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Follow the Leader: Mimetic Isomorphism and Entry into New Markets

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This paper combines organizational ecology and neoinstitutional theory to explain the process of diversification, specifically, how the structure of markets affects rates of market entry. I extend the density-dependence model of competition and legitimation, which has been used to study organizational founding and failure, to the process of organizational change through entry into new markets. I argue that the number of organizations operating in a particular market will have an inverted-U-shaped relationship with the rate of entry into that market. I also examine propositions, drawn from neoinstitutional theory, that organizations will follow similar and successful organizations into new markets. I assess the link between entry into new markets and (1) the number of organizations operating in those markets similar to a potential entrant and (2) the number of successful organizations in those markets. I also explore whether these two mimetic processes act in concert by examining whether successful potential entrants to a market are influenced by the presence of other successful organizations. I test these hypotheses on a population of savings and loan associations. I find that these firms imitate large and profitable organizations, but I find only limited evidence of imitation of similarly sized organizations, as large organizations copy the actions of other large organizations.

For more than thirty years, diversification has been a topic of interest for researchers in organizational theory and strategic management. Diversification is one of the main ways in which organizations change their core domains: the claims they stake for themselves in terms of the clientele they serve, the goods and services they produce, and the technology they employ (Levine and White, 1961; Thompson, 1967; Fligstein and Dauber, 1989). Diversification is also a path leading to overall organizational growth (Fligstein, 1991). Diversification encompasses the entry of an organization—a whole firm or one of its business units—into new lines of activity. Such substantial changes in activity domains entail further changes in organizational structure, systems, and management processes (Ramanujam and Varadarajan, 1989: 525).

Although the study of diversification has progressed immensely from the seminal work of Gort (1962) and Chandler (1962), important issues remain unresolved and important questions remain unanswered. It is unclear why, if capital markets are efficient, firms diversify into lines of business that are to any extent unrelated to their core activities. In perfectly functioning capital markets, such investment ought to take place through investment by individual stockholders rather than through investment by firms. Fligstein and Dauber (1989) argued convincingly that efficiency-based economic explanations of diversification have gathered only modest empirical support. They suggested that using sociological perspectives of the changing nature of the fields within which potential diversifiers operate, which encompass institutional and political processes in addition to efficient, rational-choice processes, will provide a

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more complete understanding of the process of diversification and other types of structural changes in corporations. In this paper, I combine two sociological perspectives on change in organizational systems, organizational ecology and neoinstitutional theory, and develop hypotheses on the causes of diversification in California savings and loan associations.

Density Dependence in Rates of Change

Organizational ecology research has shown that environmental forces strongly influence organizations' rates of birth and death. Perhaps the simplest and most elegant formulation of this relationship is the density-dependence model of competition and legitimation, which proposes that these forces are embodied in the density of organizational populations, or the number of firms operating in any industry (see Hannan and Carroll, 1992). Density is a remote measure of the processes of legitimation and competition. Legitimacy grows with density, at a decreasing rate, while competition grows at an increasing rate. At low levels of density, growth in numbers serves primarily to legitimate a population's goals and chosen form (i.e., its structure and process). At high levels of density, increases in density strengthen competition far more than legitimation. The net effect shifts from legitimation at low density to competition at high density.

According to this model, organizational founding has an inverted-U-shaped relationship with density. The rate of founding is proportional to the degree to which an organizational form is legitimate and inversely proportional to the level of competition. When density is low, the founding rate is low because the organizational form is not fully legitimate. Increases in density accelerate the founding rate by increasing the form's legitimacy. When density is high, the inhibiting effects of competition prevail and the founding rate slows. Empirical support for this model comes from studies of a wide variety of organizational populations, including labor unions, newspapers, breweries, insurance companies, and banks (Hannan and Carroll, 1992).

The density-dependence model has implications beyond organizational founding. It can also be applied to the process of change in existing organizations, specifically to diversification: entry into new product-client markets. The decision of an existing firm to enter a new domain is similar to the decision of an entrepreneur to found a new venture. In both cases, information must be gathered on the nature of potential new markets and resources must be procured and deployed for the fledgling enterprise. Extrapolating from the original model of the founding process to the situation of diversification into new markets, the number of organizations operating in any market (market density) should affect both the perceived legitimacy of that market and the level of competition in that market. The legitimacy of a market will grow at a decreasing rate with the number of organizations operating in that market, while the level of competition will grow at an increasing rate with market density. Because market density influences both external legitimacy and general competitive dynamics, which are two sources of

organizational inertia (Hannan and Freeman, 1977), it therefore influences organizations' propensities to enter new markets. Assuming that rates of entry into a market, like rates of organizational founding, are proportional to legitimation of that market and inversely proportional to competition in that market, I expect to see an inverted-U-shaped relationship between the number of firms operating in any market and entry into that market. At low levels of market density, an increase in the number of firms operating will increase the legitimacy of operating in a market and thus will raise the rate of entry to that market. In contrast, at high levels of market density, a crowding or competitive effect dominates, and further increases in the number of firms operating in a market will lower the rate of market entry. Evidence in support of this model comes from Haveman (1994).

Various researchers have applied the density-dependence model of founding and failure using different levels of aggregation. They have investigated the effects of total population density (e.g., Hannan and Freeman, 1987; Hannan and Carroll, 1992; Haveman, 1994), geographically bounded density (Barnett and Carroll, 1987; Carroll and Wade, 1991; Swaminathan and Wiedenmayer, 1991), and subpopulation density defined by technology and legal form (Barnett and Carroll, 1987; Ranger-Moore, Banaszak-Holl, and Hannan, 1991). What level of aggregation, or boundaries for market density, should be used in modelling rates of entry into product markets? Neoinstitutional theory provides two answers to this question, based on the concept of mimesis, change through imitation.

Mimetic Change: The Case of Diversification

Mimetic isomorphism—the achievement of conformity through imitation (DiMaggio and Powell, 1983: 151–152)—is one of the processes through which organizations change over time to become more similar to other organizations in their environments. Mimetic isomorphism can result from efficient responses to uncertainty (DiMaggio and Powell, 1983: 151). When faced with uncertainty, organizations economize on search costs (Cyert and March, 1963) and imitate the actions of other organizations, substituting institutional rules for technical rules (Meyer, Scott, and Deal, 1983). Mimetic isomorphism can also be driven by the kind of social-constructionist role-following that March (1981: 221–226) called "obligatory action." According to March's model, once enough social actors do things a certain way, that particular course of action becomes taken for granted or institutionalized, and thereafter, other social actors will undertake that course of action without thinking. If enough of one type of social actor adopt a course of action (e.g., enough small firms in some industry diversify into a new market segment), then other, similar social actors will imitate them (e.g., other small firms will enter the new market segment as it becomes a taken-for-granted part of small firms' domains). Evidence of mimetic change comes from a wide array of studies examining a diverse set of organizational outcomes: the evolution of hospital structure (Starr, 1982), the adoption of civil-service reform by municipal governments (Knoke, 1982; Tolbert and Zucker,

1983), the spread of the multidivisional corporate form (Fligstein, 1985), the diffusion of diversification strategies (Fligstein, 1991), form changes by health-maintenance organizations (Wholey and Burns, 1993), and the adoption of matrix management programs by hospitals (Burns and Wholey, 1993). Mimetic organizational change has often been thought of as a contagion process that spreads fashionable features from one organization to another (Rogers, 1962; March, 1981; Tolbert and Zucker, 1983; Fligstein, 1985; Burns and Wholey, 1993).

Although the literature on mimetic organizational change is substantial, most previous work has focused on changes in organizational programs or structures, and little attention has been paid to diversification. A notable exception is Fligstein's (1991) analysis of the causes of diversification in large American corporations over the course of the twentieth century, which found that the number of large firms adopting diversification strategies increased the likelihood that other large firms would also diversify. This provides clear evidence of the achievement of conformity through imitation.

Although imitation has long been recognized as a sensible guide to organizational change (e.g., March, 1979), there has been little theoretical analysis to determine which social actors will be imitated. While previous work on mimetic organizational change has finessed this issue, it is clearly preferable to provide theoretical justification for choosing organizational role models than to use implicit assumptions that may not be grounded in received theory. I begin by assuming that organizations imitate organizations within their population, as the actions of these organizations tend to be more salient than the actions of organizations in other populations. Furthermore, I follow previous work in organizational ecology by assuming that the organizations in one industry constitute a population (e.g., Carroll, 1985; Hannan and Freeman, 1987; Delacroix and Swaminathan, 1991; Baum and Mezias, 1992), so that organizations imitate the actions of organizations within their industry. Cognitive approaches to strategy (e.g., Daft and Weick, 1984; Porac and Thomas, 1990) hold that strategic analysis and strategic decisions, such as diversification, are determined partly by the cognitive categories organizational decision makers construct as they label and make sense of the competitive environment. Organizational decision makers will attend to the actions of organizations in their population more than to the actions of organizations in other populations, because segregating mechanisms (Hannan and Freeman, 1989: 45–65) that distinguish organizational populations also serve to focus the attention of organizational decision makers. Organizations in the same category as a focal organization will be viewed as more important competitors than organizations outside this category (Porac and Thomas, 1990: 232–234) and therefore will be monitored more closely than organizations outside this category. According to cognitive models of strategy, then, competitive boundaries and competitive scanning are narrowly focused. To the extent that cognitive strategic maps are congruent with industry (population) boundaries, organizational decision

makers will tend to downplay, even ignore, the actions of organizations in other industries. Below, I hypothesize about which organizations within a population will serve as models for the actions of others, similarly sized organizations or successful organizations, which are two obvious bases of comparison within any industry.

Imitation of similarly sized organizations. Begin with the assumption that organizations imitate others in their population that are similar in terms of structure, strategy, resources, and constraints. Organizations of similar size are similar in terms of structure and strategy; they rely on the same environmental resources and are affected by similar structural constraints (Hannan and Freeman, 1977). Much research on stages of growth and organizational life cycles identifies discontinuities as organizations grow (e.g., Kimberly and Miles, 1980), which suggests that in many organizational populations, large organizations may have fundamentally different forms than small organizations. Thus different segments of the organizational size distribution constitute different forms inhabiting different niches. Organizations interact most intensively with others of similar form (or size) operating in the same niche (Hannan and Freeman, 1977).

