

HOUSING PRICES AND THE LOCATION CHOICE OF FIRMS: IMPLICATIONS FOR ECONOMIC GROWTH

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Abstract

Housing prices in the coastal United States have increased sharply since the mid-1970s. On the one hand, high or increasing housing prices are indicative of a strong and growing economy. On the other hand, housing prices that are "too high" (relative to prevailing wage levels and cost structures) make cities and region less attractive to businesses looking to expand, and may even encourage some businesses to leave. This paper describes the results of a recent survey of firms in a selected set of high-priced, moderately-priced, and low-priced metropolitan areas throughout the United States. In undertaking the survey, special attention was focused on the role of housing prices in business location and expansion decisions. Unlike previous surveys of the determinants of business location, this one was designed to distinguish between the factors (including housing) that influence a firm's: (1) decision to choose a new site or location; (2) decision to leave an old site or location; and (3) ability to recruit new employees. High housing prices and a lack of affordable housing were found to be a significant deterrent to the ability of firms to recruit qualified labor, but did not, by themselves, either attract businesses to new sites, or cause them to leave existing sites.

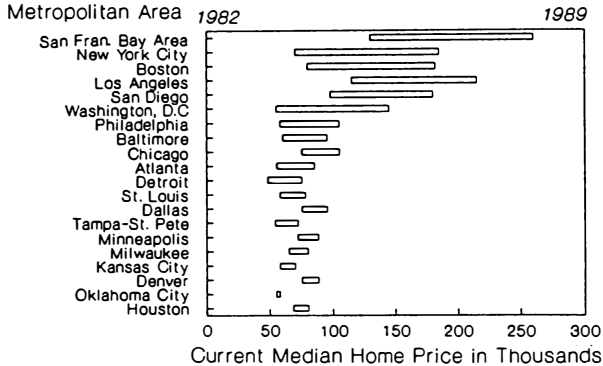
I. Introduction

Housing prices in the United States have increased sharply since the mid-1970s. According to the National Association of Realtors, the median price of existing single-family homes rose from \$35,300 in 1975 to \$93,100 in 1989, an increase of 164 percent. By comparison, over the same 14-year period, per capita incomes increased 187 percent, and the cost of living (as measured by the Consumer Price Index) increased 130.5 percent. The increase in housing prices has been inexorable, but it has also been extremely uneven (Figure 1). Housing price increases since the 1970s have been much greater in the West (particularly in California) and in the Northeast (during the mid-1980s) than in other parts of the country. These sharp differences in rates of home price appreciation have fragmented what, 15 years ago, was effectively a national housing market into dozens of smaller metropolitan housing markets.

Among economists there is a clear recognition that such high housing prices represent something of a double-edged sword. On the one hand, high or increasing housing prices are indicative of a strong and growing economy. Moreover, continued house price appreciation represents the major source of wealth accumulation for middle-income households. On the other hand,

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Figure 1:
Median Sales Prices of One-Family Homes
in Selected Metropolitan Areas: 1982-89



Source: Nat'l. Assoc. of Realtors

high or increasing housing prices are indicative of a strong and growing economy. Moreover, continued house price appreciation represents the major source of wealth accumulation for middle-income households. On the other hand, there is widespread concern, particularly among major business interests, that housing prices that are "too high" (relative to prevailing wage levels and cost structures) make cities and regions less attractive to businesses looking to expand, and may even encourage some businesses to leave. This latter concern has been a major theme of business interests in the San Francisco Bay Area, who worry that high housing prices will lead the region's vibrant high-tech industrial base to relocate to less expensive parts of the country (Bay Area Economic Forum 1989). It has also been voiced by opponents of growth controls, who argue that supply restrictions that push up housing prices will slow, if not reverse, local economic growth.

Housing prices affect economic development indirectly, through the locational decisions of firms. In areas where housing prices are high, and where labor is scarce, firms may need to increase their wage and salary levels in order to attract qualified workers. Firms may be able to internalize small increases in wages, but unless there are corresponding increases in worker productivity, firms paying higher than industry-prevailing wage rates may ultimately find themselves unable to compete with lower-wage competitors. Although the link between high housing prices and high wages is not inherently fixed, it may, nonetheless, be significant.

Thus, much as tax differences between "competing" locations were (mistakenly) assumed to have shaped firm location decisions during the 1970s, more recently, and in many metropolitan areas, housing price differences have emerged as a key determinant in the firm location decision.

At root, the question of whether and how housing prices shape firm location decisions is an empirical one. Are businesses unduly attracted to areas in which housing prices are low? Do high housing prices actually cause a significant number of businesses to move from a given site or region? Clearly, the answers to these questions are not universal; they vary by industry, by business size, by business organization, by location, by type of employees, and with the magnitude of housing prices. This paper describes the results of a recent survey of firms in a selected set of high-priced, moderately-priced, and low-priced metropolitan areas throughout the United States. Unlike previous surveys of the determinants of business location, this one was designed to distinguish between the factors (including housing) which influence the firm's: (1) decision to choose a new site or location; (2) decision to leave an old site or location; and (3) ability to recruit new employees.

II. Housing Prices and Employment Growth in Theory

Growth in a region is generally presented as a function of the supply of labor and capital in the region and its rate of growth (Richardson 1973). The distribution of growth among regions is affected by the relative costs of labor and capital as well as the locational aspects of each competing region (e.g., size of market, distance from markets, raw materials – Borts and Stein 1964). While not explicitly included in theoretical models, differences in housing prices are likely to directly affect differences in the cost of labor. In addition, housing prices and housing availability can be seen as an amenity or disamenity distinguishing one geographic area from another.

Theoretically, we would expect the price¹ of housing to affect the rate of employment growth in two different ways. First, an increase in the cost of housing is likely to increase the wages demanded by labor, thus raising the cost of labor and slowing the rate of growth. Second, an increase in the price of housing would make the region less attractive to labor, increasing out-migration of workers and reducing in-migration. This reduces the rate of growth of labor, in turn slowing the growth of employment. Housing prices may also affect the rate of employment growth less directly, through the location decisions of businesses. If businesses feel the labor force is sensitive to housing prices and availability, they may avoid locating or expanding in areas with tight housing markets, thus reducing the rate of employment growth.

While the theoretical effects of high housing prices on the economy are straightforward, the magnitude of those effects is much less clear. For example, workers may be willing to accept substantial home price increases without demanding comparable wage increases in areas where job opportunities are good and there are attractive cultural and physical amenities. Also, in-migrants, especially if they come from overseas, may be quite insensitive to housing prices relative to other factors such as job opportunities or family ties in making a decision to move into an area.

