Determining Real Estate Licensee Income

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Abstract

This article examines the determinants of real estate licensee income using a 1997 survey of Texas real estate licensees. The factors having a positive effect on licensee income include: (1) number of hours worked; (2) work experience; (3) being a male; (4) using computer technology; (5) being involved in more transactions; (6) holding professional designations; (7) being associated with a larger firm; and (8) having access to personal assistants. Variables that negatively affect income include: (1) age; (2) selling primarily residential properties; and (3) having more affiliations. The results of this study, combined with previous studies, indicates that the high-earning real estate licensee is a younger male with more experience who: (1) works more hours; (2) has job satisfaction; (3) holds professional designations; (4) has access to personal assistants; and (5) utilizes a personal computer.

Introduction

Several previous studies have examined the determinants of real estate licensee income (Follain, Lutes and Meier, 1987; Crellin, Frew and Jud, 1988; Glower and Hendershott, 1988; and Sirmans and Swicegood, 1997). The basis of these studies is the standard human capital model which expresses earnings per hour as a function of education and experience (Mincer, 1974). Earnings are considered to be positively related to education and experience. The level of education sets the initial stock of human capital for each licensee. Since all licensees in a given state face the same continuing education requirements, increases in education are considered constant across licensees.[1] Experience, on the other hand, is typically measured as a quadratic function to account for nonconstant marginal returns. Other variables included in previous studies include the number of hours worked, type of license, location, gender, race, age, franchise affiliation and level of job satisfaction.

The purpose of this study is to further examine the determinants of real estate licensee income by examining additional human capital components such as access to personal assistants and the use of computers. As work environments

change and additional work-related tools become available, it is important to understand the effect and importance of these on income production. The data are from a 1997 survey of a random sample of Texas real estate licensees that includes both brokers and salespeople.

Determining Licensee Income

Success in the real estate sales industry relies primarily on customer satisfaction and quality of service. High turnover and low per capita income are characteristics that have been used to describe the real estate industry (Johnston, Dotson and Dunlap, 1988). Understanding the components that create success in this business can therefore be crucial to both the individual licensee and the real estate firm. Differences in earnings across industries based on human capital theory have been the subject of previous research (Polachek, 1981; McDowell, 1982; and Willis, 1986).

This study further 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. For example, does a buyer's or seller's loyalty lie with the realty firm or the salesperson? Do frequent affiliation changes negatively affect the salesperson's earnings? Does having a franchise affiliation benefit the salesperson? Also, does access to technology (*i.e.*, computers, digital cameras or cellular phones) affect income?

Education is assumed to have a positive effect on earnings (Becker, 1975). However, licensees have varying levels of general education with some having college degrees. Also, licensees have different majors in college. Even though state-specific prelicensing education requirements would be comparable for most licensees, the source of those prelicensing hours may be a factor. Also, as post-licensing continuing education requirements are fulfilled, does it matter whether those hours are obtained in a classroom setting or by correspondence?

The Data and Empirical Model

The Model

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

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

where *INCOME* is the active licensee's personal income from real estate activities for 1996. The model uses the natural log of income as the dependent variable.[2] The variables contained in the various categories are described below. Exhibit 1 contains variable definitions and Exhibit 2 provides summary statistics for the variables included in the model.

Effort. This category contains the natural log of the number of hours per week spent working in real estate activities. A positive relationship is expected between the number of hours worked and earnings.

Education. Education variables in the model include: the number of years of formal education; the source of pre-licensing education; and whether or not continuing education requirements were completed by correspondence. More education would increase the licensee's base of human capital and have a positive effect on earnings. Over 70% of respondents had some education past high school and about 39% indicated a college or university as their source of prelicensing education. Smaller percentages of respondents indicated sources such as vocational/technical schools, community colleges, etc. About 31% of respondents rated the quality of continuing education as excellent or above average.

Experience. The experience variables include the number of years the licensee has been actively engaged in the real estate business and an experience squared term 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.

Personal Licensee Characteristics. Personal licensee characteristics considered include age, gender and race. Only about 9% of respondents indicated being a minority. Also included is a measure of political activity, which may be an indicator of the profile maintained by the licensee and/or the time commitment made to the profession.

A conscientious licensee who stays current in the industry may have an income advantage. A variable measures the time spent reading industry-related literature such as periodicals, trade publications, newspapers, etc. The average number of hours spent reading literature was 4.5 hours monthly and the primary sources were periodicals and trade publications.