Interactions between organizations tend to be localized along a size gradient, because substantial changes in organizational size are accompanied by structural changes—shifts in organizational form (Caplow, 1957; Penrose, 1959)—and because organizations with different forms require different resources. The ability of organizational members to have one-on-one interactions with each of the other members declines with the number of members. Organizational size, therefore, affects the structure and pattern of social interaction, a relationship that has long been noted in sociological theory (Simmel, 1902; Durkheim, 1933: 262; Blau, 1970). Larger organizations require more complex forms of communication. In larger organizations, interpersonal interactions assume a more impersonal and formal style. The extensive structural contingency literature, which builds on Weber's (1958: 196–244) theory of bureaucracy, proposes that these changes in communication complexity and style are accompanied by changes in structure, manifested in differentiation, formalization, decentralization, and task specialization (see Kimberly, 1976, and Scott, 1992: 258–267, for reviews).

One consequence of the size-localized model of organizational interaction is that medium-sized organizations face the most intense competition. Small organizations compete with other small organizations and, to a lesser extent, with medium-sized organizations. Large organizations compete with other large organizations and, to a lesser extent, with medium-sized organizations. Medium-sized organizations compete with each other and, to a lesser extent, with both large and small organizations. They are squeezed from both ends and face a higher risk of failure than large or small organizations. Previous research offers considerable evidence in support of this outcome of size-localized competition. Simulated organizational populations tend toward bimodal size distributions (Hannan

and Ranger-Moore, 1990; Hannan, Ranger-Moore, and Banaszak-Holl, 1990). Empirical findings from studies of newspapers, banks, life insurance companies, day-care centers, hotels, and credit unions also accord with the size-localized model (Carroll, 1985; Hannan, Ranger-Moore, and Banaszak-Holl, 1990; Baum and Mezias, 1992; Amburgey, Dacin, and Kelly, 1994). It appears, then, that medium-sized organizations operate in a "danger zone" and face a higher risk of failure than do large or small organizations. The resource-partitioning model (Carroll, 1985) suggests that one possible basis for size-localized competition is that large organizations capture the advantages of generalism, small organizations the advantages of specialism, and medium-sized organizations the liabilities of both (Meyer, 1990).

We can apply the size-localized model of organizational interaction to the process of mimetic organizational change by considering what organizational size means from an institutional perspective. Organizations attend carefully to the actions of organizations of similar size and are therefore most likely to imitate the strategies of their size peers (Scott, 1992: 258, n. 2). Moreover, diversification patterns may be size-localized, for large companies have the market power and slack resources to help them overcome barriers to entry into new markets, while small firms are less bureaucratized and therefore less rigidly constrained by investment in current markets (Haveman, 1993). The likelihood that a particular organization will diversify into new markets will depend, then, on the number of organizations of a similar size in the same population that are incumbent in those markets. The presence of organizations in a market similar in size to a potential entrant will legitimate that market and will signal the feasibility of similarly sized organizations competing in that market, thereby increasing entry rates for organizations in that size class in that population. As the number of similarly sized incumbents grows, however, competition will swamp the legitimation and signalling effects, thereby suppressing entry of organizations in that size class in that population:

Hypothesis 1 (H1): The rate of entry into new markets will have an inverted-U-shaped relationship with size-localized market density.

Imitation of successful organizations. I also assume that organizations imitate other organizations in their population that are or are perceived by organizational decision makers to be successful. There is some evidence that the actions of organizations with high visibility and prestige influence other organizations (Burns and Wholey, 1993). The difficulty is determining which organizations are most visible, most prestigious, and most successful. Diverse criteria have been used to evaluate organizational performance, among them productive efficiency, profitability, growth, stability, survival, output quality, volume processed, participant satisfaction and morale, and personnel turnover (Scott, 1992: 342–362). In the for-profit sector, extremely profitable organizations are, obviously, viewed as more successful than less profitable organizations. Hence, in any industry, the most profitable organizations will serve as models for the rest (Burns and Wholey, 1993; Wholey and Burns, 1993). Diversification has

often been described as a means of increasing profitability by lessening dependence on a low-profit or declining market (e.g., Weston and Mansingkha, 1971). In such circumstances, organizations will be more attentive to the diversifying actions of highly profitable organizations. The presence of very profitable incumbents in a new market will legitimate that market for other members of the population, making it more attractive to potential entrants. But as the number of profitable incumbents in a new market grows, competition will swamp legitimation, making entry less attractive to other organizations in that population:

Hypothesis 2a (H2a): The rate of entry into any new market will have an inverted-U-shaped relationship with the number of highly profitable organizations that are active in that market.

A second factor conferring visibility and prestige is size. Growth is generally valued in modern Western societies. Evidence in support of this assertion is the enormous amount of time and effort devoted by organizational scholars to studying organizational growth and their relative neglect of organizational shrinkage or decline (Whetten, 1980). The value placed on growth in modern Western society is linked to the value placed on large size. It is likely, then, that large organizations will serve as role models for other organizations in their population, and there is some evidence that this occurs. Mezias and Lant (1994) built on the work of DiMaggio and Powell (1983) and argued convincingly that institutional rules such as "imitate large organizations" guide changes in organizational strategies. Their simulation showed that imitation of the largest firms in a population was a successful institutional rule. Under conditions of competition, ambiguity, costly search, and environmental variability, organizations that mimicked the behavior of large firms had good survival chances. Further supporting this notion, a study of hospital adoption of matrix management structures proposed that small hospitals imitate large hospitals (Burns and Wholey, 1993). One reason for this may be that large size is associated with visibility (Scott, 1992: 258, n. 2), and more visible organizations are likely to serve as role models for other organizations.

Diversification has often been described as a means of organizational growth, especially when organizations' original markets are constrained (Fligstein, 1991). If organizations consider diversification as a strategy to achieve growth, then they will attend closely to diversification moves made by large organizations—those that have been successful in growing in the past. If large organizations within any population are viewed as role models and, moreover, as successful role models, then the presence of large incumbents in a new market will serve to legitimate that market for other members of the population, making it more attractive to potential entrants of all sizes. But as the number of large incumbents in a new market grows, competition will swamp legitimation, making entry less attractive to other organizations in the population:

Hypothesis 2b (H2b): The rate of entry into any new market will have an inverted-U-shaped relationship with the number of large organizations that are active in that market.

The discussion above focused on the parallel roles of similar organizations and successful organizations as guides for organizational action. There may be an interaction between these two mimetic processes, such that the mimetic pull of successful organizations is felt more strongly by successful organizations than by unsuccessful organizations. It may be that successful organizations will be more able to imitate the diversification actions of successful organizations, as unsuccessful organizations will be prevented from doing so by resource limitations. Great size and profitability—the two indicators of organizational success of interest here—tend to be accompanied by slack resources, which cushion entry into new markets (Bourgeois, 1981). Slack resources facilitate experimenting with new markets because slack buffers organizations from downside risks, thereby lowering the likelihood of failure during the time organizations establish their presence in new markets (Hannan and Freeman, 1989: 83–84). Accordingly, large organizations will imitate other large organizations in their population, and profitable organizations will imitate other profitable organizations in their population. The presence of large incumbents in any market therefore will have its strongest impact on large potential entrants to that market, as large potential entrants respond to two mimetic pressures acting in concert: imitation of similarly sized organizations and imitation of successful organizations. The presence of profitable incumbents in any market will likewise be most influential for highly profitable potential entrants to that market. This does not mean that small or unprofitable organizations will not imitate large or profitable organizations; rather, it means that large or profitable organizations respond more strongly than small or unprofitable organizations to the presence of other large or profitable organizations in new markets:

Hypothesis 3a (H3a): The number of highly profitable organizations in any new market will have its strongest effect on the entry rates of other highly profitable organizations into that market; the effect on the entry rates of moderately profitable and unprofitable firms will be less pronounced.

Hypothesis 3b (H3b): The number of large organizations in any new market will have its strongest effect on the entry rates of other large organizations into that market; the effect on the entry rates of medium-sized and small organizations will be less pronounced.

The Savings and Loan Industry

The savings and loan (thrift) industry offers an excellent site for testing hypotheses about diversification. Since their emergence in 1831, savings and loan associations have acted as the primary lenders for home mortgages and the primary depositories for small savers in the United States. These interrelated tasks have, until recently, remained the core business activities of savings and loans. That changed in the 1970s and 1980s, as a result of extreme technological, economic, and regulatory shifts.

Technological innovation, primarily the development of electronic data-processing and telecommunications systems, had several important consequences for the thrift industry, and the financial services sector in general, over the last

quarter-century. It enabled the creation of a secondary market for mortgages in 1970. It increased competition by lowering barriers to entry between industries in the financial services sector, it increased the speed with which information is processed, thereby decreasing time buffers and squeezing profits, and it increased the complexity of financial products and enabled the creation of many new financial products that competed with thrifts' traditional products, including adjustable-rate mortgages and mutual funds. Finally, it increased economies of scale and scope, making it more advantageous for thrifts to administer a wider range of financial products than just long-term mortgage loans and short-term deposits.

Economic change also pummeled the thrift industry. The mid 1960s saw the end of stable and low interest rates and the beginning of fluctuating and high rates. During this period, commercial banks began to issue certificates of deposit, initiating aggressive competition for consumer deposits. In 1966, the Interest Rate Adjustment Act extended Federal Reserve Bank rate ceilings (Regulation Q) to all federally insured thrift deposits (meaning all deposits held by California thrifts). Federal agencies imposed an interrelated set of deposit-rate ceilings to assure various institutions their "fair" shares of the market. It was thought that thrifts needed an interest-rate premium over commercial banks because they could not offer depositors a full range of services. The thrift industry lobbied actively for this law because it wanted to limit competition (Balderston, 1985: 4–5). The result, however, was increasing disintermediation (withdrawal of funds from a financial intermediary), rather than the expected stability. When securities firms and other unregulated competitors developed money-market mutual funds during the 1970s, droves of savings-account customers seeking higher rates of return withdrew their funds from thrifts and transferred them to firms whose accounts paid market rates of interest. This disintermediation destabilized the operations of savings and loan associations, as their sources of mortgage-lending funds shrank dramatically. In response, Regulation Q was adjusted several times, increasing the rates that savings and loan associations could pay on passbook savings accounts.

