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ABSTRACT

This paper is concerned with which factors are significant in determining the market share of listings and the market share of sales for brokerage firms. A model is developed and empirically tested in the major city of a Standard Metropolitan Statistical Area.

The data come from a market of 82 brokerage firms. Indices of firm specialization and market concentration were computed in addition to more conventional characterizations of the market and the data used.

Firm size and certain types of advertisements were found to affect both listings and sales. Classified ads were found to only affect sales. Among the more interesting results, open houses and franchises were not found to improve either listings or sales.

MARKET SHARE IN THE REAL ESTATE BROKERAGE INDUSTRY

Revenues of real estate brokerage firms have fallen due to the overall decline in sales volume. A firm in this kind of environment can only increase revenue by increasing its market share. Firms must now decide what to do to increase their market share while being conscious of the cost involved. This paper is an empirical study of the impact of firm characteristics on both the market share of listings and the market share of sales. The study was conducted for the year 1981 in a midwestern county which is also a Standard Metropolitan Statistical Area.

Seven firm characteristics were selected as explanatory variables:

(1) the number of salespeople,

(2) the experience level of salespeople,

(3) advertising space in the Yellow Pages,

(4) newspaper display ad space,

(5) classified advertising space,

(6) number of open houses advertised, and

(7) presence of a franchise.

The purpose of these seven variables is to explain both the market share of listings and the market share of sales.

LITERATURE

Most of the literature on the brokerage industry is impressionistic or anecdotal. The primary exception to this is a 1974 study by Robert Edelstein (1, p. 326-7). Edelstein shows a difference in the performance of brokerage firms according to firm size. Compared to intermediate sized firms, large brokerage firms are shown to reduce the

average period of listing for their customers. This suggests that large brokerage firms have an advantage, but another of Edelstein's results suggests that this particular advantage is not achieved without some penalty. Edelstein finds that the period of listing has an inverse effect on the ultimate discount on the property. That is, the longer one waits to sell a property, the closer the actual price will be to the asking price. However, the overall effect on price of waiting longer was shown to be very small. So, the impact of time on the discount may be explained by a downward drift in list price over time rather than by an upward drift in the potential selling price. Thus, the large brokerage firm may enjoy an unambiguous advantage.

Besides the impact of firm size, there is next to nothing known about the impact of various marketing strategies. Bruce Lindeman (3, p. 232) describes newspaper advertising as the "mainstay of residential brokerage advertising." Lindeman suggests that since smaller classified ads are inexpensive, a firm can afford to place several ads in the paper on the same day. The advantage of this is the firm's name will then be "peppered" all over the page thus making it unlikely for a potential buyer to overlook the firm's name. In contrast, Lindeman characterizes display advertising as having a greater emphasis on firm identification while still concentrating on product information. Lindeman hypothesizes that a potential buyer will think he has a larger selection to choose from if he sees a large ad containing several property listings; thus he will be more inclined to select the firm as a broker. Of course, one might imagine that a firm with more listings has more first-hand

knowledge of listings rather than having access to a larger selection when dealing with a Multiple Listing Service.

THE DATA

The data utilized in this study came from Multiple Listing Service records as well as newspaper and Yellow Pages advertisements. The Multiple Listing Service records supplied the number and experience of salespeople by firm. Ads were measured from the local newspaper during the last week in June, 1981, i.e., the week representing the middle of the year, and Yellow Page ads were taken from the 1981 edition of the local telephone directory. The number of open houses advertised also came from newspapers from the selected week. Additionally, any firm using a nationally known name was identified as a franchise. Market share data was obtained from Multiple Listing Service records for the year 1981.

The registration numbers for each salesperson indicate how long that salesperson has been in the real estate business. Registration numbers were generally given out in ascending order so salespeople with low numbers have more experience relative to high numbers. The registration number thus is a proxy for experience.

The results may be tarnished by several problems which exist with the experience data. Some newer applicants were not given increasingly higher registration numbers, but rather, were issued previously used numbers which were no longer assigned to active members. This was done to fill in vacated numerical slots. Very recently, the numbering system started from the beginning again in order to avoid registration

numbers from becoming too large. Finally, registration numbers give no indication of how active a salesperson has been during the years he or she has been registered. Thus, experience is measured with a substantial amount of error.