Being familiar with and having access to the latest technology may also affect productivity. Variables are included to account for the use of computers, digital cameras, color printers, scanners, cellular phones and video cameras. Also, differentiating between operating systems (which may be an indication of technological sophistication) may be important. Thus, a variable measures whether a Macintosh or some other system is used.

Professional Characteristics. Professional characteristics are examined to determine their effect on income. These include the type of license held (the measurement variable is one if the licensee holds a broker's license (about 48% of respondents) and zero if a salesperson's license is held). The value of stability

Exhibit 1 | List of Variables

Licensee income from real estate activities for 1996.
Natural log of licensee income for 1996.

Work Profile

Natural log of the number of hours per week spent by licensee working in real estate activities.

Education

Number of years of education. Less than high school = 10 years; high school = 12 years; some college = 14 years; college degree = 16 years; masters = 18 years; doctorate = 22 years.
Source of pre-licensing education hours, 1 = college or university, 0 otherwise. Some continuing education hours completed through correspondence. 1 = yes, 0 = no.
Business or economics major. 1 = yes, 0 = no.
Source of continuing education hours. 1 = college or university, 0 otherwise.
Pre-licensing education improved personal productivity by "a lot" or "somewhat." 1 = yes, 0 = no.
Quality and usefulness of continuing education programs. 1 = excellent or above average, 0 otherwise.

Experience

Number of years experience in the real estate business.
The square of the number of years experience.

Personal Characteristics

Age of licensee.
Gender of licensee. 1 = male, 0 = female.
Licensee is *a minority*. 1 = yes, 0 = no.
Licensee is *politically active*. 1 = yes, 0 = no.
Number of *hours spent per month reading* industry-related literature.
Primary *source of industry-related information* is periodicals, trade publications, or newspapers. 1 = yes, 0 = no.
Computers and related technologies (modem, internet, email) used in real estate business. 1 = yes, 0 = no.
Digital camera used. 1 = yes, 0 = no.
Color printer used. 1 = yes, 0 = no.
Scanner used. 1 = yes, 0 = no.
Cellular phone used. 1 = yes, 0 = no.
Video camera used. 1 = yes, 0 = no.
Macintosh operating system used. 1 = yes, 0 = no.

Professional Characteristics

Licensee holds a *broker's license*. 1 = yes, 0 = no.
Number of years affiliation with current firm.
Major activity is *new or existing residential property* sales. 1 = yes, 0 = no.
Major activity is *new residential property* sales. 1 = yes, 0 = no.
Major activity is *commercial, industrial, or farm* related. 1 = yes, 0 = no.
Business expense percentage of income.
Licensee is part *owner or manager* of real estate firm. 1 = yes, 0 = no.
Number of real estate transactions in past year.
Licensee holds a *professional designation*. 1 = yes, 0 = no
Number of years as a *member of Local Board/Association* of Realtors.
Number of firm affiliations.

Exhibit 1 | (continued)
List of Variables

Firm Characteristics
Licensee is affiliated with a *national firm*. 1 = yes, 0 = no.
Licensee is affiliated with a *local franchise* firm. 1 = yes, 0 = no.
Size of firm by number of affiliated licensees.
Access to personal assistants in real estate activities.
Licensee's firm is located in a major *metropolitan area*. 1 = yes, 0 = no.

in generating income is measured by how long the licensee has been affiliated with his/her current firm.[3]

Other variables are included in the model to determine whether the activity in which the licensee devotes most of his/her time matters. A variable measures whether the primary activity is selling new and/or existing residential property. About 56% of respondents indicated that selling new/existing residential property was their major focus. A variable is also included to measure the effect of other major activities such as commercial, industrial and/or farm sales. These activities are measured against alternatives such as property management, appraisal, investment and apartment brokerage.

To determine income differences for typical licensees versus those who are firm owners or managers, a variable is included that has a value of one if the licensee is an owner and/or manager (about 35% of respondents) and zero otherwise.

The average number of real estate transactions addresses the interesting question of whether high income licensees earn their income from a few major transactions (are the high income earners players in major transactions?) or whether they are simply involved in more transactions.

To determine whether professionalism has an effect on income, a variable to measure professional designations is included that has a value of one if the licensee holds a professional designation and zero otherwise. About 28% of licensees reported holding a professional designation. The GRI was the major designation with about 13% of respondents holding this designation. Respondents indicated the holding of designations such as the CRS, CCIM and CRB. Professionalism would be expected to have a positive impact on earnings since holding the designation indicates a certain amount of effort and discipline on the part of the licensee.