Empirical research to date has given little indication of the relative importance of housing prices in the growth of a metropolitan economy. Housing prices, availability, and quality rarely appear as location or growth factors in empirical studies. In the few cases where they have been considered, little effect has been documented (Landis and Kroll 1990).

Empirical Studies of Location Factors

Historically, the focus of location theory has been to add a spatial component to economic analysis. Much of the early analysis focused on the distance element, measured by transport costs or travel time or by size of market area. Gradually, these studies have been extended, first to incorporate other measurable traditional economic factors, such as labor costs, the costs of energy, and local tax rates, and more recently to add qualitative factors such as climate, cultural facilities, and the quality of public schools. Studies have found that the degree of importance of different factors varies by the industrial type of firm, by the facility type (e.g., headquarters versus branch facilities), and by whether the move is to a nearby site or to another region (Blair and Premus, 1987).

Econometric studies, which are often based on secondary data, tend to look at a more limited list of factors than surveys of industrial plants. Real estate factors are generally not included in the studies, with the key elements considered being wages, labor force availability, energy costs, size of the area (population, employment, or specific sector), and tax rates. While these studies give little direct evidence on the role of housing prices, they do address related factors, such as labor costs and availability and population growth. Labor characteristics are significant in explaining the differences in growth rates among different areas, but not consistently among sectors. Carlton (1979) found wages a significant factor in explaining the location decisions of branch firms, but not for all sectors, and that the availability of skilled labor was a significant factor for high-tech businesses. Wages did not appear as significant for any of the sectors he studied in the location decisions of new businesses (Carlton 1983). In a separate study, Carino and Mills (1987) found that there was significant negative correlation between employment growth and the share of the workforce that was unionized, but that the magnitude of the effect was quite small. They also concluded that population growth appears to draw new employers to an area, expanding on work by Steinnes (1977).

Work by Browne, Mieszkowski, and Syron (1980) shows similar findings in looking at the flow of investment (rather than employment growth) among regions. States with higher wage rates obtained less investment per capita for manufacturing industries as a whole in the 1959-1976 period. However, the results were less clear when applied to specific industries. Investment in high-tech sectors, for example, did not appear significantly related to the level of wages. In addition, the authors note, the input-related factors they tested (including wages) explained only 30 to 40 percent of the variation in investment among states, indicating "the complexity of the investment location decision and . . . the importance of historical accident and happenstance" (see Browne et al. 1980: 16).

One econometric study looking at plant location and employment growth in high-tech sectors does incorporate a number of quality of life measures, including housing costs. In *High Tech America*, Markusen, Hall, and Glasmeier (1986) consider labor-related, amenity, access, agglomeration, and socio-political factors affecting high-tech location patterns. They find little effect of wages in the distribution of plants and jobs or the change in location of plants and jobs among metropolitan areas in the United States. Instead, two amenity factors, climate and educational options, are quite significant, as are business support

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services. Housing price coefficients are negative but not significantly different from zero in their analysis of plant change and job change.

In contrast to econometric studies, surveys of plant officials on decisions affecting the location of facilities are more likely to address real estate factors. Most commonly, these studies address the availability of space or land for the plant, rather than housing prices or availability. Schmenner (1982) found that low land costs were important to 60 percent of firms opening a new facility and to 50 percent of firms moving from an old facility in selecting their current site. Land costs were the most frequently mentioned factor for relocating businesses and were second only to "favorable labor climate" for new establishments.

Premus (1982), in studying the location choices of high-tech firms, asked respondents to distinguish between factors that influence the regional location choice of the firm and factors influencing the location choice within the region, once the region has been selected. Real estate factors were not directly important to the inter-regional location decision of firms. However, factors that may be closely linked to housing prices – cost of living and labor costs – were significant to many businesses. Labor costs influenced the inter-regional location choice of 72.2 percent of businesses surveyed and cost of living influenced the choice of 58.5 percent of businesses. Real estate factors appeared as directly important for intra-regional location decisions, with the cost of property and construction reported as significant or very significant by 78.8 percent of businesses.

The most qualitative discussions of site location decisions, those provided by site location consultants, tend to rank quality of life factors quite highly in the location choice. Lyne (1988) finds in a recent site selection survey that "in a highly significant number of site selection decisions QOL [quality of life] considerations are dominating much of the *entire* process." Hunter (1989), however, reports that his firm, in assisting with site selection, continues to look at traditional factors such as operating costs, labor supply and quality, and accessibility. Living costs also are a significant element of the location decision.

The general picture provided by these studies is not without contradictions. Real estate factors are quite important to the intra-regional location decision but may have less effect in long distance moves. Wage rates and cost of living are factors that appear much more significant for long distance moves and which may be affected by housing prices. However, the amount of change explained by these factors can be quite small. In addition, quality of life measures, which may also be statistically correlated with high housing prices, appear to be increasingly important to the location decision of businesses. The quality-of-life effect may to some extent cancel out the wage level and cost-of-living effects on location choices.

III. Housing Factors and A Survey of Firms

To more precisely determine how housing prices affect business² location decisions, we undertook a mail survey of firms in selected industrial categories, located within specific low-, medium-, or high-housing-priced metropolitan areas. The survey went both to firms that had moved recently and to those that had stayed in the same location during the past five years.

A sample of 2000 business establishments³ (see Table 1) with 50 or more employees was drawn from Dun and Bradstreet listings, including:

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1. Businesses with 50 or more employees, as noted above.
2. Businesses in industrial categories designated as "basic" or export-oriented, having markets that extended beyond their home regions. Because it supports basic industries, and because of its increasing role in the national economy, the industry group "Business Services" (Standard Industrial Classification Code 73) was also surveyed. Firms in industrial categories that were clearly tied to local physical resources or setting (such as lumber and wood products manufacturing or tourism-related activities), and thus were not easily moved, were excluded from the sample.
3. Businesses located in areas experiencing economic growth and expansion. The sample was drawn on a county basis from firms in 17 metropolitan areas in ten different states. The particular metropolitan areas were selected to provide a range of housing markets and include high-priced areas (in California and the Northeast), medium-priced markets (in California and throughout the United States), and low-priced markets (in the Pacific Northwest and South). California was purposely over-sampled in order to track differences between high-priced coastal markets (San Francisco Bay Area, Los Angeles and Orange Counties, and San Diego), and more moderately-priced inland markets (Sacramento, San Bernardino-Riverside).