Shocks from the actions of OPEC in 1973–1974 and 1979 exacerbated the situation, creating extremely volatile interest rates. About the same time, financial markets were in the process of becoming truly international. Globalization of financial markets led to greater interdependence and further fuelled interest-rate volatility.

The adjustments of Regulation Q in response to higher and more volatile market interest rates had unexpected negative consequences for savings and loan associations. Savings and loan profits, which are a function of the spread between interest gathered on mortgage loans and interest paid out on savings accounts, fell dramatically as savings-account interest rates rose, while mortgage returns remained fixed. The mortgages held by thrifts were generally old and paid lower, fixed interest rates than did thrifts' short-term deposits. Moreover, short-term rates rose faster than did long-term rates, so that thrifts' shorter-duration deposits cost

more than thrifts earned from even their new mortgage loans. The results were volatile and generally negative interest-rate spreads, which prompted many thrifts to seek shorter-term investments, such as consumer automobile and education loans and short-term commercial loans. The introduction of variable-rate, graduated-payment, renegotiable-rate, and adjustable-rate mortgages after the mid 1970s did little to ameliorate this situation, since these loans could not eliminate the vast number of low-interest, fixed-rate mortgage loans in thrifts' investment portfolios.

The combination of technological innovation and economic change made it very difficult for savings and loan associations to achieve consistent profits by sticking to their traditional asset base, residential mortgage loans. Throughout the 1970s, savings and loan associations were exposed to increasing pressure to seek investments outside the residential mortgage market. But until the early 1980s, thrifts were thwarted by regulatory restrictions. The Depository Institutions Deregulation and Monetary Control Act (DIDMCA), enacted in March 1980, began to phase out the interest-rate ceilings that had acted as competitive barriers separating banks and thrifts. This act also allowed thrifts to offer negotiable-order-of-withdrawal accounts (which are similar to banks' checking accounts), credit cards, money-market certificates, and trust services. The DIDMCA authorized thrifts to invest up to 20 percent of their assets in consumer loans, commercial paper, and corporate debt securities. In addition, the limit on investment in service corporation subsidiaries was raised from 1 percent to 3 percent of assets. Finally, depository insurance was raised to $100,000. The DIDMCA was described by one industry analyst as "the most monumental banking legislation to be enacted in nearly half a century" (McLean, 1980: 4–5). This monumental change, however, was insufficient to the task of releasing thrifts from all regulatory restrictions. It was quickly topped by the Garn-St. Germain Depository Institutions Act, passed only two years later. The Garn-St. Germain Act erased further barriers to competition within and between industries in the financial services sector. This act allowed thrifts to invest in commercial lending up to 10 percent of their total assets, raised the limits on thrift holdings of nonresidential real estate, allowed thrifts to offer a wide variety of consumer loans up to 45 percent of total assets, and allowed investment in commercial (nonresidential) mortgage lending up to 40 percent of total assets. This act was hailed as "the most fundamental reform of the thrift industry since the Great Depression" (Carron, 1983: 16–17). In California, the Nolan Bill (enacted 1 January 1983) paralleled the Garn-St. Germain Act and widened the investment powers of state-chartered thrifts substantially.

These deregulatory initiatives broadened the allowed scope of savings and loan activities by extending their domains to include mortgage banking, real estate development, commercial lending, and consumer nonmortgage financial services. This redefinition of domain occurred very rapidly, over two years. Savings and loan associations were abruptly faced with wide-open investment horizons and had to

determine very quickly how best to distribute their assets. The pressure to decrease dependence on residential mortgages added urgency to the choices created by deregulation. Many thrift managers did not know what to do, except play "follow the leader." For instance, many California thrifts followed Columbia Savings and Loan Association into the market for corporate securities between passage of the Garn-St. Germain Act in 1982 and the stock-market crash of October 1987. Far West Savings and Loan Association, United California Savings Bank, Imperial Savings and Loan Association, and Lincoln Savings and Loan Association were prominent examples of thrifts that imitated Columbia's diversification strategy (Pilzer, 1989: 136–149). To give another example, State Savings and Loan Association was a pioneer in the use of brokered deposits as a source of funds to fuel asset growth. Brokered deposits are purchased wholesale, in large denominations, and generally pay higher interest rates than the deposits brought in by individual savings accounts. Between 1975 and 1985, State Savings and Loan Association grew astoundingly fast by buying brokered deposits and investing them in residential, industrial, and commercial real estate. The manager in charge of State Savings and Loan Association, Charles Knapp, gave many interviews in which he explained how other thrifts could duplicate the spectacular growth and profitability of his firm (Eichler, 1989: 110–116).

METHOD

This paper investigates entry by thrifts into the six markets opened up by deregulation: nonresidential mortgages, mortgage-backed securities, consumer loans, commercial loans, real estate held for development and resale, and service corporation subsidiaries. There is a seventh nontraditional market, investment securities, which includes corporate stock and government securities. I did not examine entry into this market because almost all thrifts held investment securities in large quantities at the start of the observation period: 161 out of 165 held investment securities in June 1977, averaging 8 percent of total assets; 141 out of 165 had investments of more than 5 percent of their assets. The six categories used here therefore represent the complete range of new asset choices and conform to the categories used by other industry analysts, e.g., U.S. General Accounting Office (1991: 63–67). Studying entry into an array of markets offers a broad picture of the process of product-market diversification. This research design also allows for repeated tests of hypotheses, which is seldom done in organizational theory research. Comparing results across markets makes it possible to assess the generalizability of the theory, thereby enhancing its external validity (Freeman, 1986; Hannan and Carroll, 1992).

Entry into each market involves different challenges for savings and loan associations, depending on the degree to which the new market differs from residential mortgage lending with respect to clientele served, products offered, and technology used. *Real estate investment* (RE) has been identified as a risky move away from thrifts' traditional strengths (Strunk and Case, 1988; Eichler, 1989). The

potential returns are great but are accompanied by high probability of failure. Investment in real estate entails shifting both product portfolio and client base and, so, involves considerable reorientation of the technical core. Moving into *nonresidential mortgage lending* (NRM) involves offering a familiar product (mortgages) to new clients (commercial firms). Thrifts entering this market must adjust to new client demands but they already know the product and the technology. Investing in *mortgage-backed securities* (MBS) involves securities composed of bundles of residential mortgages. These securitized mortgage instruments are similar to the traditional residential mortgage but involve different clients and somewhat different technology. *Consumer nonmortgage lending* (CNL) is attractive because the average maturity of consumer loans is short. Entering this market enables thrifts to achieve a closer match between liability and asset maturity (Woerheide, 1985: 124–135). The clientele is familiar, so offering consumer loans seems to be a relatively low-risk way for thrifts to diversify. *Commercial lending* (CML) includes short-term unsecured commercial paper and longer-term secured loans. Moving into commercial lending offers thrifts higher interest rates and shorter-term assets; in other words, greater potential profits and greater flexibility. Thrifts' primary competitors in this market—commercial banks—have strong, established ties to commercial clients. Hence the conditions of competition in the commercial lending market are very different from those in the traditional residential mortgage market (Benston, 1985; Eichler, 1989). Finally, *service corporation subsidiaries* (SCO) represent vehicles for movement into activities not otherwise allowed to thrifts; for example, property management, insurance, accounting and tax services, and escrow and trust services. Many service companies cater to traditional thrift clients, offering products that complement residential mortgage lending, such as trust and escrow services.

Model Specification and Estimation

Questions about change are best addressed by dynamic methods applied to longitudinal data. I used event-history analyses of discrete change events (marking entry into each of the six markets), using data from June 1977 (before deregulation began) to March 1987. The dependent variable in these event-history models is the instantaneous rate of entry into a new market, the hazard rate of change, which is defined as

$$r(t) = \lim_{dt \to 0} \frac{\Pr(\text{change } t,\ t + dt \mid \text{no change at } t)}{dt},$$

where Pr(.) is the probability of organizational change (entry into a new market) between times t and $t + dt$, given that the firm under study has not yet entered the market in question at time t.

Considering the impact of change from an organizational perspective, I study rates of diversification by existing organizations. An alternative perspective is that of the market. From the perspective of the market, one would

study rates of entry into the market by *any* organization, newly founded or established. The difference between the two points of view boils down to two factors: (1) whether or not newly founded organizations are included in the sample of organizations that is at risk of entering a new market and (2) whether or not models of market entry control for the characteristics of individual firms. On one hand, studying change from a market perspective allows one to examine the difference in behavior between established and newly founded firms. Caves and Porter (1977) argued that established firms will be the chief entrants to market niches that are composed of oligopolistic cores of dominant firms protected by product-differentiation and absolute-cost barriers, while newly founded firms will sprout in the competitive fringe, in more "contestable" market segments (Baumol, Panzer, and Willig, 1982). On the other hand, studying change from the perspective of a focal organization makes it possible to control for the idiosyncratic features of potential entrants: size, age, structure, legal form, past performance, and past level of diversification. The choice between the two perspectives must be based on theoretical interest. Which is the most pressing question: How do markets and industries change? or How do firms change? I have chosen to investigate the second question because, although there is a wealth of literature investigating change in industries over time, less attention has been devoted to following shifts in the strategy and structure of individual established organizations. The sample of organizations whose diversification behavior is studied therefore excluded newly founded organizations and included only those firms that have operated for at least six months prior to entering a new market. But I did count all organizations, newly founded and established, when assessing various types of market density.

I modelled rates of entry into each new market separately. I first built a baseline model of the effects of organizational characteristics and environmental forces on entry rates and then added the density variables through which mimetic isomorphism processes are proposed to operate. The general model used is

$$\ln r(t) = \beta X(t) + \gamma Y(t) ,$$

where $X(t)$ is a vector of time-varying organizational and environmental control variables and $Y(t)$ is a vector of independent variables: size-localized market density, successful-firm market density, and interactions between successful-firm market density and dummy variables indicating whether or not potential entrants are successful (large and profitable). This modelling strategy makes it possible to determine whether or not mimetic processes explain organization-level change after controlling for heterogeneity in the population due to organizational characteristics and after controlling for differences in other environmental forces over time.