To determine whether mobility has an effect on licensee earnings, a variable measures the number of real estate firms with which the licensee has been affiliated. The effect on income is unclear. On one hand, a licensee may change affiliations to maximize commission splits and therefore increase income. On the

Exhibit 2 | Summary Statistics of Variables

Variable	Mean	Std. Dev.	Min.	Max.
Income ($)	40,108	26,462	5,000	150,000
Log of Income	4.603	0.468		
Work Profile				
Log of Hours Worked	1.45	0.41	0.47	1.77
Education				
Years of Education	15.38	1.91	10	22
Pre-Licensing Education Sources	0.39			
Correspondence	0.18			
College Major	0.49			
Continuing Education Source	0.09			
Improved Productivity	0.46			
Continuing Education Quality	0.31			
Experience				
Years of Experience	14.50	8.70	1	29
Experience^2	285.96	275.79	1	841
Personal Characteristics				
Age of Licensee	49.93	11.39	22	67
Gender of Licensee	0.56	—	0	1
Minority	0.09	—	0	1
Politically Active	0.70	—	0	1
Literature Reading Hours	4.50	3.52	0	12
Literature Source	0.61	—	0	1
Use of Computers	0.91	—	0	1
Use of Digital Camera	0.12	—	0	1
Use of Color Printer	0.44	—	0	1
Use of Scanner	0.25	—	0	1
Use of Cellular phone	0.78	—	0	1
Use of Video Camera	0.26	—	0	1
Macintosh System Used	0.06	—	0	1
Professional Characteristics				
Brokers License	0.48	—	0	1
Years with Current Firm	7.77	6.81	0.5	22
Primarily Selling Residential	0.50	—	0	1
Primarily Selling new Residential	0.06	—	0	1
Selling Commercial, Ind., Farm	0.13	—	0	1
Business Expenses	26.59	18.81	2	60
Manager/Owner	0.35		0	1
Number of Transactions	14.95	—	0	60
Professional Designations	0.28	—	0	1
Years Member of Local Assoc.	7.55	8.06	0	29
Number of Affiliations	2.47	1.29	1	5
Firm Characteristics				
National Franchise	0.27	—	0	1

Exhibit 2 | (continued)
Summary Statistics of Variables

Variable	Mean	Std. Dev.	Min.	Max.
Professional Characteristics (continued)				
Local Franchise	0.04	—	0	1
Size of Firm	24.42	59.90	1	600
Access to Personal Assistants	0.40	—	0	1
Location				
Metropolitan Area	0.47	—	0	1

Note: $n = 310$.

other hand, some customer income could be lost due to frequent affiliation changes.

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, a variable is included that distinguishes national franchise firms from independent, stand-alone firms. About 27% of respondents indicated that they worked with a national franchise company. Also, a variable also indicates whether the real estate firm belongs to a local franchise firm (about 4% of respondents). The size of the real estate firm in terms of the number of licensee affiliates is included. The effect on productivity of having access to personal assistants is measured by the number of personal assistants available for real estate activity support (an average of 0.4 assistants). Typical responsibilities for assistants were gathering data, preparing documents and other clerical work.

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 has a value of one if the licensee indicated working in a major metro area (about 47% 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 1997 survey sent to a random sample of 2,500 real estate brokers and salespeople in Texas (1,875 active licensees and 625 inactive licensees). The sample of active licensees is used here. Of the active licensee respondents, 310 observations containing complete data are used in the study, resulting in response rate of 16.5%.

Results

The results for the empirical model are given in Exhibit 3. In order to compare these results to previous studies, a reduced model (similar to previous studies) is estimated.[4] The model has an adjusted R^2 of 49%, and the variables behave generally as expected.

Work Profile. Not surprisingly, the number of hours worked has the strongest effect on income.[5] The elasticity of income relative to hours worked is a positive 0.22.

Education. The lack of significance for the education variable seems to indicate that the level of education does not create differences in human capital, which may significantly affect income. The source of prelicensing education, the use of correspondence education and the perceived value of either prelicensing or continuing education have no significant effect on income.

