education nor in the source of pre-licensing education. However, a greater percentage of higher income earners utilized correspondence to satisfy continuing education requirements. There is a difference in the means for experience between the two groups with the higher income group having nearly six more years of experience.

There is very little difference in the personal characteristics across the two income groups. There is no significant difference in the means for age, gender, minority, image, or level of satisfaction. The *CLUB* variable does show that a greater percentage of higher income licensees belong to clubs and/or professional organizations.

For professional characteristics, the means for several variables are significantly different. A greater proportion of higher income licensees (a) hold a broker's license, (b) have worked longer at their current firm, (c) are involved in ownership/management, (d) hold professional designations, and (e) belong to the Florida Association of Realtors.

Exhibit 6
Results for Difference in Means Tests
(*n*=62)

Independent Variable	Difference in Means	*t*-Statistics
INCOME/HOUR	1.032	8.38*
Work Profile		
ln HRS	1.181	9.42*
FTIME	0.597	8.44*
WKEND	1.121	2.00*
Education		
EDYRS	0.226	0.63
PRELIC	−0.081	−1.15
CORR	0.145	1.64*
Experience		
EXP	5.839	4.21*
EXPSQ	126.226	3.04*
Personal Characteristics		
AGE	−0.564	−0.28
GEN	0.129	1.47
MIN	−0.016	−0.30
CLUB	0.161	2.01*
IMAGE	−0.065	−0.75
SATIS	0.097	1.06
Professional Characteristics		
BROK	0.242	2.74*
CURR	2.202	1.95*
RES	−0.274	−3.17*
MGTOWM	0.258	2.90*
SELLER	0.129	1.59
DESIG	0.177	2.27*
FAR	0.161	2.10*
E&O	0.113	1.31
AFFIL	−0.081	−1.09
CAREER	−0.258	−1.38
Firm Characteristics		
FRAN	−0.065	−0.78
REFREL	0.048	−0.62
SIZE	3.5972	0.24
Location		
METRO	0.048	0.65

Note: The means differences are the variable means for the top one-third income producers minus the means for the bottom one-third. The asterisk denotes significance at the 10% level.

A greater percentage of lower income licensees sell residential property as their major focus. There was no significant difference in the means across the two income groups for (a) their source of income (buyer versus seller), (b) having errors and omissions insurance, (c) the number of affiliations over their real estate career, and (d) the number of occupation (first, second, etc. career).

The real estate firms with which higher income licensees are affiliated do not appear to have significantly different characteristics from the firms for which lower income licensees work. None of the firm characteristics have significantly different means across the two income groups.

The metro variable indicates that, relative to lower income earners, higher income licensees are not clustered in metropolitan areas. There is no significant difference in the means across the two income groups.

Summary

This study has examined the factors that influence the income of real estate licensees. An empirical human capital earnings model was developed from a 1995 survey of Florida real estate brokers and salespeople. In seeking to explain earnings of real estate licensees, this study has expanded previous ones by measuring several additional human capital components.

A number of factors were seen to positively affect licensee income. These include (a) number of hours worked, (b) work experience, (c) franchise affiliation, (d) being an owner/manager, (e) working in a metropolitan area, (f) level of job satisfaction, and (g) having errors and omissions insurance. Variables that had a negative effect on income include (a) being a female, (b) selling primarily residential properties, (c) age of licensee, (d) image perception, and (e) working weekends.

Human capital components that did not significantly affect income were (a) type of license, (b) schooling, (c) race, (d) size of firm, (e) source of pre-licensing education, (f) use of correspondence in continuing education, (g) membership in various clubs or professional organizations, (h) length of affiliation with current firm, (i) professional designations, (j) membership in the state's Realtor association, (k) receiving income from the seller versus the buyer, and (l) having access to a referral/relocation network.

When the data were segmented by income into thirds and the means of the variables for the high- and low-income groups were compared, several variable means were significantly different. The high-income group had significantly higher means for these variables: (a) hourly income, (b) number of hours worked, (c) working full-time, (d) working on the weekend, (e) utilizing correspondence to satisfy continuing educational requirements, (f) work experience, (g) membership in clubs/professional organizations, (h) holding a broker's license, (i) length of current affiliation, (j) being a manager/owner, (k) holding professional designations, and (l) belonging to the state's Realtor association. The low-income group had a significantly higher variable mean for participation in residential property sales.