I used Tuma's (1980) maximum-likelihood (ML) program RATE to estimate these models. RATE controls for right censoring, which occurs when some firms in the sample

have not yet entered the new market under study by the end of the observation period. ML estimation with RATE allows right-censored observations to be used in estimating parameters, thereby avoiding biases that result from eliminating censored observations or treating censored observations as though events occur when the observation period ends (Tuma and Hannan, 1984). With ML estimation, censored observations contribute exactly what is known about them, namely, that the firm did not diversify for the duration of the observation period. Noncensored cases contribute their entire histories, including the diversification event.

These analyses cover the period from June 1977 to March 1987. Of the 165 thrifts operating at the beginning of the observation period, 103 owned real estate (averaging 0.4 percent of assets); 77 invested in mortgage-backed securities (2 percent); 150 had investments in nonresidential mortgages (5 percent); almost all held consumer nonmortgage loans (2 percent); 62 held commercial loans (0.4 percent); and 136 had investments in service corporations (0.2 percent). Since many thrifts were active in nontraditional markets before deregulation began, albeit on a very small scale, I set a threshold of 5 percent of total assets to mark substantial investment in each nontraditional market. A larger investment in a particular market indicates greater commitment to that market; a smaller investment in a particular market indicates either a chance occurrence or an attempt to learn through small-scale trial without commitment (Pfeffer and Salancik, 1978: 131–132). Using substantial investment of resources to indicate commitment to a diversification strategy parallels social-psychological notions of commitment as an outgrowth of explicit (observable and unequivocal), irrevocable, freely chosen, and public acts (Salancik, 1977). Discussions with accounting researchers who study the thrift industry corroborate this supposition and indicate that the threshold I have chosen—5 percent of total assets—is a reasonable one.[1] Moreover, studying diversification as a discrete event rather than a continuous change facilitates comparing these results with previous research on density dependence in organizational founding rates and with previous research on the adoption of discrete innovations, such as the diffusion of the multidivisional form. For each market, the sample of thrifts analyzed includes only firms that have not yet invested over 5 percent of their assets in the market at the beginning of the observation period. A firm remains in the analysis until the period after it first invests over 5 percent of its assets in the new market. Because I study change in existing firms, rather than replacement of traditional thrifts by the founding of new, more diversified forms, I eliminated from my samples firms that have investments in the new market over 5 percent of total assets at the time of founding. I also performed sensitivity analyses around the chosen threshold by modelling the effect of market density on rates of entry by calculating the independent and dependent variables with several different thresholds: 0, 2, 8, and 10 percent of total assets. At the lowest threshold (0 percent) firms are coded as being active in a market when they have any investment, no matter how small, in that market.

1 Christopher Stinson and Frederick Lindahl, personal communications.

Data Sources

The Office of Thrift Supervision (OTS, formerly the Federal Home Loan Bank) in San Francisco regulates savings and loan associations in California and publishes annual *Directories of Members,* which contain data on each thrift: date of incorporation, legal structure, and financial status. In addition, all thrifts file *Financial Reports* with the OTS in Washington, DC, that provide detailed balance sheets and income statements and which were used to determine the timing of entry into each market. The data cover all 313 savings and loan associations operating between June 1977 and March 1987. The data are semiannual for the years 1977 through 1983 and quarterly from 1984 on. All variables were updated at the end of each period. Independent and control variables were measured at the beginning of each period, dependent variables at the end of each period.

Measurement of Variables

Dependent variables. The *rates of entry* into each of the six new markets are the dependent variables in this analysis. For each new market, I observed whether or not a firm entered the market by investing over 5 percent of its assets in the market. I coded a firm's market entry behavior zero if it had not yet passed the 5-percent threshold and one if it had. For each market, a firm remained in the data set until it first exceeded the 5-percent threshold.

Independent variables. For each market studied, I examined the impact of *mimetic market density* on rates of market entry. The definition of mimetic market density varied according to the hypothesis being tested. I tested hypothesis 1 using *size-localized market density,* a count of thrifts, newly founded or established, that were active in the market above the 5-percent threshold and that were within a size-localized window. Size was measured in terms of asset base, in millions of dollars, and was corrected for inflation using a GDP deflator index. Previous research has calculated the intensity of size-localized competitive interactions as a function of the distance between organizations on a size gradient within a size-localized window (Hannan, Ranger-Moore, and Banaszak-Holl, 1990; Baum and Mezias, 1992). This means that organizations compete only with organizations within some range of their own size and not at all with organizations outside this range. The intensity of competition declines as distance increases; when distance increases beyond the window, competition is zero. I set the window within which organizations interact equal to $S_{it}/2$, where S_{it} represents size of firm i at time t, and counted all thrifts within this window that were active in the market under study (Hannan, Ranger-Moore, and Banaszak-Holl, 1990; Baum and Mezias, 1992).[2] Thus the size window for organization i at time t runs from .5 S_{it} to 1.5 S_{it}, and size-localized density is a number that varies from firm to firm. This formula recognizes that large organizations interact with other organizations over a broader range of size than do small organizations. To test for curvilinear effects, the models included both linear and quadratic terms for size-localized market density.

I tested hypotheses 2a and 2b using *successful-firm market density,* which was measured in two ways: by counting the

2
Baum and Mezias (1992) experimented with two different window sizes, $S_i/2$ and $\log[S_i]/5$, and concluded that their models were not sensitive to differences in window size.

largest and the *most profitable* savings and loan associations operating in each of the product markets studied in each period. I counted the number of thrifts with investments above the 5-percent threshold that were in the top quartiles for size (assets) and return on assets. Return on assets is recognized as the best measure of thrift performance (Cole, 1971). To test for curvilinear effects, models included both linear and quadratic terms for successful-firm market density.

Hypotheses 3a and 3b, which suggest that the effects of *successful-firm market density* will be greatest for successful firms, were tested with two interaction terms: (1) an interaction between a dummy variable indicating whether or not a potential entrant was in the top quartile for organizational size, on the one hand, and large-firm market density, on the other, and (2) an interaction between a dummy variable indicating whether or not a potential entrant was in the top quartile for profitability (return on assets), on the one hand, and profitable-firm market density, on the other. To test for curvilinear effects, models included linear and quadratic terms for both interactions between being a successful potential entrant and successful-firm market density.

Control variables. Baseline models included several organization-level control variables: organizational age, size, legal form, past performance, and diversity of investments. *Organizational age* has been shown to influence rates of organizational change (e.g., Singh, Tucker, and Meinhard, 1988; Delacroix and Swaminathan, 1991). I measured age as the number of years since incorporation. Previous research has proposed that *organizational size* is also an important constraint on expansion into new markets (Caves and Porter, 1977; Haveman, 1993), because the assets of established firms can serve as weapons against structural mobility barriers (Caves and Porter, 1977). I measured size in terms of asset base. Because the size distribution followed Gibrat's law and was skewed, with many small firms and a few giants, I took the natural logarithm of each firm's asset base. I controlled for *financial performance* with net income, the difference between income and expenses, which is the best measure of recent financial performance after controlling for firm size (Cole, 1971). I controlled for *slack resources,* which can facilitate entry into new markets, using net worth. *Legal form* has two dimensions: capital structure and type of charter. Capital structure distinguishes between mutual and stock companies, while charter distinguishes between firms with state and federal charters. Capital structure has been shown by industry analysts to influence firm behavior and managers' risk preferences (e.g., Verbrugge and Goldstein, 1981) and so should be controlled in any analysis of diversification. I controlled for *heterogeneity of investments* for two reasons. First, the diversification behavior of specialist and generalist organizations will differ (Swaminathan, 1993). Second, thrifts' decisions to enter various markets are not independent of each other; instead, thrifts show consistent patterns of diversification (Haveman, 1990: Table 4.2). Thrifts tend to move simultaneously into lending mortgages on undeveloped land and into real estate

development; those that remain focused on residential mortgage lending also tend to move heavily into consumer nonmortgage lending. Industry analysts have begun to discern strategic groups based on patterns of investment in new markets (U.S. General Accounting Office, 1991: 63–68). Heterogeneity of investments is controlled with an index calculated as $H_{ijt} = 1 - \Sigma(P_{ijt}^2)$, where P_{ijt} is the proportion of assets invested by firm i in market j at time t (Berry, 1974: 62–63; Blau, 1977: 9).

I also controlled for environmental forces. The most salient macroeconomic force is the gap between short- and long-term interest rates (*IRGap*), which is a measure of interest-rate risk and an indicator of the difficulty inherent in managing a portfolio of long-term mortgage loans and short-term deposit accounts. I controlled for *overall market density* of the six new markets in order to distinguish the impact of the specific densities. All models included total density of savings and loan associations active above the 5-percent threshold, less the density of role-model organizations (similarly sized, large, and profitable thrifts). This variable is labelled *other market density,* in order to distinguish it from *mimetic market density,* which is defined above.

Finally, I controlled for the presence of *organizations from other populations* in the new markets opened to savings and loan associations by measuring the investments of the relevant external populations in each market. Although thrifts will attend most closely to the actions of other thrifts (Porac and Thomas, 1990), they are also likely to be influenced by the presence of other kinds of firms in the new markets opened to them by deregulation. Accordingly, I gathered market-specific information on the proportion of each market that was held by various kinds of firms. For the market for direct investments in real estate, I controlled for the amounts invested in land and residential structures by financial institutions (thrifts, commercial banks, credit unions, etc.) and by nonfinancial corporations. For nonresidential mortgages, I controlled for investments by commercial banks and by insurance companies and pension/retirement funds. For mortgage-backed securities, I controlled for investments by commercial banks, credit unions, insurance companies, pension/retirement funds, and mutual funds. For consumer nonmortgage lending, I controlled for investments by commercial banks, credit unions, and finance companies. For commercial nonmortgage lending, I controlled for investments by commercial banks, credit unions, insurance companies, pension/retirement funds, mutual funds, and finance companies. These data come from the Federal Reserve Board of Governors' Z-1 (Flows and Outstandings) historical databases and are available for the U.S. as a whole; no state breakdowns are available. Data are available quarterly for all markets except direct investments in real estate; data on real estate holdings are available only annually. I interpolated semiannual and quarterly data points for this market. All data on investments by external organizational populations were adjusted for inflation using the GDP deflator index. For service companies, which provide a variety of services ancillary to residential mortgage

lending, I controlled for home sales in California. These data are taken from *Construction Review,* various years, and are available only annually. To create quarterly and semiannual data points, I assumed that home sales were level during the year, so that one-quarter of annual home sales occurred each quarter.