The survey was directed to the plant manager or chief executive officer of each firm, with a cover letter explaining the purpose of the survey and the type of response needed. The survey involved an initial mailing plus two follow-up mailings to non-respondents. In addition to questions of firm type, size, and location, the survey asked respondents to rate two dozen location factors on a scale of 1 (unimportant) to 4 (most important) with regard to how the factors helped shape these firms' recent location or hiring decisions.⁴

In total, 575, or 29 percent of the surveys were returned within a five week period in the spring of 1990. Response rates varied by type of firm, but the degree of variation still left ample response levels even among the lower response categories. Firms with fewer than 100 employees responded somewhat more frequently than firms with more than 100 employees (31 percent as compared to 25 percent). High-technology firms responded relatively infrequently (25 percent), especially compared to a 32 percent response rate for other manufacturing and for business services firms. By state, response rates ranged from a low of 19 percent in Georgia to a high of 40 percent in Oregon (see Table 2).

Our analysis of the survey results, below, focused on the ways in which high housing prices were or were not affecting the location decisions of businesses, and thus the growth of local economies. We were interested in how frequently firms moved, how far they tended to move when they relocated, the factors that were likely to push them from their existing site ("push" factors), and the factors that drew them to a new site ("pull" factors). In addition, by asking about factors that affected current recruitment of the labor force, we considered the elements that affect a firm's ability to expand once it has chosen its current location. The analysis looked not only at overall responses, but also at: (1) differences by type of firm; (2) differences by geographic location; and (3) differences according to whether the firm had moved recently or not. The significance of respondent variations was tested using the chi-squared statistic and an F-test.⁵

Table 1

*Industrial Sectors and Geographic Areas Surveyed,
Center for Real Estate and Urban Economics, Spring 1990*

Industrial Sectors (SIC Code)

Manufacturing:	Apparel (23) Chemicals and Allied Products (28) Rubber and Miscellaneous Plastics (30) Fabricated Metals (34) Machinery Except Electrical (35) Electric and Electronic Equipment (36) Instruments and Related Products (38)
Distributive:	Trucking and Warehousing (42) Communications (48) Wholesale Trade, Durable (50) Wholesale Trade, Nondurable (51)
Finance/Insurance:	Banking (60) Credit Agencies (61) Insurance Carriers (63)
Services:	Business Services (73)

Geographic Area

<u>State</u>	<u>County</u>
Arizona:	Maricopa
California:	Alameda, Contra Costa, Merced, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Francisco, San Joaquin, San Mateo, Santa Clara, Stanislaus
Georgia:	DeKalb, Fulton
Massachusetts:	Middlesex, Norfolk, Suffolk
Minnesota:	Hennepin, Ramsey, Dakota
New Jersey:	Middlesex, Somerset
North Carolina:	Wake, Durham
Oregon:	Multnomah, Washington
Texas:	Dallas, Tarrant
Washington:	King, Pierce

Source: Landis and Kroll, 1990.

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Table 2

Survey Response Rates by Geographic Area

<u>State</u>	<u>Original # Sent</u>	<u>Invalid Returns</u>	<u>Base Mailing</u>	<u>Valid Returns</u>	<u>% Valid Returns</u>
California	800	10	790	265	33.5
Arizona	98	3	95	31	32.6
Georgia	118	4	114	22	19.3
Massachusetts	235	4	231	46	19.9
Minnesota	169	3	166	45	27.1
New Jersey	103	2	101	21	20.8
North Carolina	44	0	44	16	36.4
Oregon	74	1	73	29	39.7
Texas	244	5	239	60	25.1
Washington	<u>115</u>	<u>1</u>	<u>114</u>	<u>39</u>	<u>34.2</u>
Total	2,000	33	1,967	574	29.2

Source: Landis and Kroll, 1990.

IV. Patterns of Movement – Where and When Firms Relocate

Responding firms showed a tendency to be mobile and a preference for nearby moves. Of the businesses responding to the survey, 35.5 percent had moved to their current site from another location during the past five years. Of the businesses that had moved, however, 84.6 percent had moved within the same county. Thus, of the entire sample, only 5.5 percent of businesses had moved from one county to another during the past five years, and only 7, or 1.2 percent of the total sample, had moved to a different state. Overall, a picture emerges of an economy that changes incrementally, rather than in large moves. Firms, when they relocated, tended to move within the same market area and supply network, rather than shifting from one metropolitan economy to another.

This is not to say that employment itself is largely immobile. The remaining 65 percent of businesses undoubtedly included those where new capital investment has indirectly led to a shift in location, either through the establishment of a new firm or through the decision to expand at one site rather than another.

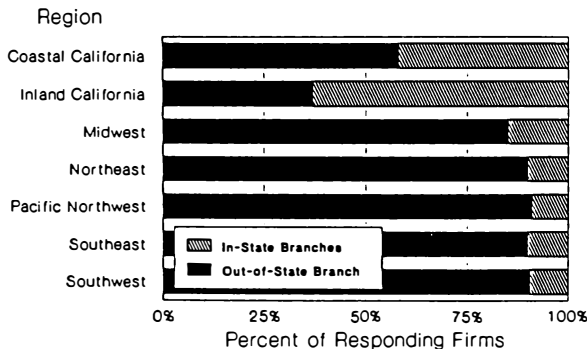
Some variations in the patterns of movement were associated with geographic area and type of firm. Only 16.7 percent of firms in low-housing-price areas had moved from another location in the past five years, compared to 37.5 percent in high-housing-priced areas. This is counter-intuitive to expectations about expensive areas – if housing prices alone determined the movement decision of businesses, we would expect more businesses to be entering low-priced rather than high-priced areas. The explanation for this is clear – areas

with high housing prices also tend to be areas with stronger, growing economies, thus drawing more new businesses into the area and contributing to the expansion of existing businesses. The areas showing the greatest amount of new county shift were the medium-priced California counties, which had twice the normal proportion of businesses moving from a different county than what appeared in the sample as a whole. This area may be showing a housing price effect, drawing businesses from expensive neighboring coastal areas.

There was also significant variation in tendency-to-move by industrial type of firm. Non-high-tech manufacturing firms were the least likely businesses to have moved from another site – only 23.3 percent had made such a move. In contrast, 44.3 percent of retail trade and service businesses had moved within the past five years. Transportation/Communications/Utilities (TCU) businesses and wholesale businesses were more likely than other types of businesses to have relocated to a different county in deciding to move. Thus, the industry mix may affect the vulnerability of an area to cost-related moves.