The newspaper advertisements were divided into two types: classified and display. Classified ads were defined as an ad not exceeding one column in width and consisting of standard print only. Display ads were defined as any ad wider than one column, having a company logo or other "picture," or containing print larger than 10-point in size. For the week under observation there were a total of 204 column inches of classified ads (one column inch is equal to an ad one inch long and one column wide) and 902 column inches of display ads. For 1981, there were also 90 1/4 column inches in the Yellow Pages.

Market share was measured in terms of the numbers of listings and sales, not dollar volume, and considered only residential listings and sales. Listings and sales during the entire calendar year of 1981 were used to calculate a market share for each firm in terms of sales and listings, and only those listings that resulted in sales were included in the data. There were a total of 1232 completed sales.

The combination of newspaper advertising data and market share data created a problem. The market share data are for the entire SMSA, but the newspaper is targeted primarily at the central city of the SMSA. However, the dominance of the newspaper is evidenced by a circulation of 52,000 from a total population of only 168,000.

The data include a broad range of firm types as seen by the range in the number of salespeople, their experience levels, the quantity of

advertising, and the market shares. Exhibit 1 provides a summary of data characteristics. The number of salespeople range from firms with one salesperson to a firm with 24. The range of experience for salespeople at each firm also varies greatly with one firm having a very high level of experience (i.e., 15) to firms with very low experience (i.e., 621 out of a possible 725, the highest registration number). The data also represent some firms which choose not to advertise with classified ads, display ads, or even place their firm name in the Yellow Pages. There were a total of 39 open houses advertised by all the firms with an individual firm range of zero to seven. The franchise dummy variable is either a zero (no franchise) or a one (firm is a franchise). Nearly 10% of the firms were franchises. The market share of the firms under study has a wide range from zero percent up to 6.43% for sales and 7.91% for listings out of a total of 1232 listings and sales. Exhibit 4 shows the relationship of each firm's market share of listings compared to its market share of sales. The general cluster of firms around the 45 degree line indicates very little specialization exists between listings and sales in this market. However, it is clear there are some listings and some sales specialists in this market.

The degree of applicability of the results to other areas may depend upon the similarity of the markets. Identifying the most important characteristics of the market is crucial for the purpose of comparisons. Some of the market characteristics one might wish to compare are: population, number of sales, average selling price, presence of listing or selling specialists, and the degree of market concentration. The average selling price for the market under study was $54,600, and

as indicated previously, the population was 168,000 in 1981, while there were 1232 residential sales. Exhibit 5 shows a Lorenz curve indicating the degree of specialization in the market. The associated Gini coefficient of specialization is .11643. The Gini coefficient of specialization has a range between 0 where each broker would have the same share of listings as he has of sales, to 1 where all brokers would specialize completely in either listings or sales. Therefore, this particular Gini coefficient obtained here indicates a low level of specialization. Exhibits 6 and 7 show the Lorenz curves for concentration in the listing and sales segment of the brokerage market. The Gini coefficient of concentration in listings is .67918 and the coefficient for sales is .64367. The range of a Gini coefficient of concentration is from zero, which represents equal market share across all firms, to .988 for complete concentration in one firm given 82 firms. The particular Gini coefficients found here indicates a high level of concentration but not so high as to indicate the presence of monopoly power or even a dominant firm.

THE MODEL

Seven independent variables are included in the model: the number and experience of salespeople, the quantities of classified, display, and Yellow Page advertising, the number of open houses advertised, and whether the firm is a franchise.

The dependent variable representing the market share of sales in our model will be ODDS(L)i defined as:

$$(1) \qquad \text{ODDS(L)i} = \frac{\text{SHARE(L)i}}{1 - \text{SHARE(L)i}}$$

Where SHARE(L)i = the proportionate market share of listings of the iTH firm.