Experience. Both experience variables are significant. The positive coefficient for experience indicates that income increases with experience. However, the negative coefficient on experience squared shows decreasing marginal returns to experience. This result is consistent with Glower and Hendershott (1988) and Sirmans and Swicegood (1997) who 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 shows that income for male licensees is significantly higher than income for female licensees. Neither race nor the amount of time spent reading industry-related literature is significant. The technology variable, indicating the use of computers and related technology such as the Internet and email, is significant.

Professional Characteristics. The results show no significant difference in income between brokers and salespeople.[6] 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. The results also show that licensees involved primarily in selling commercial or industrial property do not earn more than those involved in property management, appraisal, etc., although they do earn more than those in residential sales. Being an owner of a real estate firm or being involved in firm management does not help licensees earn greater income.

Being involved in more transactions produces higher income. The holding of professional designations contributes to a higher base of human capital, which increases income.

The affiliation variable shows that income is affected by the number of affiliations that the licensee has had. It appears that there is an advantage of maintaining a constant affiliation or, at least, of less changes.

Firm Characteristics. The franchise variables show that licensees affiliated with national franchise firms and/or local franchise firms do not earn higher income than licensees who work for independent firms. There seems to be some advantage

Exhibit 3 | Regression Results for Income Model

Independent Variable	Regression Coefficient	*t*-Statistic
Intercept	3.67	16.01*
Work Profile		
Log of Hours Worked	0.22	4.01*
Education		
Years of Education	0.01	0.71
Pre-Licensing Education Sources	−0.01	−0.28
Correspondence	0.01	0.14
Continuing Education Quality	−0.06	−1.51
Experience		
Years of Experience	0.05	5.01*
Experience^2	−0.001	−3.78*
Personal Characteristics		
Age of Licensee	−0.01	−2.54*
Gender of Licensee	0.12	2.70*
Minority	0.03	0.49
Literature Reading Hours	0.01	1.23
Use of Computers	0.15	1.93*
Professional Characteristics		
Brokers License	0.06	1.26
Years with Current Firm	0.01	1.25
Primarily Selling Residential	−0.15	−2.97*
Selling Commercial, Ind., Farm	0.07	1.25
Manager/Owner	0.01	0.47
Number of Transactions	0.01	4.07*
Professional Designations	0.07	1.71*
Number of Affiliations	−0.05	−2.62*
Firm Characteristics		
National Franchise	0.01	0.26
Local Franchise	0.04	0.47
Size of Firm	<0.01	2.10*
Access to Personal Assistants	0.07	3.08*
Location		
Metropolitan Area	−0.01	−0.36
R^2-Adj.	.49	
n	310	

Note: The dependent variable = LnINC.
*Indicates significance at the 10% level (two-tailed test).

in working for a larger firm. Also, having access to personal assistants has a positive effect on income.

Location. Licensees working in major metropolitan areas do not generate significantly higher average income than their counterparts in less populated areas.

Variables That Are Not Significant. A number of interesting variables not included in the regression were tested and found to not have a significant effect on income. By category, these are: *Education*: college major (business or other), source of continuing education hours (college/university, otherwise), and whether prelicensing education improved productivity (1 = yes, 0 = no). *Personal Characteristics*: not politically active (1 = yes, 0 = no), source of industry-related information (trade publications, newspaper, etc.), use of digital camera (1 = yes, 0 = no), use of color printer (1 = yes, 0 = no), use of scanner (1 = yes, 0 = no), use of cellular phone (1 = yes, 0 = no), use of video camera (1 = yes, 0 = no) and use of Macintosh operating system (1 = yes, 0 = no). *Professional Characteristics*: major activity selling new residential properties (1 = yes, 0 = no), percentage of income to pay business expenses and member of local association of REALTORS®.

Comparisons Across Studies

Variables Common Across Studies

Exhibit 4 provides a comparison of the results from this study with previous studies. As seen, the studies are in general agreement for most factors. For example, all studies show a positive effect on income of hours worked and experience. At least three studies show a positive effect of: (1) type of license; (2) schooling; (3) being an owner/manager; and (4) working in a metro area; and a negative effect of (1) selling residential property; and (2) being a female. Other common results across studies are: (1) a negative effect for experience squared; and (2) a positive effect of professional training.