The location of branch facilities was also of interest in understanding location decisions of businesses. One third of businesses responding to the questionnaire were branch facilities. Of these, 72.6 percent were distant plants, located in a different state from the headquarters of the company. Branch plants were no more or less mobile than headquarters or relocation facilities, in terms of relocations, and were no more likely to have relocated to a facility in a new county. California counties tended to have more local branch plants and fewer distant plants than other locations. Local branches accounted for 42.6 percent of coastal California branches and 62.5 percent of inland California branches, compared to less than 10 percent of Southwestern and Northeastern branches (see Figure 2).

Figure 2:
Respondent Profile: In- and Out-of-State
Branch Locations by Region



Source: Kroll and Landis, 1990

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Why Firms Select a Location — "Pull" Factors

Because business retention is as important to the health of an economy as the attraction of new businesses, we were interested not only in what brought businesses to their present sites, but also in what kept them at their current site *if they had not recently moved*. Responses are summarized in Table 3. Real estate prices were very important in influencing location decisions of businesses, but directly, through land and lease costs, rather than indirectly through

Table 3

*Pull Factors: Why Firms Locate at their Present Site
(Importance of Various Factors in Location Decisions)*

<u>Location Factor</u>	<u>R*</u>	<u>Percent Reporting Factor</u>			
		<u>Not a Factor</u>	<u>Not Very Important</u>	<u>Somewhat Important</u>	<u>Very Important</u>
Land/Lease Costs	1	10.1	5.5	36.3	48.1
Proximity to Markets	2	21.7	12.4	20.3	45.6
Land/Space Availability	3	12.9	9.2	38.4	39.5
Available Skilled Labor	4	21.5	13.5	37.5	27.5
Transport Network	5	25.5	18.9	34.1	21.6
Commute Distance	6	24.3	10.6	45.5	19.6
Available Unskilled Labor	7	30.5	18.4	32.3	18.8
Construction Costs	8	36.7	16.8	28.4	18.1
Cost of Labor	9	32.0	17.8	32.2	18.0
Traffic Conditions	10	20.8	18.6	45.2	15.4
Community Attitude	11	37.2	23.8	23.8	15.3
Proximity to Suppliers	12	40.1	27.4	19.2	13.2
Image/Prestige of Location	13	34.1	24.0	28.8	13.0
Low Crime Rate	14	31.4	25.1	32.3	11.2
Higher Education Facilities	15	45.4	23.3	20.0	11.2
Local Taxes	16	32.1	27.5	29.7	10.7
Local Government Policies	17	36.2	27.9	25.7	10.2
Environmental Regulations	18	45.2	24.2	20.6	10.0
Quality of Public Schools	19	45.6	24.1	20.6	9.8
Corporate Consolidation	20	66.5	13.6	11.2	8.7
Utility Services	21	30.1	30.8	30.6	8.5
Local Housing Availability	22	49.4	18.3	25.5	6.8
Local Housing Costs	23	51.0	19.4	24.4	5.2
Proximity to Similar Firms	24	59.2	23.1	12.5	5.2
Proximity to Gov't Agencies	25	77.4	15.7	4.6	2.2

* Rank by percent reporting the factor very important in their current location choice.

Source: Landis and Kroll, 1990.

housing costs. Almost half of all firms ranked land and lease prices as very important in their current location decision, making this the factor most frequently cited as very important by respondents. Only 15.6 percent of firms felt this factor was of little or no importance in their location choice. Availability of space was also highly ranked – 39.5 percent stated it was very important, while only 22.1 percent ranked availability as being of little or no importance. Contrary to findings in other studies, these factors ranked quite high even for longer distance moves, not only for intra-regional moves.

Commercial real estate prices were not the sole determinant of business location. Of almost equal importance was proximity to markets, which was very important to 45.6 percent of firms, and of little or no importance to 34.1 percent of firms. Labor factors ranked somewhat lower than either real estate or market factors, but were still quite significant. The availability of skilled or professional labor was very important to 27.5 percent of firms, but of little or no importance to 35.0 percent of businesses. Cost of labor and availability of unskilled labor were somewhat less important in the location choice. Only 18 to 19 percent of firms ranked these labor factors as very important, while almost half said these factors were of little or no importance.

In contrast, housing costs and housing availability appeared to have influenced relatively few firms in their current location decisions. Only 5.2 percent of firms ranked housing cost as a very important factor, and 6.8 percent of firms ranked housing availability as an important factor in their current location choice. Housing costs were of little or no importance in their current location choice to 70.4 percent of firms, and housing availability was of little or no importance to 67.7 percent of firms. Commute distance, a factor closely related to housing cost, was of greater importance to many firms, even outranking the availability of unskilled labor or labor costs. Commute distance for employees was very important for 19.6 percent of firms and was of little or no importance to 34.9 percent of firms.

While housing and commute factors ranked lower than some other factors, their level of importance varied by type and location of firm (see Tables 4 and 5). An analysis of variance showed that the average ranking of housing and commute factors was higher among businesses in high-priced metropolitan areas than for businesses in other places. In addition, businesses that had moved to a new county tended to rank housing costs higher than businesses that had not moved or had stayed in the same county, suggesting that housing prices may be more important to inter-metropolitan moves (see Figure 3). Housing factors appear to be somewhat important when choosing a specific location within a high-housing-cost metropolitan area.

Housing prices and availability were significantly more important to the location decisions of distant branches than they were to local branches. Almost one-third of distant branches ranked housing prices as somewhat or very important, compared to 12.8 percent of local branches. Housing availability was somewhat or very important to 37.5 percent of distant branches, compared to 17.4 percent of local branches.