Defined in this manner, ODDS(L)i is the odds of a listed property being listed by the iTH broker. Our model can then be specified as:

(2) $\quad ODDS(L)i = f(SLSi, EXRi, CLSi, DSPi, YLWi, OPNi, FRNi)$

Where:

SLSi = number of salespeople for the iTH firm

EXRi = the average experience level of all salespeople at the iTH firm

CLSi = quantity of classified advertising for the iTH firm

DSPi = quantity of display advertising for the iTH firm

YLWi = quantity of Yellow Page advertising for the iTH firm

OPNi = number of open houses advertised by the iTH firm

FRNi = a dummy variable used to identify any firm operating as a franchise

The same transformation is used for the market share of sales. Thus the sales model is specified as:

(3) $\quad ODDS(S)i = g(SLSi, EXRi, CLSi, DSPi, YLWi, OPNi, FRNi)$

THE RESULTS

The results of the two models are relatively similar to each other due to the general lack of specialization among firms in obtaining only listings or sales (see Exhibits 4 and 5). The regression results are found in Exhibit 2. The models were successful in capturing much of the variation in the odds as evidenced by the high R-squares.

In terms of the odds of obtaining a listing, only three of the explanatory variables were found to be significant. The significant factors were: number of salespeople, quantity of display advertising, and the quantity of advertising in the Yellow Pages. The experience of the salespeople, quantity of classified advertising, number of advertised open houses, and whether the firm was a franchise did not significantly affect the market share of listings.

The number of salespeople affects the market share of listings because, in our opinion, additional salespeople mean extra contacts with potential sellers. But is it actually worthwhile to add another salesperson? Interpreting the results will find an answer. First consider a firm which has five percent of the market share of listings. Its odds of attracting a listing would be .05263. According to the results of the regression, adding one salesperson will increase its odds by .00247. This translates back into a share of 5.222%. For the time and area under study, there were 1232 listings. Given an average selling price of $54,600 and a commission of 3%, the firm could expect to gross an additional $4,554 from listings alone as a result of adding one salesperson. Now consider the firm which currently only has .5% of the market share. Using the same analysis, an additional salesperson will yield 3.05 additional listings or $4,996 in additional gross annual earnings from listings. These figures are only related to the market share of listings. Adding an additional salesperson will also have an effect on the odds of a sale and thus will further add to the total revenue received. Note that the smaller firm will obtain more listings from additional salespeople than the larger firm will. This shows that,

at the margin, an additional salesperson will have more of an impact on firms which currently have fewer salespeople. It is clear that smaller firms have the largest to gain by adding to the sales force, but be aware that the smaller firms are also less able to afford to hire additional salespeople. Each individual firm must make its own cost/benefit analysis in order to determine what is optimal.

Display advertising apparently attracts both sellers and buyers. A display ad contains both firm identification and product information. Placing the firm's name before the public serves to increase its odds of a listing via future listings, and the product information contained in the ad influences the odds of a sale. Perhaps the product information in a display ad also indicates to a seller how his property would be advertised.

How much display advertising should a firm engage in? According to the model, an additional 3-inch by 3-column display ad will increase the odds of a listing by .00153. For a firm with a current market share of 5%, that translates into a .138% increase in market share. Based on 1232 annual sales and a 3% commission, the increase in market share will generate an additional $2,827 in annual revenues. Note that the ad must run in the context of a year long advertising campaign consistent with the placement of such an ad during the last week in June. This is due to the fact that the market share data covers an entire year while the advertisement data covers only the last week in June. Again, these figures only represent the effect on listings. The same ad will also influence the odds of a sale.

The Yellow Pages also plays an important role in generating new business. In our opinion, when someone finally decides to buy or sell

real estate and does not have a particular broker in mind, the Yellow Pages is one of the first places to look, along with personal recommendations and newspaper advertising. Thus, having an ad in the Yellow Pages serves to generate first time customers who otherwise would not have known of the firm's name. The impact of Yellow Pages advertising is on the order of four times the impact of classified and display advertising.

Salesperson experience was not found to be significant. Because this variable was subject to serious measurement error, any interpretation of this result is not encouraged.

The quantity of classified advertising and the number of open houses advertised have no significant effect on the odds of obtaining a listing. Contrary to Lindeman's view of classifieds, these two types of advertising do not contribute to firm identification.

Surprisingly, a franchised firm does not, in general, have any significant advantage in drawing listings. One would expect that a franchised firm could attract more listings simply due to its national advertising, consistency in the eyes of the public, nationally proven training materials and programs, and special products associated with the firm name. However, the results do not support this view. Perhaps a more detailed study would reveal whether some franchises improve listings while others are a detriment.

The odds of a sale, as mentioned earlier, are affected by the same factors which affect the odds of a listing. In addition, sales are also affected by classified advertising and open houses.