RESULTS

Table 1 presents descriptive statistics. The top half of this table shows trends over time for each market: total market density, mean size-localized market density across all potential entrants, large-firm market density, profitable-firm market density (all at the beginning of each year), and entries into that market during the year. For each savings and loan association, market entry is recorded only once—the first time a savings and loan association passes the 5-percent threshold of assets committed to a particular market—even though a firm can fall below the 5-percent threshold and again rise above it after initial market entry. Because market density is a count of all savings and loan associations with investments in a market above the 5-percent threshold, including first-time entrants, established firms, and firms reentering the market, this variable can rise without any new first-time entries being recorded. Also, market density can fall, even though a large number of entries is recorded, if a larger number of former incumbents drops below the 5-percent threshold.

Nonresidential mortgage lending shows considerable market density at the beginning of the observation period. Almost half of California thrifts had investments in this market above the 5-percent threshold. This market continued to grow after deregulation. The market for mortgage-backed securities also shows strong growth, peaking about the beginning of 1984 with over half of thrifts active in the market. Consumer lending grew fastest between 1980 and 1981, plateauing with about twenty participants. Other markets—real estate, service corporations, and commercial lending—grew later and were still growing at the end of the observation period. This table gives information on various measures of market density and entries only. Exits from these new markets, which were numerous, are not shown here, however, because they are not included in the theoretical model tested.

Table 2 presents means, standard deviations, and correlations for the independent and dependent variables. Each row presents statistics for one of the six markets. The correlations between the three measures of market density (similarly sized-, large-, and profitable-firm market density) are generally high. This indicates that it is necessary to estimate separate equations testing for imitation of similarly sized, large, and profitable firms in order to avoid problems caused by multicollinearity between these independent variables.

Models of each of the six markets that test my hypotheses are presented in Tables 3 through 8 and are discussed in sequence below. Each table presents five models for a

Table 1

Descriptive Statistics: Diversification Trends in the California S&L Industry*

Year	Variable	RE	NRM	MBS	CNL	CML	SCO	Industry
1977	Market density	0	79	14	9	3	1	165
	Mean size-localized density	0	12.35	2.63	1.22	.42	.31	
	Large-firm density	0	31	2	5	2	0	
	Profitable-firm density	0	16	4	1	0	1	
	Entries	1	10	7	3	1	0	
1978	Market density	1	77	12	9	0	1	168
	Mean size-localized density	.20	11.78	2.19	1.18	0	.28	
	Large-firm density	0	31	1	4	0	0	
	Profitable-firm density	0	15	1	2	0	1	
	Entries	0	5	3	4	2	0	
1979	Market density	0	74	12	12	2	1	174
	Mean size-localized density	0	9.85	1.91	1.46	.25	.22	
	Large-firm density	0	31	2	5	0	0	
	Profitable-firm density	0	15	1	2	0	1	
	Entries	2	6	3	11	1	0	
1980	Market density	2	76	15	18	2	0	184
	Mean size-localized density	.40	9.11	2.20	2.30	.27	0	
	Large-firm density	0	33	4	7	0	0	
	Profitable-firm density	1	8	2	8	0	0	
	Entries	1	9	3	15	2	0	
1981	Market density	2	69	16	23	2	0	199
	Mean size-localized density	.41	7.82	2.28	3.50	.32	0	
	Large-firm density	0	31	7	9	0	0	
	Profitable-firm density	0	10	3	6	0	0	
	Entries	8	19	44	8	0	2	
1982	Market density	9	75	59	19	0	2	193
	Mean size-localized density	1.16	9.98	8.68	2.86	0	.40	
	Large-firm density	3	24	20	5	0	0	
	Profitable-firm density	1	14	11	7	0	1	
	Entries	16	25	40	9	2	9	
1983	Market density	18	91	89	19	2	10	178
	Mean size-localized density	3.12	13.82	14.52	3.09	.41	1.63	
	Large-firm density	3	29	29	4	0	3	
	Profitable-firm density	6	17	17	4	0	4	
	Entries	19	23	18	4	2	4	
1984	Market density	33	120	104	19	4	12	189
	Mean size-localized density	6.09	19.49	16.04	3.43	.57	1.65	
	Large-firm density	7	34	33	5	0	5	
	Profitable-firm density	13	34	24	2	1	2	
	Entries	14	34	16	6	5	16	
1985	Market density	35	167	99	22	10	24	206
	Mean size-localized density	6.15	25.58	15.53	3.61	2.28	3.87	
	Large-firm density	9	43	32	9	1	11	
	Profitable-firm density	6	37	23	5	4	8	
	Entries	13	12	9	3	10	8	
1986	Market density	46	181	65	21	15	23	222
	Mean size-localized density	8.41	28.00	8.71	3.28	2.92	3.67	
	Large-firm density	11	45	28	9	2	11	
	Profitable-firm density	5	42	20	5	2	3	
	Entries	17	5	10	5	5	4	

* RE = direct investments in real estate, NRM = nonresidential mortgage lending, MBS = mortgage-backed securities, CNL = consumer nonmortgage lending, CML = commercial nonmortgage lending, and SCO = investments in service corporation subsidiaries.

Table 2

Means, Standard Deviations, and Correlations for Dependent and Independent Variables for Six New Markets*

Variable	Market	Mean	S.D.	Correlations 1	2	3
1. Rate of entry into new market	RE	.023	.149			
	NRM	.114	.318			
	MBS	.064	.246			
	CNL	.018	.132			
	CML	.007	.081			
	SCO	.010	.098			
2. Size-localized market density	RE	3.62	4.89	−0.049•		
	NRM	13.55	12.01	−0.017		
	MBS	6.15	6.57	.023		
	CNL	2.76	1.76	−0.024		
	CML	1.12	1.49	.003		
	SCO	1.73	2.18	.018		
3. Large-firm market density	RE	4.12	3.90	.056•	.654•	
	NRM	32.41	5.00	−0.002	.456•	
	MBS	13.38	12.33	.127•	.745•	
	CNL	7.21	2.24	−0.025	.188•	
	CML	.92	1.09	.009	.485•	
	SCO	4.83	4.86	.030•	.694•	
4. Profitable-firm market density	RE	4.03	3.78	.058•	.564•	.786•
	NRM	18.81	1.64	.126•	.529•	.808•
	MBS	8.50	7.74	.113•	.746•	.955•
	CNL	3.88	2.21	.022	.208•	.548•
	CML	1.42	1.59	.025	.467•	.608•
	SCO	3.68	3.46	.033•	.602•	.845•

• $p < .05$.

* Each row gives data on a different market. In descending order, these are real estate, nonresidential mortgages, mortgage-backed securities, consumer loans, commercial loans, and service corporations.

particular new market. The first model investigates the impact of size-localized market density; the second model, large-firm market density; the third model, profitable-firm market density; and the fourth and fifth models, interactions between successful potential entrants and successful-firm market density, where success is indicated by large size and high profitability, respectively. In order to keep the tables a reasonable length, I labelled the density variable of interest "mimetic density" and the residual variable "other market density." For example, in the first model, mimetic density is size-localized market density, and other market density is total market density minus size-localized market density. I expected curvilinear, inverted-U-shaped effects for all mimetic density measures and for both interaction variables.

Direct investments in real estate. Model 1 in Table 3 shows that size-localized market density does not have the hypothesized curvilinear effect on rates of entry into this market. A model containing only the linear term for this variable (not presented here) likewise shows no significant effect. These results provide no support for hypothesis 1. In contrast, models 2 and 3 show statistically significant inverted-U-shaped effects for successful-firm market density, whether based on size or profitability, supporting both hypotheses 2a and 2b. For both indicators of firm success, the peak of the effect lies within the observed range for

Table 3

Entry into the Real Estate Market by California Thrifts, 1977–1987*

Mimetic density variable	1 Size-localized density	2 Large-firm density	3 Profitable-firm density	4 Large-firm interaction	5 Profitable-firm interaction
Constant	−4.89•	−5.57•	−5.39•	−5.63•	−5.39•
	(.933)	(.932)	(.928)	(.943)	(.931)
Log assets	.269•	.274•	.268•	.258•	.272•
	(.101)	(.092)	(.093)	(.105)	(.094)
Stock	1.63•	1.57•	1.61•	1.63•	1.60•
	(.644)	(.623)	(.628)	(.645)	(.628)
State	1.15•	1.17•	1.14•	1.22•	1.14•
	(.472)	(.468)	(.468)	(.474)	(.468)
Net income	−.019•	−.019•	−.019•	−.019•	−.019•
	(.004)	(.004)	(.004)	(.004)	(.004)
Net worth	−.029•	−.030•	−.030•	−.029•	−.030•
	(.007)	(.007)	(.007)	(.007)	(.007)
Heterogeneity of investments	−3.51•	−2.52•	−2.74•	−2.51•	−2.74•
	(.900)	(.910)	(.906)	(.920)	(.907)
Age	.004	.004	.004	.004	.004
	(.006)	(.006)	(.006)	(.006)	(.006)
Interest rate gap	.076	−.114	−.081	−.114	−.080
	(.091)	(.115)	(.112)	(.115)	(.112)
Financial institution RE investments	−.275	−.477	−.395	−.511	−.387
	(.994)	(1.11)	(1.03)	(1.14)	(1.03)
Other corporation RE investments	.014	.030	.024	.032	.023
	(.066)	(.074)	(.068)	(.075)	(.068)
Other market density	.010	−.045•	−.014	−.045•	−.014
	(.011)	(.023)	(.012)	(.023)	(.012)
Mimetic density	.039	.688•	.447•	.705•	.416•
	(.086)	(.224)	(.168)	(.226)	(.173)
Mimetic density^2	−.002	−.041•	−.028•	−.043•	−.025•
	(.005)	(.015)	(.012)	(.015)	(.012)
Interaction				−.087	.090
				(.210)	(.123)
Interaction^2				.014	−.009
				(.022)	(.015)
χ^2	132.7	143.1	140.3	144.0	140.9
d.f.	13	13	13	15	15

• $p < .05$, one-tailed t-tests for independent variables, two-tailed t-tests for control variables.
* There were 303 firms, 3,997 spells, and 91 entries. Mimetic density + other density = market density.

these variables. The cumulative effect of the linear and quadratic terms for any variable X reaches a peak (if inverted-U-shaped) or a trough (if U-shaped) when $X = (-\beta_1/2 * \beta_2)$, where β_1 is the parameter estimate for the linear term and β_2 is the parameter estimate for the quadratic term (Hannan and Carroll, 1992: 62). Models 4 and 5 show no statistically significant effects for interactions between the success of potential entrants and successful-firm market density, offering support for neither hypothesis 3a nor 3b. For the interaction between being a large potential entrant and large-firm market density, the estimates are in the direction opposite to the hypothesized inverted-U shape.