High-tech firms were significantly more likely to find housing and commute factors to be of importance than other types of firms. Housing costs were somewhat or very important to 37.2 percent of high-tech firms; availability was somewhat or very important to 38.9 percent of high-tech firms; and commute dis-

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Table 4

*Variations in Housing Cost, Availability,
and Commute Distance Responses
by Geographic Area and Mobility History*

Firm Characteristic	Local Housing Cost				Housing Availability				Commute Distance			
	NF	NI	SI	VI	NF	NI	SI	VI	NF	NI	SI	VI
Geographic Area	50.8	19.2	24.4	5.2	49.2	18.4	25.5	6.9	24.2	10.3	45.8	19.7
Coastal California	44.1	21.4	26.8	7.7	42.0	21.0	27.4	9.6	20.5	10.5	43.6	25.5
Inland California	50.0	13.9	33.3	2.8	44.4	13.9	36.1	5.6	27.8	5.6	58.3	8.3
Midwest	58.1	25.6	14.0	2.3	63.6	22.7	11.4	2.3	40.0	4.4	42.2	13.3
Northeast	55.2	19.0	22.4	3.4	53.4	20.7	20.7	5.2	20.7	6.9	48.3	24.1
Pacific Northwest	55.9	20.3	20.3	3.4	55.9	16.9	23.7	3.4	23.7	13.6	47.5	15.3
Southeast	59.5	24.3	10.8	5.4	51.4	18.9	24.3	5.4	28.9	10.5	36.8	23.7
Southwest	54.8	11.9	29.3	3.6	53.6	10.7	28.6	7.1	24.4	15.1	48.8	11.6
Mobility History	51.0	19.4	24.4	5.2	49.4	18.3	25.5	6.8	24.3	10.6	45.5	19.6
No Change in Location	49.1	18.7	26.7	5.5	47.7	18.1	27.3	6.9	23.9	11.8	48.7	15.5
Move to New County	36.7	20.0	33.3	10.0	40.0	20.0	26.7	13.3	31.0	10.3	34.5	24.1
Move within County	57.7	20.9	17.8	3.7	54.6	18.4	21.5	5.5	23.9	8.0	40.5	27.6

Notes: Regional totals are based on survey responses from the counties listed in Table 1; cells report percentages stating factor was not a factor (NF), not important (NI), somewhat important (SI), or very important (VI).

Source: Landis and Kroll, 1990.

tance was somewhat or very important to 72.8 percent of high-tech firms. In contrast, housing costs were somewhat or very important to only 14.7 percent of business services firms; housing availability was somewhat or very important to only 22.1 percent of business services firms; and commute distance was somewhat or very important to only 40.0 percent of TCU firms.

Large businesses were substantially more concerned with housing prices and availability than were smaller businesses. Of firms with 500 employees or more, 14.3 percent ranked housing prices as very important. Among firms of 250 employees or more, 50 percent ranked housing prices as somewhat or very important in their location choice, and 55.3 percent ranked availability as somewhat or very important. More than three-fourths of firms with 250 or more employees ranked commute distance as somewhat or very important.

Large businesses were also much more sensitive to labor force availability than were smaller businesses (a factor closely linked to housing cost and availa-

Table 5

*Variations in Housing Cost, Availability,
and Commute Distance Responses
by Industry Type, Size, and Occupational Characteristics*

Firm Characteristic	Local Housing Cost				Housing Availability				Commute Distance			
	NF	NI	SI	VI	NF	NI	SI	VI	NF	NI	SI	VI
Industry Type	50.9	19.4	24.4	5.2	49.3	18.3	25.6	6.9	24.4	10.4	45.6	19.6
Business Services	69.1	16.2	11.8	2.9	60.3	17.6	14.7	7.4	24.6	10.1	44.9	20.3
Finance/Ins./R.E.	40.0	26.7	31.7	1.7	43.3	21.7	31.7	3.3	23.7	6.8	47.5	22.0
High-Tech Mfg	37.2	25.7	27.5	9.7	37.2	23.9	30.1	8.8	14.9	12.3	49.1	23.7
Other Mfg	53.3	17.8	26.2	2.8	50.9	16.7	26.9	5.6	26.6	7.3	46.8	19.3
Retail Trade/Svc	48.5	16.7	28.8	6.1	46.2	16.9	26.2	10.8	22.4	6.0	44.8	26.9
Transport/ Commun/Util	70.0	12.5	15.0	2.5	67.5	12.5	17.5	2.5	45.0	15.0	32.5	7.5
Wholesale	52.3	16.3	24.4	7.0	52.3	15.1	25.6	7.0	26.1	15.9	45.5	12.5
No. of Employees	51.2	19.4	24.4	5.0	49.5	18.2	25.5	6.7	24.3	10.7	45.3	19.7
Less than 50	59.0	16.0	19.0	6.0	54.0	15.0	19.0	12.0	28.7	6.9	38.6	25.7
50 to 99	55.2	19.3	22.2	3.3	54.5	19.2	23.0	3.3	23.8	13.1	46.7	16.4
100 to 249	51.0	21.5	23.5	4.0	50.0	20.3	24.3	5.4	28.5	9.3	42.4	19.9
250 to 499	34.1	17.1	41.5	7.3	31.7	14.6	43.9	9.8	7.1	16.7	50.0	26.2
500 or More	25.7	22.9	37.1	14.3	25.7	17.1	42.9	14.3	17.1	5.7	62.9	14.3
% of Labor Force Executive/Man- agerial/Profes- sional/Techni- cal	51.4	19.4	24.1	5.1	49.5	18.4	25.2	6.8	24.2	10.3	45.6	19.9
Less than 5%	60.0	18.9	17.9	3.2	58.3	16.7	20.8	4.2	29.3	15.2	37.4	18.2
5 to 10%	59.6	21.3	16.9	2.2	58.8	20.6	16.9	3.7	25.4	10.9	49.3	14.5
10 to 25%	49.4	16.0	30.1	4.5	46.8	15.4	31.4	6.4	28.8	8.3	44.2	18.6
25 to 40%	39.1	15.2	34.8	10.9	39.1	15.2	34.8	10.9	19.6	0.0	54.3	26.1
Greater than 40%	40.4	24.5	25.5	9.6	36.6	23.7	26.9	12.9	11.7	12.8	46.8	28.7

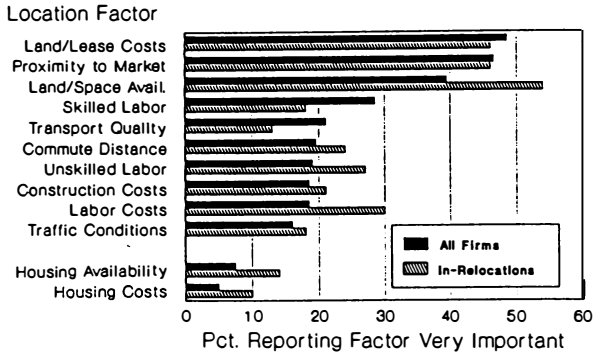
Note: Cells report percentages stating factor was not a factor (NF), not important (NI), somewhat important (SI), or very important (VI).