Classified advertising's significance in determining the odds of a sale suggests that people who look through the classified advertisements are looking for a property to buy, not to find a broker to list their property with. This implies that classified advertising should only be used to sell properties, not to put the firm's name in front of the public. This contrasts Lindeman's view of getting the firm's name "peppered" all over the advertising page with numerous small ads.

Open houses appear to be counter productive in obtaining sales. The more open houses advertised, the lower the odds of a sale. As with all the variables, we cannot say definitely that open houses cause a lower market share, however, it does appear that less successful firms are using their resources on open houses rather than on the sales generating strategies associated with more successful firms.

If open houses are detrimental in obtaining sales and insignificant in obtaining listings, why do brokers persist in holding open houses? Some brokers would agree that open houses do not sell houses, but they rationalize holding open houses on the basis that contacts are made which produce future listings or sales. By holding open houses, brokers may be merely pandering to the prejudice of customers who mistakenly believe that open houses help sell houses.

CONCLUSIONS

This paper has determined the effects of seven variables on the odds of obtaining listings and the odds of making sales for real estate brokerage firms. The significant factors affecting both the market share of listings and the market share of sales were: number of salespeople,

newspaper display advertising, and Yellow Pages advertising. Two variables which were not significant in either case are the salespeoples' experience and firm franchises. In addition, open houses were found to adversely affect sales, while classified advertising only helped sales. The applicability of these results to other markets may depend on the similarities of market conditions.

A more detailed study could examine the effects of other variables as well as further refinements of the variables included in this study. More detailed characteristics of newspaper advertising might reveal useful adjustments in marketing strategy. For example, some factors which could be significant are: proportion of display ad devoted to pictures and the number of pictures in one ad; the different fonts used in the headline or in the body of the ad; the placement of the ad on the page; the difference between an ad's characteristics and the typical ad's characteristics on the same page; and the number of separate ads by one firm on a given page. These are only a few of the possibilities which might be important in attracting the public eye to individual ads.

The impact of advertising media other than newspaper and Yellow Pages have not been examined. Possible candidates include television and specialized real estate magazines. In addition to advertisements in various media, firms may also offer additional services. These services may include such things as relocation services and home warranties. Some firms may even put out their own neighborhood newsletter telling of current events or offer rewards for information leading to the conviction of burglars in a neighborhood. Any of these strategies might

help the firm generate listings and sales. Thus, empirical studies of these factors would provide further insight into the impact firm characteristics and marketing strategies have on market share.

EXHIBIT 1

DESCRIPTION OF VARIABLES

VARIABLE	MEAN	STD. DEVIATION	MINIMUM	MAXIMUM
SLS	4.79	4.928	1	24.00
EXR	347.110	157.360	15	621.00
CLS	2.488	8.586	0	57.75
DSP	11.000	21.911	0	102.50
YLW	1.101	3.477	0	22.50
OPN	.476	1.299	0	7.00
FRN	.098	.297	0	1.00
SHARE(L)	1.072	1.626	0	7.91
SHARE(S)	1.115	1.542	0	6.43

EXHIBIT 2

REGRESSION RESULTS

DEPENDENT	CONSTANT	SLSi	EXRi	CLSi	DSPi	YLWi	OPNi	FRNi	R^2
ODDS(L)i	-.00644*	.00247*	.00001	.00022	.00017*	.00081*	-.00119	-.00448	.78
	(.00249)	(.00032)	(.00001)	(.00013)	(.00006)	(.00033)	(.00107)	(.00390)	
ODDS(S)i	-.00458+	.00221*	.00001	.00028+	.00023*	.00088*	-.00249*	-.00599	.78
	(.00233)	(.00030)	(.00001)	(.00012)	(.00005)	(.00031)	(.00101)	(.00366)	

( ) Standard Error
* Significantly different from zero at the 99% level.
\+ Significantly different from zero at the 95% level.
Sample Size = 82
Degrees of Freedom = 76

EXHIBIT 3

CORRELATION MATRIX

	SLS	EXR	CLS	DSP	YLW	OPN
EXR	.03518					
CLS	.36953	.02596				
DSP	.60352	-.01644	.27730			
YLW	.29175	-.00831	.15508	.45704		
OPN	.63624	.08014	.41946	.43343	.36458	
FRN	.43082	-.07545	.28705	.24107	.27120	.10106

REFERENCES

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2. Galaty, Fillmore; Allaway, Wellington and Kyle, Robert, Modern Real Estate Practice, 8th Edition. Real Estate Education Company/ Chicago. 1978. Section 6.