The variables for which means were not significantly different across the two income groups were: (a) number of years of education, (b) source of pre-licensing education, (c) age, (d) gender, (e) minority, (f) image, (g) level of satisfaction, (h) source of income (seller versus buyer), (i) having errors and omissions insurance, (j) number of firm affiliations the licensee has had, (k) whether real estate is the licensee's initial occupation, (l) whether

the firm is franchise affiliated, (m) whether the firm is a member of a referral network, (n) size of real estate firm, and (o) whether the licensee works in a major metropolitan area.

Notes

[1]Abelson (1993) has conducted extensive national studies to explore why certain salespeople and companies stand out as top performers. His research results suggest that managers should develop certain traits (and salespeople can seek companies with these traits) that include: (a) work for your salespeople, (b) realize that you get results through people, (c) recognize salespeople's accomplishments, (d) adhere to the shared-positive-values principle, and (e) follow the freedom-of-ideas principle. Abelson also maintains that top-performing salespeople have common characteristics and that the salesperson should (a) stay focused and have the ability to say no, (b) build a reputation for being knowledgeable and fair, and (c) pay attention to detail.

[2]One might possibly argue that the increase in human capital may vary with the source of continuing education.

[3]Survey respondents indicated belonging to a number of different clubs or organizations. Examples were Rotary, Kiwanis, Elks, Women's Club, etc. However, the response rate was low for most organizations individually. The two most frequent responses were the Chamber of Commerce (39% of respondents) and the Country/Golf Club (23% of respondents).

[4]Much of the data in this study is category data. Category data has been used in a number of previous studies. See, for example, Follain, Lutes and Meier (1987), Glower and Hendershott (1988), and Diskin and Gatzlaff (1994).

[5]A number of questions, including income, in the survey were structured as categories. For example, income was structured with twelve categories of $10,000 or less, $10,001 to $20,000, $20,001 to $30,000, etc. up to the last category of >$125,000. Thus, to calculate the mean value and structure the data for the regression model, the mid-range values for each category are used. For example, for the category $10,000 or less, a middle value of $5,000 is used. Likewise, for the category $40,001 to $50,000, a value of $45,000 is used. A maximum income of $150,000 was used for the category >$125,000. The other variables for which this procedure is used are hours worked, experience, age, and size of firm.

[6]The responses to this question were structured as categories. Thus, for the highest category of >56 hours, a maximum of 60 hours was used along with the mid-range values from the other categories to derive the mean.

[7]About 40% of respondents held a college degree. The degrees included bachelors, masters, and doctorate.

[8]With a highest category in experience of >26 years, a maximum of 28 years experience was used along with the mid-range values from the other categories to determine the mean.

[9]The average age is calculated using the mid-range values for each category and a maximum of 67 years for the highest category, 65+ years.

[10]This presumes that one club is as good as another and that there is no difference between belonging to one club or eight clubs. In order to examine further, some clubs (such as country club) were tested individually and were not significant.

[11]The categories for this question in the survey were being viewed as a (a) professional, (b) typical salesperson, (c) necessary evil, or (d) huckster.

[12]It is recognized that a "buyer's agent" relationship does not automatically mean that payment is made by the buyer and the "buyer's agent" may be paid out of a standard seller commission with splits. Our data specifically determines whether payment was made by the buyer or seller.

[13]To calculate the mean, mid-range values were used for the individual categories with a maximum of 500 for the top category of >500.

[14]A condition number (ratio of largest to smallest eigen value) of about 564 indicated that multicollinearity was not a problem in the equation. A rule of thumb is that a condition number greater than 1,000 indicates the presence of significant multicollinearity.

[15]An interesting note is that when the variable hours squared is included in the model the coefficient is negative and significant indicating decreasing marginal returns to hours worked.

[16]The model was also tested with variables indicating the holding of a college degree and the licensee's major in college. Neither of these variables was significant. The variable measuring college major distinguished between a business degree and other majors. Apparently, having a college degree or having majored in business does not give the licensee a significant advantage in producing income.

[17]Assuming conventional wisdom that image is a result of licensee behavior, perhaps licensees who view themselves as professionals behave in a more conservative fashion.

[18]The direction of causation may be debated. More satisfied licensees may produce higher incomes; on the other hand, higher incomes may produce more satisfied licensees.

[19]Recall that the model accounts for those brokers involved in management and/or ownership.

[20]The difference in the significance of age may be attributable to the difference in the samples' age characteristic, where the S&S study is based upon a sample of relatively older licensees.

[21]The declining significance of firm size over time could be a reflection of an increased tendency toward large firms. Large firms are not as much the anomaly as in the past.

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