Source: Landis and Kroll, 1990.

bility). Availability of skilled labor was the top-ranked factor among firms with 500 employees or more – 40.0 percent of these firms ranked the availability of skilled labor as very important. Among these largest firms, only 28.6 ranked land and lease costs as very important, and 36.1 percent ranked land availability as very important. The concern with housing, commute, and labor force characteristics varies significantly by the occupational mix of the firm. Firms with one-

Housing Prices and Location Choice, Kroll & Landis

Figure 3:
Top 10 "Pull" Factors for All Firms
and Relocating Firms (Inter-County)



Source: Kroll and Landis, 1990

fourth or more of their labor force in executive and professional categories were more likely to be concerned with local housing costs and availability and with the availability of skilled labor. Availability of skilled labor was again very important to more than 40 percent of these firms, but in this case this level of importance did not outrank land and lease cost and availability factors. Availability of unskilled labor was very important to 37 percent of firms with more than half of their labor force in unskilled categories, as compared to an overall average of 18.8 percent.

If large firms with executive/professional labor forces (and especially high-tech firms) are more likely to be sensitive to housing prices, availability, and commute and labor force factors, these firms are also sensitive to factors that are more easily found in expensive urban areas. They are more likely to be sensitive to the quality of public schools, the presence of higher education facilities, and the image and prestige of the location. These other factors generally ranked higher than the pure housing cost and availability factors, but lower than the labor force factors in the firm's stated location concerns.

In summary, the responses to questions on pull factors suggest that real estate factors affect the location choice of businesses significantly, but primarily through the direct land or lease costs to the company. Housing-related factors are important to a much smaller percentage of businesses. These factors tend to be least important to businesses such as small business service businesses that are most strongly influenced by factors affecting their proximity to market. Housing-related factors are most important to high-tech manufacturing and to some back-office employers, to the larger employers, and to the more technically specialized employers. In those categories, one-third to one-half of busi-

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nesses may consider housing cost and availability a somewhat or very important factor in their location choice.

Why Firms Leave an Old Site — "Push" Factors

In evaluating the economic competitiveness of a metropolitan area (and the role housing and real estate prices play in affecting competitiveness), it is useful to distinguish factors that attract firms to areas from factors that cause them to leave areas, or push them from their current location. In fact, most of the firms that responded to questions about pull factors have not moved or are not planning to move.⁶ Many expressed satisfaction with their current site. Others had compelling reasons not to leave (such as a current lease, prohibitive costs of a move, or a specialized market area). Responses from businesses that had recently moved suggest that the types of factors that push businesses from their current locations are somewhat different from those that attract businesses to new sites.

Table 6 summarizes the reasons businesses gave for leaving their old sites. Of the factors considered, land and lease availability were overwhelmingly the most important, ranked by 50 percent of firms as a major problem at their previous location.⁷ No other factor was mentioned as a major problem by even one-fourth of all firms. This finding confirms previous research that shows that the primary reason firms leave their old locations is that they outgrow their current space, or otherwise find it unsuitable. Land and lease costs were a major problem for 14 percent of businesses, and traffic conditions were a major problem for 13 percent of businesses. Housing costs and availability were major problems to a quite small number of businesses (4.5 percent), while commute distance was a major problem for 9.5 percent of businesses and availability of skilled labor was a major problem for 8.5 percent of businesses.

An analysis of variance among the rankings of push factors revealed that intra-county movers ranked many factors differently than inter-county movers. While the availability of space was of equal importance to businesses moving within or among counties, housing prices and availability were a major problem to a greater share of businesses making inter-county moves (see Figure 4 and Table 7). Of businesses moving between counties, 24 percent reported housing prices as more than a minor problem, as compared to 8.8 percent of businesses moving within counties. Housing availability was more than a minor problem for 28 percent of businesses making between-county moves. By contrast, housing availability was a problem for only 9.5 percent of businesses making within-county moves. Commute distance was also particularly important for businesses moving between counties – 44 percent of businesses making such moves ranked commute distance as somewhat of a major problem, compared to 16.7 percent of businesses moving within their county. Finally, a lack of available skilled and unskilled labor was cited by a much larger share of the businesses moving between counties than within counties. Most push factors did not vary significantly by such factors as industry type, size of firm, or composition of the labor force.

In summary, firms pushed out of one metropolitan area to another were far more likely to have been affected by housing price issues than other firms. Thus, in areas where housing prices and labor force availability have become a concern, mover firms were much more likely to leave the area entirely than simply to relocate to a better site within the area.

Housing Prices and Location Choice, Kroll & Landis

Table 6

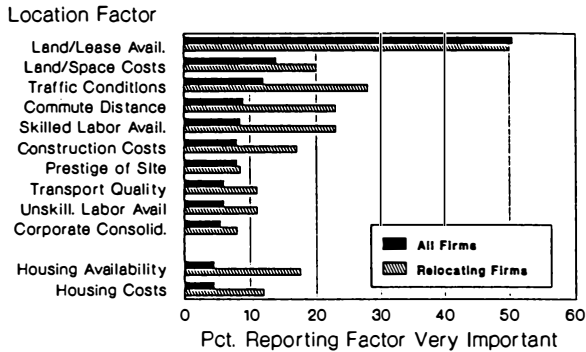
*Push Factors: Problems Firms Faced at their Previous Site
(Importance of Various Factors in Decision to Leave)*

Location Factor	R*	Percent Reporting Factor			
		Not a Problem	Minor Problem	Some Problems	Major Problem
Land/Space Availability	1	26.7	4.8	18.2	50.3
Land/Lease Costs	2	52.8	13.9	19.4	13.9
Traffic Conditions	3	55.6	18.0	13.5	12.9
Commute Distance	4	68.3	11.1	11.1	9.4
Available Skilled Labor	5	69.7	11.8	10.1	8.4
Construction Costs	6	75.4	10.1	6.7	7.8
Image/Prestige of Location	7	64.8	15.6	11.7	7.8
Transport Network	8	69.3	14.0	10.6	6.1
Available Unskilled Labor	9	76.5	10.1	7.3	6.1
Corporate Consolidation	10	80.7	5.7	8.0	5.7
Cost of Labor	11	70.9	14.0	9.5	5.6
Proximity to Markets	12	82.2	9.4	3.3	5.0
Local Housing Availability	13	80.6	7.8	7.2	4.4
Local Housing Costs	14	81.7	7.8	6.1	4.4
High Crime Rate	15	77.5	9.8	8.7	4.0
Proximity to Suppliers	16	86.6	7.8	2.2	3.4
Utility Services	17	79.9	10.6	6.7	2.8
Local Government Policies	18	83.2	7.8	7.3	1.7
Quality of Public Schools	19	85.5	10.1	2.8	1.7
Proximity to Similar Firms	20	91.1	4.4	2.8	1.7
Local Taxes	21	81.6	10.1	7.3	1.1
Community Attitude	22	83.7	7.3	7.9	1.1
Higher Education Facilities	23	90.5	6.7	1.7	1.1
Environmental Regulations	24	85.5	9.5	4.5	0.6
Proximity to Gov't Agencies	25	93.9	5.0	0.6	0.6
Total Number of Respondents:		180			

* Ranked by percent reporting the factor a major problem.