3. Lindeman, Bruce, Real Estate Brokerage Management, Reston Publishing Co., Inc., 1981. Chapters 11, 14.

EXHIBIT 4

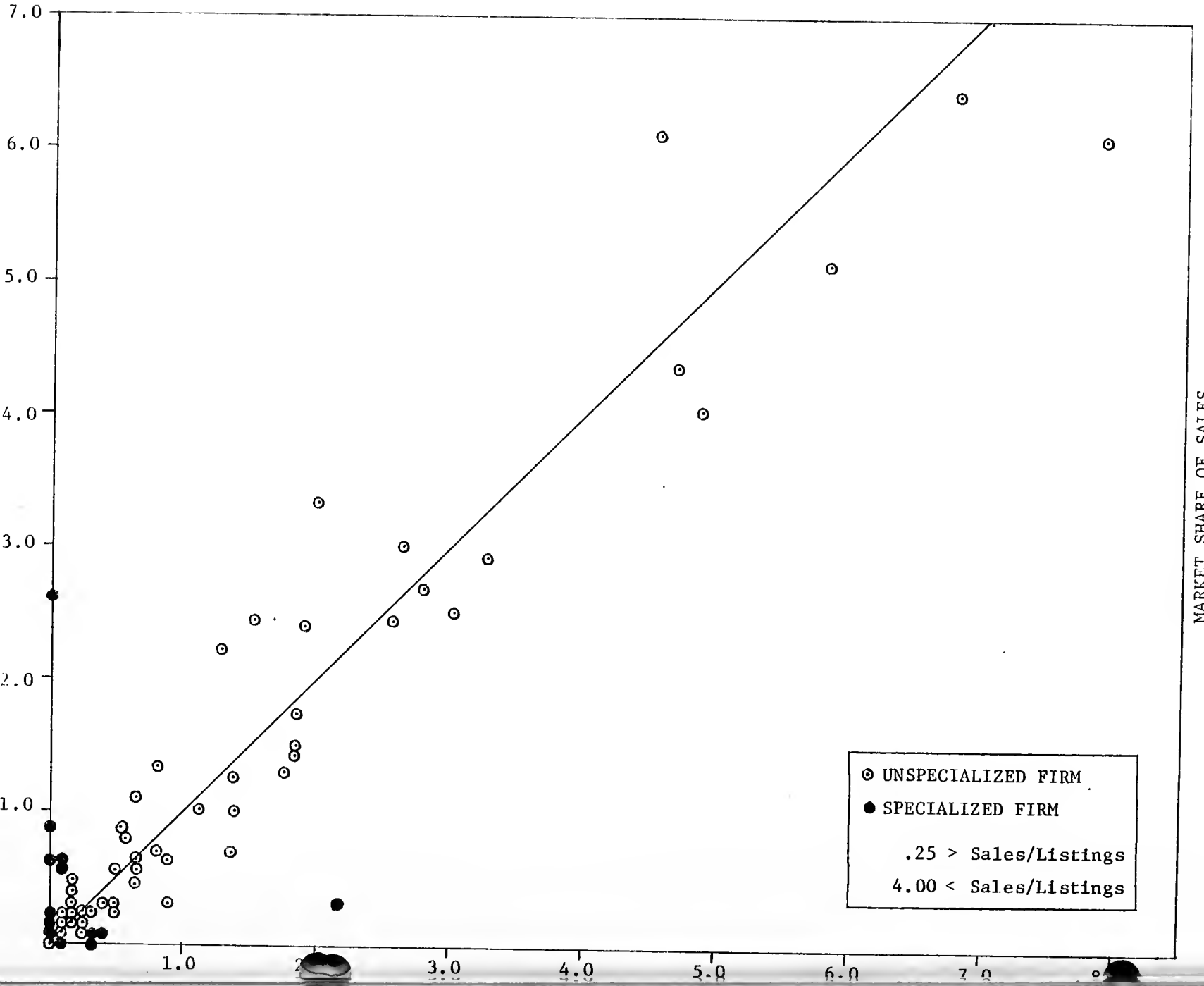
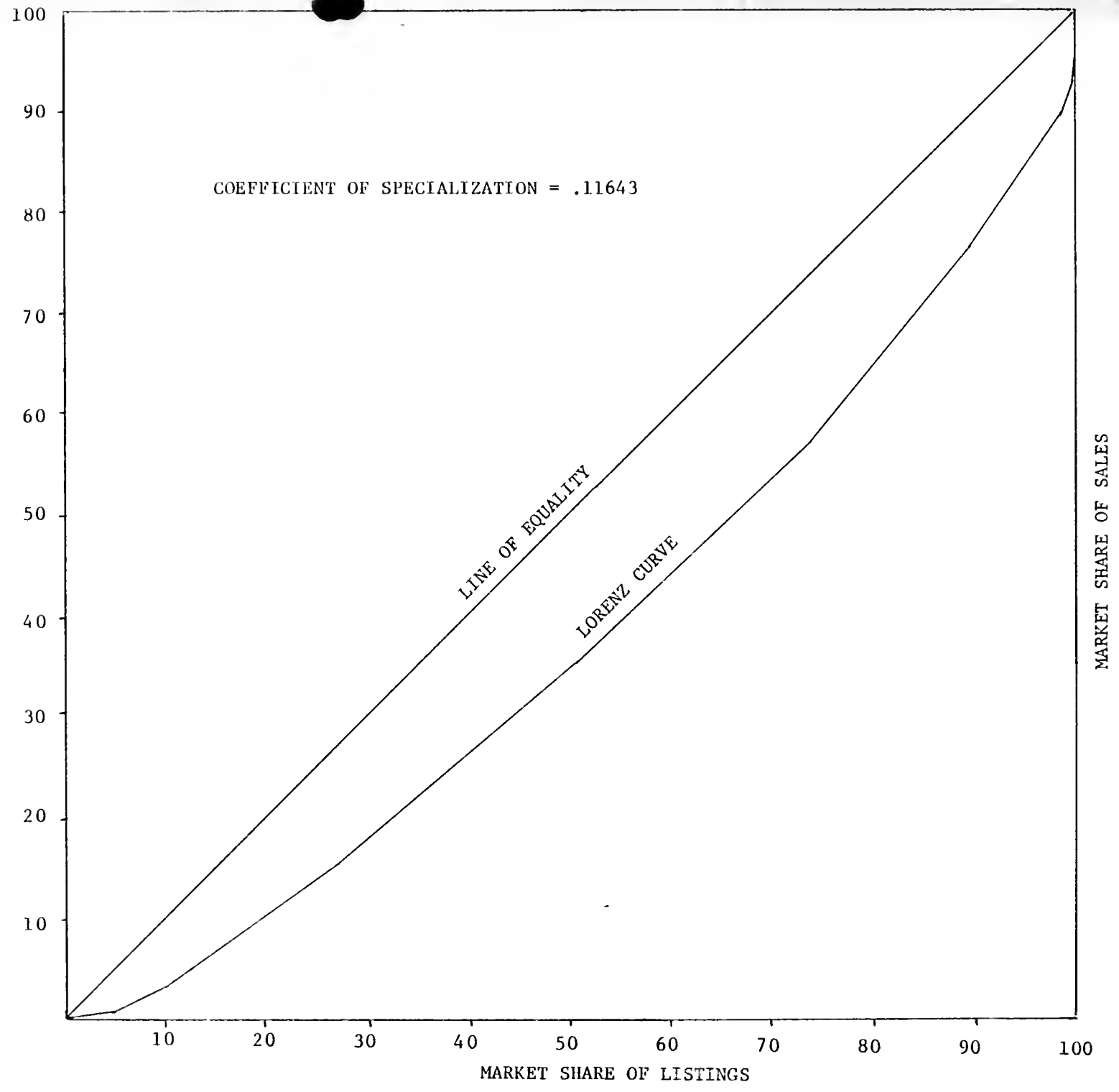