Along with this study, the Sirmans and Swicegood (S&S) study (1997) 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 found no significant effect of race on income. In contrast, while this study and S&S find a negative effect of age on income, CF&J found no significant relationship between age and income.[7] While this study along with Follain, Lutes and Meier (FL&M) (1987) and CF&J find that income increased with firm size, S&S found no significance between firm size and income.[8] Conflicting results are found in S&S and CF&J for franchise affiliation. S&S found that franchise affiliation increases income, CF&J found that affiliation has a negative effect, while this study finds no significant effect.

Exhibit 4 | Determinants of Real Estate Licensee Income

Variable	Follain, Lutes & Meier (Illinois)	Glower & Hendershott (Ohio)	Crellin, Frew & Jud (National)	Sirmans & Swicegood (Florida)	Sirmans & Swicegood (Texas)
Broker's License	positive	positive	positive	ns	ns
Hours Worked	positive	positive	positive	positive	positive
Schooling	positive	positive	positive	ns	ns
Experience	positive	positive	positive	positive	positive
Experience^2	—	negative	—	negative	negative
Professional Training	positive	—	positive	—	—
Gender	ns	negative	negative	negative	negative
Race	—	—	negative	ns	ns
Firm Size	positive	—	positive	ns	positive
Residential	—	negative	negative	negative	negative
Franchise Affiliation	—	—	negative	positive	ns
Owner / Manager	—	positive	positive	positive	ns
Metropolitan Area	positive	positive	—	positive	ns
Age	—	—	ns	negative	negative
Working Weekends	—	—	—	negative	—
Source of Prelic. Ed.	—	—	—	ns	ns
Use of Correspondence	—	—	—	ns	ns
Club Membership	—	—	—	ns	—
Perceived Image	—	—	—	negative	—
Job Satisfaction	—	—	—	positive	—
Years w / Current Firm	—	—	—	ns	ns
Professional Design	—	—	—	ns	positive
Buyer vs. Seller Income	—	—	—	ns	—
Having E&O Insurance	—	—	—	positive	—
Referral / Relocation	—	—	—	ns	—
Career	—	—	—	ns	—
Lit. Hours	—	—	—	—	ns
Number of Firms Affil.	—	—	—	ns	negative
Use of Assistant	—	—	—	—	positive
Comm. / Ind. / Farm	—	—	—	—	ns
Number of Transactions	—	—	—	—	positive
Use of Computer	—	—	—	—	positive

Note: Area of study appears below the authors. The table shows the direction of effect of the independent variables on income.
ns = Not statistically significant at the 10% level.

Variables Unique to this 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, the use of personal assistants, the number of transactions and the use of computer technology increases income. Spending time reading industry-related literature does not.

This study retests some variables from the S&S study. For example, variables across both studies that have no significant effect on income are source of prelicensing education, use of correspondence education and number of years with current firm. One variable significant in this study that was not significant in S&S is professional designations. Also, the number of firm affiliations that the licensee has had is not significant in S&S but is significant in this study.

Testing for Differences in Means

For further insight, the sample is segmented into fourths by income, and characteristics of the top one-fourth of income producers are compared to the bottom one-fourth by testing for differences in the variable means. The results are given in Exhibit 5. The differences in the variable means, shown in column two, are calculated by subtracting the variable means for the lowest income segment from the variable means for the highest income segment.

Not surprisingly, results indicate the top income producers have a different work profile than lower income earners. Higher income earners work significantly more hours per week and more of them work full time.

There is a significant difference in education across the two income segments. There is a significant difference in the means of the number of years of formal education but not in the source of prelicensing education. A greater percentage of higher income earners utilized correspondence to satisfy continuing education requirements. High-income earners were also more likely to be business/economics majors in college and were more likely to give continuing education a low grade. Members of the higher income group also have over seven more years of work experience.

There is some difference in the personal characteristics across the two income groups. There is no significant difference in the means for age, race, political activity, use of computers, type of operating system used or applications systems. High-income earners had a greater tendency to be male, spend time reading industry-related literature and use current technology such as digital cameras, color printers, scanners, cellular phones and video cameras.