Source: Landis and Kroll, 1990.

Figure 4:
Top 10 "Push" Factors Firms for
All and Relocating Firms



Source: Kroll and Landis, 1990

Local Expansion and Factors Affecting Labor Recruitment

The growth or contraction of metropolitan economies occurs not only through the departure or arrival of new firms, but also through the growth of firms already located in the area. With almost two-thirds of the responding firms remaining at the same location during the past five years, the ability of firms to expand at their current site was quite important. Of the firms responding to the survey, 65 percent had added employees since moving to their current location; while 35 percent expected to expand or move within their county over the next five years. Businesses expected to record their greatest employee growth among administrative support, sales, and marketing employees (including clerical) – 57 percent of firms expect to increase employment in this category over the next five years. In addition, more than 40 percent of responding firms expected to add additional executive, managerial, professional, and technical workers and skilled production, craft, and repair workers.

With so much expected expansion in current locations, the ability of businesses to attract and recruit top-quality labor becomes a paramount issue. Responses to questions covering employee recruitment suggest that high housing prices played a major role in a firm's ability to attract labor. High housing prices were the factor most frequently cited by firms as very important in the recruitment process (by 34.3 percent of firms, as shown in Table 8). A close second was the general cost of living, mentioned as very important by 32.7 percent of firms. The quality of public schools was also mentioned frequently as very important, by 23.5 percent of firms (see Figure 5).

Housing Prices and Location Choice, Kroll & Landis

Table 7

*Variation in Housing Cost, Availability,
and Commute Distance Responses
by Region of Origin, Destination, and Firm Size*

Firm Destination	Local Housing Cost				Housing Availability			
	NP	MNP	SP	MJP	NP	MNP	SP	MJP
Destination	81.7	7.8	6.1	4.4	80.6	7.8	7.2	4.4
Not Stated	85.7	14.3	0.0	0.0	85.7	14.3	0.0	0.0
New County	64.0	12.0	12.0	12.0	64.0	8.0	12.0	16.0
Same County	84.5	6.8	5.4	3.4	83.1	7.4	6.8	2.7

Firm Destination	Commute Distance				Skilled /Prof Labor			
	NP	MNP	SP	MJP	NP	MNP	SP	MJP
Destination	68.3	11.1	11.1	9.4	69.7	11.8	10.1	8.4
Not Stated	85.7	0.0	0.0	14.3	71.4	0.0	28.6	0.0
New County	44.0	12.0	20.0	24.0	44.0	24.0	8.0	24.0
Same County	71.6	11.5	10.1	6.8	74.0	10.3	9.6	6.2

Note: Cells report percentages stating factor was not a problem (NP), a minor problem (MNP), somewhat of a problem (SP), or a major problem (MJP).

Source: Landis and Kroll, 1990.

Housing prices and the cost of living were particularly important to high-tech firms. Almost half of high-tech firms (47.8 percent) stated that housing prices were very important in the recruitment of employees, and 40.9 percent stated that the general cost of living was very important (see Table 9). The general cost of living was also quite important to finance, insurance, and real estate firms.

Housing prices and the cost of living were of particular concern to large firms. More than half of firms with 250 employees or more mentioned housing prices and the general cost of living as very important factors in employee recruitment. Housing prices were of greatest importance to California locations – 50.0 percent of Inland California and 47.0 percent of Coastal California firms mentioned housing prices as very important.

As with pull factors, other factors tended to coincide with housing prices and the general cost of living as concerns that affected employee recruitment. For example, large firms also found the quality of public schools to be a very important factor in recruiting new employees. In fact, the quality of public schools was very important to 61.1 percent of firms with 500 or more employees, ranking even higher with these firms than did housing prices.

In summary, while home prices affected a relatively small number of firms directly through their business location decisions, they appeared to be much more significant in determining the ability of a firm to expand its labor force locally. To some extent, firms in high-priced areas may be able to persuade

Table 8

Geographic Factors Affecting the Recruitment of New Employees

Location Factor	R*	Percent Reporting Factor			
		Not a Factor	Not Very Important	Somewhat Important	Very Important
Housing Prices	1	20.5	11.3	31.9	36.3
General Cost of Living	2	18.5	10.6	36.3	34.5
Quality of Public Schools	3	22.3	16.8	36.1	24.9
General Economic Opportunities	4	18.0	13.7	48.7	19.6
Traffic Conditions	5	13.5	17.9	49.2	19.4
Climate	6	22.0	19.8	40.2	18.0
Local Income or Property Taxes	7	22.2	23.0	38.1	16.5
Low Crime Rate	8	22.0	20.2	42.8	15.0
Higher Education Facilities	9	25.3	26.0	33.9	14.8
Natural Environmental Quality	10	26.9	18.7	39.7	14.7
Community Appearance	11	21.4	16.6	49.4	12.6
Local Cultural Facilities	12	27.4	31.4	34.2	7.0
Recreational Opportunities	13	31.1	24.3	37.6	7.0
Population Diversity	14	26.7	35.7	32.0	5.6

* Rank by percent reporting the factor very important in their current location choice.

Source: Landis and Kroll, 1990.

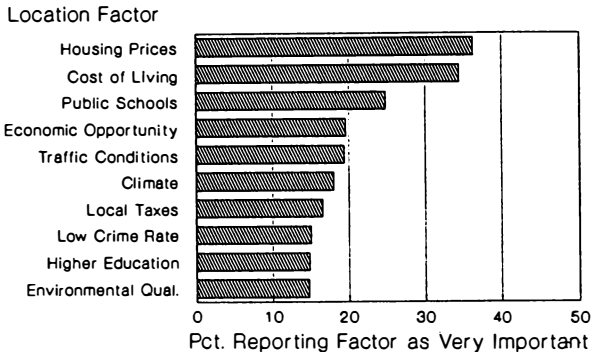
new employees to move into the area because other factors, ranging from recreational opportunities to good public schools, are also available. Significantly, however, the types of firms that were most sensitive to high housing prices in the recruitment of new employees were the same types of firms most likely to look for new locations when and if they expand operations.