Nonresidential mortgage lending. Results in Table 4 for this market show the hypothesized inverted-U-shaped pattern for size-localized market density; moreover, the inverted U reaches its peak within the observed range for size-localized market density. This result supports hypothesis 1. Model 2 investigates successful-firm market density, where success is defined in terms of size, and shows an

Table 4

Entry into the Nonresidential Mortgage Market by California Thrifts, 1977–1987*

Mimetic density variable	1 Size-localized density	2 Large-firm density	3 Profitable-firm density	4 Large-firm interaction	5 Profitable-firm interaction
Constant	5.69	−13.6•	−.980	−13.9•	−1.09
	(4.74)	(6.91)	(5.51)	(6.92)	(5.48)
Log assets	−.213	−.123	−.126	−.159	−.114
	(.135)	(.078)	(.078)	(.082)	(.079)
Stock	−.498	−.557	−.457	−.545	−.403
	(.395)	(.401)	(.398)	(.411)	(.400)
State	.882•	.896•	.872•	.917•	.823•
	(.338)	(.349)	(.344)	(.358)	(.347)
Net income	−.066	−.050	−.064	−.040	−.059
	(.050)	(.046)	(.048)	(.047)	(.047)
Net worth	.003	.001	.001	−.001	.001
	(.004)	(.003)	(.003)	(.004)	(.003)
Heterogeneity of investments	−1.16•	−.619	−1.01	−.567	−1.09
	(.591)	(.600)	(.594)	(.602)	(.597)
Age	−.010	−.008	−.008	−.009	−.008
	(.007)	(.006)	(.006)	(.007)	(.006)
Interest rate gap	.137•	−.054	.140•	−.053	.137•
	(.066)	(.087)	(.070)	(.060)	(.070)
Commercial bank NRM investments	.077	−.060	.040	−.060	.040
	(.044)	(.059)	(.045)	(.059)	(.045)
Insurance company NRM investments	−.147	.099	−.042	.100	−.044
	(.088)	(.113)	(.096)	(.114)	(.096)
Other market density	−.004	.079•	−.017	.079•	−.015
	(.010)	(.023)	(.014)	(.023)	(.014)
Mimetic density	.061•	.487•	.158•	.499•	.164•
	(.033)	(.190)	(.068)	(.191)	(.067)
Mimetic density^2	−.0015•	−.011•	−.0023	−.011•	−.0024•
	(.0006)	(.003)	(.0014)	(.003)	(.0014)
Interaction				.115•	.006
				(.070)	(.026)
Interaction^2				−.003	−.001
				(.002)	(.001)
χ^2	123.1	139.5	124.2	143.4	126.4
d.f.	13	13	13	15	15

• $p < .05$, one-tailed t-tests for independent variables, two-tailed t-tests for control variables.
* There were 200 firms, 1,297 spells, and 148 entries. Mimetic density + other density = market density.

inverted-U-shaped effect, supporting hypothesis 2b. This effect reaches its peak within the observed range for large-firm market density. Model 3 shows the hypothesized pattern for profitable-firm market density: positive linear term, negative quadratic term, linear term statistically significant, quadratic term marginally significant ($p < .06$), peak within the observed range. This model fits the data marginally better than a model containing only the linear term, according to the χ^2 likelihood-ratio test: $\chi^2 = 2.60$, $\Delta df = 2$, $p < .06$. This result offers weak support for hypothesis 2a.

Although the parameter estimates for the interaction between large potential entrants and large-firm market density have the hypothesized pattern in model 4, only the positive linear term is statistically significant. The presence of large thrifts in the market for nonresidential mortgages legitimates that market for other large thrifts; in contrast, the presence of large thrifts creates both legitimating and competitive effects for all thrifts, regardless of size. Model 5

Table 5

Entry into the Mortgage-Backed Securities Market by California Thrifts, 1977–1987*

Mimetic density variable	1 Size-localized density	2 Large-firm density	3 Profitable-firm density	4 Large-firm interaction	5 Profitable-firm interaction
Constant	−.542	−3.68•	−2.43	−3.13•	−2.50
	(1.23)	(1.48)	(1.58)	(1.49)	(1.59)
Log assets	.052	.0002	−.017	−.107	−.025
	(.067)	(.067)	(.067)	(.084)	(.067)
Stock	.188	.236	.266	.294	.298
	(.324)	(.318)	(.319)	(.329)	(.318)
State	−.194	−.272	−.292	−.310	−.249
	(.294)	(.286)	(.288)	(.294)	(.287)
Net income	−.002	.006	.0002	.013	.005
	(.001)	(.014)	(.014)	(.013)	(.015)
Net worth	.0002	.0015	.0018	.0012	.0018
	(.0014)	(.0013)	(.0013)	(.0013)	(.0013)
Heterogeneity of investments	−1.06	−.802	−.918	−.672	−1.04
	(.680)	(.672)	(.674)	(.683)	(.677)
Age	−.004	−.003	−.003	−.003	−.005
	(.004)	(.004)	(.004)	(.004)	(.004)
Interest rate gap	.154•	.199•	.120	.196•	.123
	(.070)	(.076)	(.070)	(.076)	(.070)
Commercial bank MBS investments	−.255	.064	.028	.041	.052
	(.141)	(.152)	(.166)	(.152)	(.166)
Credit union MBS investments	−3.75•	.470	−3.94•	.365	−4.00•
	(1.24)	(2.07)	(1.29)	(2.07)	(1.29)
Insurance company MBS investments	−.510•	−.146	−.211	−.169	−.194
	(.144)	(.157)	(.154)	(.157)	(.154)
Pension/retirement fund MBS investments	.493•	−.026	.164	.006	.139
	(.128)	(.166)	(.153)	(.166)	(.153)
Mutual fund MBS investments	.413•	−.083	.251•	−.056	.248•
	(.107)	(.174)	(.114)	(.174)	(.114)
Other market density	.019•	−.050	.012	−.045	−.013
	(.009)	(.034)	(.014)	(.034)	(.014)
Mimetic density	−.076	.365•	.272•	.319•	.299•
	(.048)	(.087)	(.095)	(.088)	(.096)
Mimetic density^2	.001	−.006•	−.010•	−.005•	−.011•
	(.002)	(.001)	(.003)	(.001)	(.003)
Interaction				.131•	−.094
				(.051)	(.063)
Interaction^2				−.004•	.003
				(.002)	(.004)
χ^2	154.1	168.6	155.0	175.2	163.0
d.f.	16	16	16	18	18

• $p < .05$, one-tailed t-tests for independent variables, two-tailed t-tests for control variables.
* There were 267 firms, 2,376 spells, and 153 entries. Mimetic density + other density = market density.

shows no interaction between profitable potential entrants and profitable-firm market density, offering no support for hypothesis 3a.

Mortgage-backed securities. Model 1 in Table 5 shows that size-localized market density does not have the hypothesized curvilinear effect on the rate of entry into this market. Although the parameter estimates show the hypothesized pattern, only the negative quadratic term is statistically significant. A model containing only the linear term for size-localized market density shows an even stronger negative effect for this variable, indicating that competition prevails and there is no legitimation effect. The more thrifts operating in this market that are similar in size to a potential entrant, the less likely entry is. The competitive effect is not wholly unexpected, as there is a substantial number of firms

Table 6

Entry into the Consumer Nonmortgage Loan Market by California Thrifts, 1977–1987*

Mimetic density variable	1 Size-localized density	2 Large-firm density	3 Profitable-firm density	4 Large-firm interaction	5 Profitable-firm interaction
Constant	6.46•	2.29	6.98•	2.51	7.10•
	(1.94)	(2.66)	(2.05)	(2.68)	(2.06)
Log assets	−.106	−.133	−.136	−.385•	−.155
	(.101)	(.102)	(.102)	(.124)	(.101)
Stock	.571	.569	.563	.614	.641
	(.464)	(.463)	(.464)	(.480)	(.464)
State	−.863•	−.906•	−.887•	−.986•	−.868•
	(.421)	(.423)	(.422)	(.442)	(.420)
Net income	−.009	−.010	−.011	−.008	−.011
	(.011)	(.011)	(.010)	(.012)	(.012)
Net worth	.002	.002	.002	.001	.002
	(.002)	(.002)	(.002)	(.003)	(.002)
Heterogeneity of investments	−2.42•	−2.29•	−2.28•	−1.87	−2.31•
	(.958)	(.971)	(.970)	(.973)	(.973)
Age	−.015•	−.015	−.015	−.015•	−.015•
	(.008)	(.008)	(.008)	(.007)	(.008)
Interest rate gap	−.075	.205	−.008	−.192	−.014
	(.084)	(.108)	(.095)	(.108)	(.095)
Commercial bank CNL investments	.198•	.227•	.260•	.222•	.261•
	(.052)	(.061)	(.073)	(.061)	(.074)
Credit union CNL investments	−.790•	−.806•	−.987•	−.774•	−.987•
	(.188)	(.192)	(.256)	(.191)	(.257)
Finance company CNL investments	−.098•	−.129•	−.157•	−.126•	−.159•
	(.045)	(.056)	(.061)	(.056)	(.061)
Other market density	−.042	.063	−.023	.069	−.022
	(.059)	(.086)	(.067)	(.086)	(.067)
Mimetic density	−.375•	.499	.335	.387	.369
	(.208)	(.523)	(.378)	(.554)	(.381)
Mimetic density^2	.044	−.050	−.047	−.044	−.047
	(.031)	(.039)	(.042)	(.039)	(.042)
Interaction				.380•	−.068
				(.203)	(.242)
Interaction^2				−.017	−.013
				(.021)	(.039)
χ^2	48.5	51.6	47.7	63.9	53.2
d.f.	14	14	14	16	16

• $p < .05$, one-tailed t-tests for independent variables, two-tailed t-tests for control variables.
* There were 301 firms, 3,832 spells, and 68 entries. Mimetic density + other density = market density.

operating in this market even at the start of the observation period (16 out of 165 in June 1977). This market thus has a left-truncated history, and it is quite likely that we do not observe the entire period during which the legitimation effect dominates.