For professional characteristics, the means for several variables are significantly different. A greater proportion of higher income licensees hold a broker's license,

Exhibit 5 | Results for Difference in Means Tests

Independent Variable	Difference in Means	*t*-Statistics
Income	122,626.58	53.66*
Work Profile		
Log of Hours Worked	0.30	4.61*
Education		
Years of Education	1.01	3.24*
Pre-Licensing Education Sources	0.13	1.65
Correspondence	0.11	1.82*
College Major	0.24	3.21*
Continuing Education Source	0.03	0.90
Improved Productivity	−0.12	−1.63
Continuing Education Quality	−0.13	−2.16*
Experience		
Years of Experience	7.44	5.75*
Experience^2	186.75	4.56*
Personal Characteristics		
Age of Licensee	−2.73	−1.45
Gender of Licensee	0.32	4.79*
Minority	0.00	0.00
Politically Active	−0.12	1.85*
Literature Reading Hours	1.31	2.27*
Literature Source	0.07	1.06
Use of Computers	0.07	1.61
Use of Digital Camera	0.11	2.10*
Use of Color Printer	0.16	2.12*
Use of Scanner	0.26	3.72*
Use of Cellular Phone	0.21	3.49*
Use of Video Camera	0.15	2.24*
Macintosh System Used	0.03	0.90
Professional Characteristics		
Brokers License	0.37	5.22*
Years with Current Firm	5.73	5.41*
Primarily Selling Residential	−0.32	−4.22*
Primarily Selling New Residential	−0.01	−0.44
Selling Commercial, Ind., Farm	−0.24	−0.55
Business Expenses	2.63	0.86
Manager/Owner	−0.01	−0.04
Number of Transactions	14.3	5.84*
Professional Designations	0.16	2.49*
Years Member of Local Assoc.	0.21	0.16
Number of Affiliations	−0.03	−0.18
Firm Characteristics		
National Franchise	−0.11	−1.45
Local Franchise	−0.02	−0.81
Size of Firm	6.70	0.67
Access to Personal Assistants	0.77	6.18*

Exhibit 5 | (continued)
Results for Difference in Means Tests

Independent Variable	Difference in Means	*t*-Statistics
Location		
Metropolitan Area	0.15	2.03*

Note: Table is the top income quartile versus the bottom income quartile. The means differences are the variable means for the top one-fourth income producers minus the means for the bottom one-fourth.
*Significance at the 10% level.

have worked longer at their current firm, are involved in more transactions and hold professional designations. A greater percentage of lower income licensees sell residential property as their major activity. There was no significant difference in the means across the two income groups for their source of income (selling commercial or industrial), proportion of income spent on business expenses, being an owner/manager, the length of time as a member of the local board and the number of firm affiliations the licensee has had.

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. The significant variables are access to personal assistant and assignments of personal assistants. Higher income licensees use more personal assistants and also use them for more specialized tasks.

The metro variable indicates that, relative to lower income earners, higher income licensees are clustered in metropolitan areas.

Conclusion

This article has examined the factors that influence the income of real estate licensees. An empirical human capital earnings model was developed from a 1997 survey of Texas real estate brokers and salespeople. In seeking to explain earnings of real estate licensees, this article has expanded previous studies by measuring several additional human capital components.

The results of this article combined with the results from previous studies provide some insight into the productivity and income potential of real estate licensees. First and most obvious, regardless of whether the licensee is a broker or salesperson, hard work and experience pay off. The number of hours worked and experience are significant in all studies. A departure from previous studies is a

lack of significance of schooling in later studies. This does not necessarily mean that schooling is not important. It could be that the licensees in the later studies had comparable schooling and there was no significant variation across licensees.

Four of the five studies show that females earn less than males. Later studies show also that age works against the licensee. It would appear that more money is to be made in the commercial sector. Four of the five studies show that specializing in residential sales results in lower income.

Indicators in the most recent studies show that job satisfaction and professionalism are important influences on income. Also, having access to assistants and being computer proficient are important ingredients in producing income.

Overall, it would seem that the high-earning real estate licensee is a younger male with more experience who: (1) is willing to work more hours; (2) has a higher degree of job satisfaction; (3) develops professionalism (as indicated by professional designations); (4) has access to personal assistants; and (5) can utilize a personal computer for work.

Endnotes

[1] One might argue that the increase in human capital may vary with the source of continuing education. This is considered in the empirical analysis.

[2] Much of the data in this study are 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), Diskin and Gatzlaff (1994) and Sirmans and Swicegood (1997).

[3] It should be noted that possible bias could arise in that the licensee may have a tendency to stay longer with a firm when earnings are high and an incentive to move if earnings are low. This could also be true for other variables such as membership in the local REALTOR® association.

[4] A backward stepwise regression was used to determine the final model. Tests indicated that multicollinearity was not a problem in the equation.

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

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

[7] 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 on a sample of relatively older licensees.

[8] 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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