V. Housing Prices and the Movement of Firms: The Good News and the Bad News

For those concerned with the effects of high housing prices on the health of local economies, there appears to be both good news and bad news. The good news is that high housing prices did not appear to precipitate firms to move, and that the moves, when they occur, were likely to be at a short distance. That is, relocating firms generally preferred to maintain their existing connections to their suppliers, to their markets, and to their labor force. Thus, even where a firm was seeking a location close to more affordable housing, it was likely to be seeking such a location within the same metropolitan area.

Housing Prices and Location Choice, Kroll & Landis

Figure 5:
Top 10 Recruitment Factors
For All Firms



Source: Kroll and Landis, 1990

Some firms, however, showed a greater sensitivity to housing prices in their location decision. And firms that found high housing prices to be a major problem in their areas were, all else being equal, *more likely to move beyond the county borders when and if they choose to relocate*. Branch firms, located at sites distant from headquarters, were also likely to be particularly sensitive to housing prices and availability. In addition, the firms that formed the core of many of the larger, more expensive metropolitan areas – high-tech firms, larger firms, firms with a high share of executive and professional labor – were also the firms that appear to be most sensitive to housing price issues. This may tend to dampen growth prospects in more expensive metropolitan areas.

Of greater concern are the effects of housing prices on the recruitment of new employees, and thus on the ability of a business to expand at its current location. Based on the responses of firms to the survey, housing prices appeared to play a significant role in the ability of businesses to expand their employment base. Nevertheless, high home prices did not necessarily translate into a firm relocation decision, because of the links between high home prices and other amenities attractive to key elements of the firm's labor force.

On the whole, these findings suggest that industrial recruiters in low-priced housing markets will find it difficult to use their housing price advantages to lure businesses to their areas. Rather, in evaluating potential sites, relocating firms look to balance housing prices and public amenities and services – so-called quality-of-life issues. Finally, these findings suggest that firms in industries in high-priced housing markets will continue to face pressures either to raise wages, or to provide financial assistance to their employees seeking housing.

Table 9

*Variations in Housing Price and Cost of Living Responses
by Industry Type, Size, and Location*

Firm Characteristic	Housing Prices				General Cost of Living			
	NF	NI	SI	VI	NF	NI	SI	VI
Industry Type	20.5	11.3	32.0	36.2	18.6	10.7	36.4	34.4
Business Services	36.6	12.7	25.4	25.4	34.7	8.3	33.3	23.6
Finance/Ins./R.E.	11.7	10.0	45.0	33.3	10.0	6.7	45.0	38.3
High-Tech Mfg	11.5	12.4	28.3	47.8	10.4	14.8	33.9	40.9
Other Mfg	15.7	10.2	35.2	38.9	14.8	9.3	41.7	34.3
Retail Trade/Svc	23.8	6.3	36.5	33.3	20.3	7.8	34.4	37.5
Transport/ Commun/Util	29.3	9.8	24.4	36.6	27.5	5.0	30.0	37.5
Wholesale	24.7	15.3	29.4	30.6	21.2	16.5	34.1	28.2
No. of Employees	20.7	11.0	31.9	36.4	18.7	10.4	36.5	34.3
Less than 50	27.3	11.1	35.4	26.3	25.3	9.1	39.4	26.3
50 to 99	23.8	11.7	33.2	31.3	20.7	12.2	37.6	29.6
100 to 249	20.7	12.4	24.8	42.1	19.0	12.2	32.0	36.7
250 to 499	4.8	7.1	35.7	52.4	6.8	2.3	38.6	52.3
500 or More	2.8	5.6	38.9	52.8	2.8	5.6	38.9	52.8
Geographic Area	20.0	11.4	32.1	36.4	18.0	10.8	36.6	34.6
Coastal California	14.9	11.2	27.0	47.0	11.5	12.4	33.6	42.4
Inland California	14.7	14.7	20.6	50.0	14.7	8.8	41.2	35.3
Midwest	31.8	20.5	36.4	11.4	29.5	15.9	31.8	22.7
Northeast	28.3	16.7	33.3	21.7	28.3	11.7	38.3	21.7
Pacific Northwest	28.8	3.4	37.3	30.5	27.1	3.4	42.4	27.1
Southeast	20.5	5.1	30.8	43.6	17.9	7.7	30.8	43.6
Southwest	16.7	10.7	44.0	28.6	16.5	10.6	42.4	30.6

Note: Cells report percentages stating factor was not a factor (NF), not important (NI), somewhat important (SI), or very important (VI).

Source: Landis and Kroll, 1990.

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NOTES

- ¹This analysis uses the term 'housing prices' interchangeably with the term 'housing costs.' This is a simplification. Housing price is the lump sum purchase price of the house itself. Housing cost is how much a household pays for the housing services associated with a particular house on a monthly basis or annual basis. Generally speaking, housing prices and before-tax housing costs track together.
- ²For the purposes of this paper only, the terms 'businesses' and 'firms' are used interchangeably.
- ³The Dun and Bradstreet listing is for business establishments, not firms or businesses. Businesses are listed by location, and include single-establishment businesses, headquarters establishments, branch plants or sales offices, and franchises.
- ⁴The decision to utilize an ordinal scale of four choices and not to ask respondents to rank the various factors involved something of a tradeoff. On the one hand, we did not want to artificially generate ratings or ranking where none existed. Moreover, we believed that a simpler survey instrument would promote a higher response rate. On the other hand, not asking respondents to rank factors in order of importance precludes the use of sophisticated statistical tools for analyzing ranks.
- ⁵The chi-squared test was applied to cross-tabulations of factor importance against industry type, size, location, and labor force. Additionally, responses on factor importance were converted to ratings (1 = not a factor/problem; 2 = minor factor/problem; 3 = somewhat important factor/problem; 4 = major factor/problem) which were then analyzed for differences according to industry type, size, and location, using an analysis-of-variance (ANOVA) procedure. When used with ordinal (non-interval) rating scales, as above, ANOVA procedures are regarded as illuminating, if not always conclusive.
- ⁶The survey was administered in 1990, before the onset of the current recession. Because of the recession, many of the firms that had planned on adding to their workforces have probably been forced to reduce them.
- ⁷Although both housing and commercial activities often compete for the same sites, housing costs prices and commercial rents are remarkably independent of each other. In California, for example, housing prices have been driven to record highs by too much demand and not enough supply. By contrast, real commercial rents in many California markets (as throughout the country) are extremely low because of too much supply and not enough demand.

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