Models 2 and 3 show that both measures of successful-firm market density have inverted-U-shaped effects on rates of market entry. The peaks for these effects are within the observed ranges for these variables. These results support both hypotheses 2a and 2b. Model 4 shows strong inverted-U-shaped interaction effects between large potential entrants and large-firm market density, supporting hypothesis 3b. These effects are in addition to the effects of large-firm market density on all potential entrants, regardless of size. These results indicate the existence of two, parallel mimetic pressures: to imitate large firms and to imitate firms of similar size if the potential entrant is large. Model 5 shows no curvilinear effect for an interaction between

Table 7

Entry into the Commercial Loan Market by California Thrifts, 1977–1987*

Mimetic density variable	1 Size-localized density	2 Large-firm density	3 Profitable-firm density	4 Large-firm interaction	5 Profitable-firm interaction
Constant	8.92	8.43	1.21	11.2	11.6
	(8.02)	(8.92)	(1.00)	(9.31)	(10.3)
Log assets	−.337•	−.323•	−.319•	−4.80•	−.314
	(.151)	(.164)	(.163)	(.182)	(.163)
Stock	−.963	−1.01	−1.03	−1.03	−.960
	(.777)	(.810)	(.812)	(.803)	(.804)
State	1.11	1.04	1.07	1.16	1.07
	(.739)	(.772)	(.774)	(.767)	(.770)
Net income	−.025	−.027	−.029	−.024	−.028
	(.053)	(.052)	(.053)	(.048)	(.054)
Net worth	.005	.006	.006	.005	.006
	(.005)	(.004)	(.004)	(.004)	(.004)
Heterogeneity	−6.21•	−6.25•	−6.28•	−5.87•	−6.48•
of investments	(1.84)	(1.85)	(1.86)	(1.83)	(1.87)
Age	−.006	−.005	−.005	−.005	−.004
	(.011)	(.011)	(.011)	(.011)	(.011)
Interest rate gap	.153	.179	.150	.149	.158
	(.243)	(.254)	(.244)	(.250)	(.248)
Commercial bank	−.540	−.544	−.680	−.615	−.668
CML investments	(.364)	(.393)	(.459)	(.402)	(.468)
Insurance company	−.131	−.148	−.224	−.212	−.202
CML investments	(.149)	(.167)	(.201)	(.188)	(.204)
Pension/retirement fund	.062	.060	.068	.035	.080
CML investments	(.111)	(.117)	(.113)	(.117)	(.115)
Mutual fund	−.013	−.016	−.008	−.008	−.013
CML investments	(.026)	(.028)	(.028)	(.029)	(.028)
Finance company	−.045	−.035	−.063	−.050	−.061
CML investments	(.072)	(.079)	(.082)	(.081)	(.085)
Other market density	.039	−.023	−.067	−.012	−.070
	(.121)	(.143)	(.135)	(.144)	(.134)
Mimetic density	−.226	−.072	.457	.680	.915
	(.432)	(.076)	(.614)	(1.08)	(.662)
Mimetic density^2	−.015	−.048	−.097	−.486	−.228
	(.091)	(.211)	(.127)	(.438)	(.146)
Interaction				−.063	−1.41•
				(1.15)	(.758)
Interaction^2				.469	.388•
				(.471)	(.179)
χ^2	45.7	42.3	42.3	52.1	48.5
d.f.	16	16	16	18	18

• $p < .05$, one-tailed t-tests for independent variables, two-tailed t-tests for control variables.
* There were 305 firms, 4,499 spells, and 30 entries. Mimetic density + other density = market density.

profitable potential entrants and profitable-firm market entry; however, in results not shown here, the interaction shows a negative linear effect, indicating a purely competitive relationship. The more highly profitable firms that are incumbents in this market, the less likely other highly profitable firms are to enter. This competitive effect may be due to the fact that this market is relatively densely occupied even at the start of the observation period: In June 1977 four out of the 41 most profitable companies had invested in mortgage-backed securities, while at the maximum (September 1984), over half of the most profitable firms (26/50) had invested in mortgage-backed securities.

Consumer lending. Table 6 reveals no effect for size-localized market density, either linear or curvilinear, which fails to support hypothesis 1. Model 2 shows an

Table 8

Entry into the Service Company Market by California Thrifts, 1977–1987*

Mimetic density variable	1 Size-localized density	2 Large-firm density	3 Profitable-firm density	4 Large-firm interaction	5 Profitable-firm interaction
Constant	−1.13	−1.23	−2.01	−.938	−2.04
	(1.57)	(1.56)	(1.65)	(1.57)	(1.66)
Log assets	.040	.021	.021	−.061	.026
	(.145)	(.139)	(.139)	(.152)	(.139)
Stock	.376	.387	.382	.338	.338
	(.644)	(.638)	(.639)	(.663)	(.639)
State	.982	1.00	1.03	1.09	1.05
	(.551)	(.548)	(.551)	(.568)	(.551)
Net income	.024	.023	.015	.023	.009
	(.040)	(.042)	(.042)	(.047)	(.040)
Net worth	−.006	−.006	−.005	−.006	−.005
	(.005)	(.005)	(.005)	(.005)	(.005)
Heterogeneity of investments	−2.54	−2.54	−2.25	−2.35	−2.26
	(1.38)	(1.38)	(1.37)	(1.39)	(1.37)
Age	.016•	.017•	.017•	.016•	.017•
	(.007)	(.007)	(.007)	(.007)	(.007)
Interest rate gap	.414	.376	.393	.368	.395
	(.233)	(.234)	(.256)	(.233)	(.256)
Home sales	−.013•	−.012•	−.012•	−.012•	−.012•
	(.004)	(.004)	(.004)	(.004)	(.004)
Other market density	−.057•	−.083	−.085•	−.088	−.084•
	(.029)	(.066)	(.035)	(.067)	(.035)
Mimetic density	−.049	.074	.326	−.062	.292
	(.226)	(.165)	(.210)	(.184)	(.215)
Mimetic density^2	−.008	−.010	−.030•	.003	−.027•
	(.032)	(.013)	(.015)	(.015)	(.016)
Interaction				.513•	.134
				(.261)	(.180)
Interaction^2				−.047•	−.011
				(.026)	(.022)
χ^2	77.1	77.6	81.3	81.4	82.1
d.f.	12	12	12	14	14

• $p < .05$, one-tailed t-tests for independent variables, two-tailed t-tests for control variables.
* There were 267 firms, 2,376 spells, and 153 entries. Mimetic density + other density = market density.

inverted-U-shaped effect for large-firm market density. Although neither coefficient for large-firm market density is statistically significant, this model fits the data marginally better than does the baseline model ($\chi^2 = 6.50$, $\Delta df = 3$, $p < .09$). This provides weak support for hypothesis 2b. Model 3 reveals no effect for profitable-firm market density, which fails to support hypothesis 2a.

Model 4 shows a positive linear effect of the interaction between potential entrant size and large-firm market density. When I estimated only linear effects for large-firm market density and its interaction (in results not shown here), the effects were negative and positive, respectively. This model fits the data significantly better than a baseline model containing only control variables ($\chi^2 = 16.35$, $\Delta df = 3$, $p < .001$). This result indicates that the two mimetic processes, imitation of large firms and imitation of similar firms, act in opposite directions. The effect of large-firm density on all firms is competitive, but the effect of large-firm density on other large firms is predominantly legitimating. Finally, model 5 shows that the second interaction, between profitable potential entrants and profitable-firm market density, is not statistically significant, offering no support for hypothesis 3a.

Commercial lending. Table 7 shows that none of the market density main-effect variables demonstrate statistically significant effects on the rate of entry into the commercial nonmortgage loan market, either curvilinear or linear. These results provide no support for hypotheses 1, 2a, or 2b. Models 4 and 5, however, reveal a different picture. Model 4 shows nonsignificant effects for the large-firm interaction, but it fits the data significantly better than does a model containing only the main effects for large-firm market density ($\chi^2 = 7.6$, $\Delta df = 2$, $p < .01$). A model containing only linear terms for large-firm market density and its interaction shows negative (nonsignificant) and positive (significant) effects, respectively. The fit to the data does not improve significantly by adding the quadratic terms ($\chi^2 = 1.78$, $\Delta df = 2$), indicating that the model containing just the linear terms provides the best fit to the data. This result suggests that the presence of large thrifts in the market for commercial nonmortgage loans legitimates that market for other large thrifts, spurring their entry. There is no evidence of competition, which is not surprising, given the low density in this market (maximum market density is 23; maximum large-firm market density is 12). Coupling this result with the nonsignificant results for large-firm market density leads to the conclusion that large thrifts act as role models for other large thrifts, not for all thrifts. Finally, model 5 shows a surprising U-shaped effect for the interaction between profitable potential entrants and profitable-firm market density, opposite to the prediction of hypothesis 3a. The trough of this effect lies within the observed range for this variable.

Service corporation subsidiaries. This analysis, presented in Table 8, shows no statistically significant curvilinear (or linear) effect for size-localized market density, which fails to support hypothesis 1. Model 2 likewise shows no statistically significant curvilinear (or linear) effect for large-firm market density. This provides no support for hypothesis 2b. Model 3, however, shows an inverted-U-shaped effect for profitable-firm market density. The linear term is marginally significant ($p = .06$), and this model fits the data better than the baseline model ($\chi^2 = 12.02$, $\Delta df = 3$, $p < .01$). Moreover, the peak for this effect occurs within the observed range for profitable-firm market density. This result, then, supports hypothesis 2a. Model 4 shows a statistically significant inverted-U-shaped effect for the interaction between large potential entrants and large-firm market density, supporting hypothesis 3b. This contrasts with the null main effect of large-firm market density and indicates that large thrifts act as role models only for other large thrifts. Finally, model 5 shows no effect of the interaction between profitable potential entrants and profitable-firm market density. Highly profitable thrifts serve as role models for all thrifts, not just other highly profitable firms.