7.0
6.0
5.0
4.0
3.0
2.0
1.0
1.0
3.0
4.0
5.0
6.0
MARKET SHARE OF SALES
UNSPECIALIZED FIRM
SPECIALIZED FIRM
.25 > Sales/Listings
4.00 < Sales/Listings

EXHIBIT 5


COEFFICIENT OF SPECIALIZATION = .11643
LINE OF EQUALITY
LORENZ CURVE
MARKET SHARE OF SALES
MARKET SHARE OF LISTINGS
100
90
80
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60
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40
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90
100

EXHIBIT 6

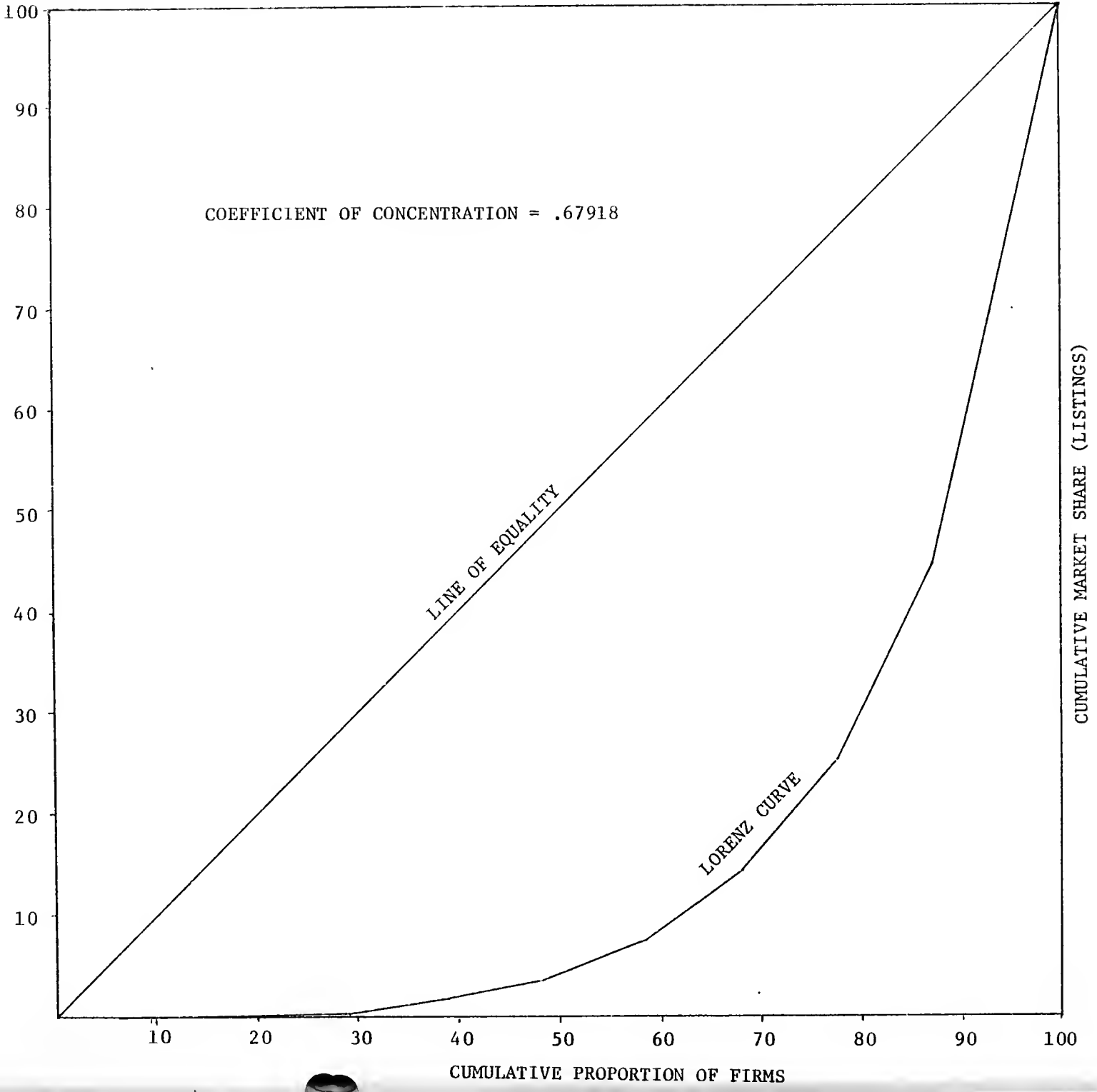
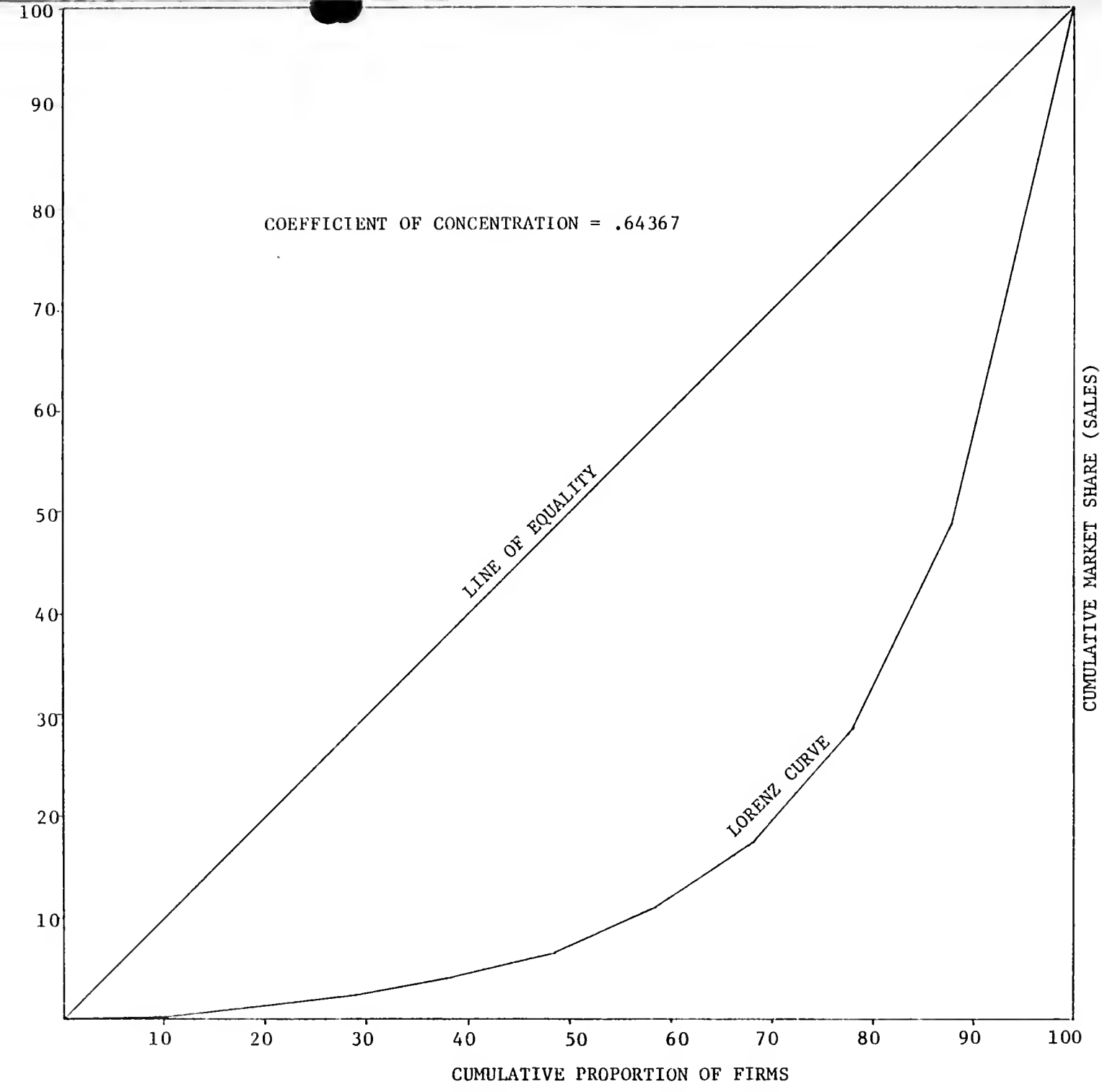

COEFFICIENT OF CONCENTRATION = .67918
LINE OF EQUALITY
LORENZ CURVE
CUMULATIVE MARKET SHARE (LISTINGS)
CUMULATIVE PROPORTION OF FIRMS
10
20
30
40
50
60
70
80
90
100

EXHIBIT 7


COEFFICIENT OF CONCENTRATION = .64367
LINE OF EQUALITY
LORENZ CURVE
CUMULATIVE MARKET SHARE (SALES)
CUMULATIVE PROPORTION OF FIRMS
100
90
80
70
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100