Comparisons across Markets

Results across all six markets show little support for the hypothesis that firms in this industry attend to the actions of similarly sized firms and are therefore most likely to imitate the strategies of similarly sized organizations (Scott, 1992:

258, n. 2). Table 9, which summarizes the results, shows that in four out of six instances, diversification into new markets does not depend on the number of organizations of a similar size that are incumbent in those markets. The expected inverted-U-shaped relationship between the presence of organizations in a market similar in size to a potential entrant and market entry occurs in one case (nonresidential mortgages), which supports hypothesis 1. In one other case (mortgage-backed securities), a negative effect of size-localized market density on entry leads me to conclude that, in this market, the competition effect of size-localized market density swamps any legitimation and signalling effects, thereby suppressing entry. These null results are surprising, given clear evidence from past research of a connection between organizational size and diversification (Haveman, 1993).

Table 9

Comparison of Effect Estimates across Markets*

Market	Size-localized density (H1)	Large-firm density (H2a)	Profitable-firm density (H2b)	Large-firm interaction (H3a)	Profitable-firm interaction (H3b)
RE		∩	∩		
NRM	∩	∩	∩	+	
MBS	−	∩	∩	∩	−
CNL		∩		+	
CML				+	∪
SCO			∩	∩	

* This table gives directions of the effect estimates for statistically significant effects only. ∩ indicates a curvilinear, inverted-U-shaped effect when the linear and quadratic terms are combined. ∪ indicates a curvilinear, U-shaped effect when the linear and quadratic terms are combined. + and − indicate positive and negative linear effects, respectively.

The results show considerable support for the proposition that organizations imitate other organizations that are or are perceived by organizational decision makers to be successful (DiMaggio and Powell, 1983). Hypotheses 2a and 2b proposed that extremely large and extremely profitable organizations, respectively, are likely to be viewed as successful and hence will serve as role models for other firms. The inverted-U-shaped relationships between market entry and successful-firm market density (both large- and profitable-firm) in four out of six markets studied support these propositions.

Three markets showed no or inconsistent effects for successful-firm market density: Consumer lending showed no effect for profitable-firm market density; service corporation subsidiaries showed no effect for large-firm market density; and commercial nonmortgage lending showed no effect for either measure of successful-firm market density. One reason for these scattered null results may be that these three markets have been slow to develop; none has achieved great levels of activity. Maximum overall market density for consumer lending, commercial lending, and service corporations is 27, 13, and 23, respectively. Maximum successful-firm market density is even lower. On the basis of size, the numbers are 11, 4, and

12 for consumer lending, commercial lending, and service corporations, respectively; based on profitability, the numbers are 8, 5, and 13. It may be that these markets have not developed sufficiently for the particular density dynamics proposed here to take effect. It is likely that the history of thrift diversification into these markets by savings and loan associations is unfinished, so we will not see the expected curvilinear effects until more time has passed.

There is some evidence of an interaction between large potential entrants and large-firm density. The hypothesized inverted-U-shaped effect appears in two markets, with slightly different implications. In the mortgage-backed securities market, the number of large thrifts operating had an impact on the likelihood that other large thrifts would enter the market, in addition to the impact of large-firm market density on *all* firms. In the market for service corporation subsidiaries, however, there was no main effect for large-firm market density. Large-firm market density affected the entry behavior of other large firms only. Moreover, in three markets (nonresidential mortgages, consumer loans, and commercial loans), this interaction had a positive linear effect, which indicates that the presence of large incumbents spurred the entry of other large incumbents, after controlling for the general impact (inverted-U-shaped or null) of large incumbents on all firms.

There was very little evidence in support of the hypothesized inverted-U-shaped interaction between profitable-firm market density and the entry of other profitable thrifts. I found no interaction in four out of six markets, a negative linear effect for mortgage-backed securities, and a U-shaped effect for commercial loans. Combined with the results for hypothesis 2a, these results suggest that profitable thrifts serve as role models for *all* thrifts, not just for other profitable thrifts; moreover, profitable organizations are not more strongly affected by the actions of other profitable thrifts than are moderately profitable or unprofitable firms.

Sensitivity Analysis

I performed a sensitivity analysis, reestimating the models of market entry using four different thresholds: 10, 8, 2, and 0 percent of total assets. At one extreme, when the threshold is 0, a firm is coded as active in a market if it has any investments, no matter how small, in that market. At the other extreme, when the threshold is 10 percent, a firm is coded as active in a market if it invests over 10 percent of its assets in that market. For all markets, as the threshold drops toward 0, the number of firms at risk of entering a market and the number of spells decline. In addition, the number of entry events generally, but not always, rises as the threshold declines. For instance, for the real estate market at the 10-percent threshold, there were 4,534 spells, 308 firms, and 37 entry events; at 8 percent, 4,436 spells, 307 firms, and 50 entries; at 5 percent, 3,997 spells, 303 firms, and 91 entries; at 2 percent, 3,169 spells, 289 firms, and 128 entries; at zero, 1,019 spells, 189 firms, and 148 entries.

These analyses show that the density-dependence model of entry into new markets is not sensitive to the choice of

threshold. Estimates are stable, and there are only a few instances in which significance levels change. For example, significance levels increase in models of commercial nonmortgage lending as the threshold drops from 10 toward 0.

DISCUSSION AND CONCLUSIONS

This paper investigated one important and pervasive change in organizational structures and strategies: diversification into new markets. I hypothesized that particular aspects of market structure would affect the actions of potential entrants. First, I proposed that the number (density) of organizations similar in size to potential entrants would influence entry decisions. This prediction was generally not supported by the data. It appears that, in general, thrifts do not imitate the behavior of their size peers. Second, I proposed that the number of successful organizations incumbent in a market would influence rates of market entry. This prediction was supported in analysis of most of the markets studied here; however, analysis of late-developing markets offered less than solid support for this prediction. Third, I proposed an interaction between the mimetic processes. I found that large organizations serve as especially strong role models for other large organizations but that highly profitable organizations serve as role models for all organizations, not just other profitable organizations.

These results showed that organizations attend to the actions of successful organizations and will imitate their behavior. The presence of successful incumbents in a new market will legitimate that market, making it more attractive to potential entrants. But as the number of successful incumbents in a new market grows, a competitive effect will swamp the legitimation effect, making entry less attractive to other organizations. The combination of these two processes produces the observed inverted-U-shaped effects in well-developed markets and positive effects in less-developed markets.

The period covered by this analysis ended in 1987. Since that time, California savings and loan associations have continued to lessen their dependence on residential mortgage lending by diversifying into new markets. Detailed data on their diversification activities were not available for analysis, but information gleaned from secondary sources and summary data on the distribution of market share across financial services industries indicates that thrifts continued to expand into all nontraditional markets, including such late-developing markets as consumer lending, commercial lending, and service corporation subsidiaries through the 1980s. By the end of the decade, thrift investments in residential mortgages had stabilized at around 40 percent of total assets (U.S. General Accounting Office, 1991: 38). At the end of 1989, Congress passed the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA), which reversed the actions of 1980 and 1982. FIRREA raised the proportion of housing-related assets (residential mortgages, home-equity loans, mortgage-backed securities) that thrifts must hold and limited investments in nontraditional markets (commercial loans, consumer nonmortgage loans,

nonresidential mortgages, direct investments in real estate). Despite this reversal, industry analysts argue that thrift domains will remain broader than they were in the 1960s and early 1970s (e.g., Brumbaugh, 1988; U.S. General Accounting Office, 1991).

The implications of the research presented here are broad. Organizations undergo substantial changes during their lifetimes. Over the ten years covered by this study, California thrifts were driven to diversify away from residential-mortgage lending by increased competition and by negative interest-rate spreads between their long-term residential mortgage investments and their short-term savings account deposits. Consequently, thrifts entered in droves many of the new markets opened by deregulation. The structure of these markets, specifically the number of successful thrifts operating there, affected the entry behavior of other thrifts. These results suggest that researchers studying diversification in any context must attend to the levels of legitimation and competition prevailing in the various markets that are potential sites for expansion.

The research presented here is part of a growing stream of neoinstitutional literature investigating how pressures for homogeneity—mimetic, normative, and coercive—drive changes in organizational structures and activities (e.g., Fligstein, 1985; Baron, Dobbin, and Jennings, 1986; Edelman, 1990; Delacroix and Swaminathan, 1991; Singh, Tucker, and Meinhard, 1991). The contribution of this paper lies in its focus on forces for mimetic isomorphism (DiMaggio and Powell, 1983). Most neoinstitutional research has examined normative and coercive isomorphic forces for organizational change (e.g., Baron, Dobbin, and Jennings, 1986; Mezias, 1990; Edelman, 1990; Singh, Tucker, and Meinhard, 1991). In contrast, this study investigated whether, when faced with uncertainty, organizations replace technical rules with the institutional rule "imitate similar/large/successful organizations."

The results presented here contrast with those of two studies (Oliver, 1988; Mezias, 1990) that sought but did not find mimetic isomorphism. Oliver (1988) found no support for the general neoinstitutional prediction of increasing isomorphism among organizations that are highly interconnected. In his study of Fortune 200 firms' adoption of an accounting practice, Mezias (1990) found that firms with greater uncertainty were not more likely to succumb to mimetic pressures to adopt the normatively sanctioned accounting practice. The explanatory variables of interest in these studies, however, were particular types of mimetic pressures: the properties of interorganizational networks and the level of uncertainty. Other forces for imitation, especially the presence or absence of role-model organizations, were not investigated in these studies. Thus these studies provide only partial evidence disconfirming the mimetic isomorphism model.

This paper successfully adapted the density-dependence model of competition and legitimation and applied it to a novel set of outcomes—rates of entry into new markets—further validating the model. Moreover, this paper

assessed the impact of market structure on rates of entry into six different markets, thereby offering repeated tests of density dependence in rates of market entry. Such replication, seldom seen in organizational theory research, makes it possible to assess the generalizability of the model, thereby further enhancing its validity (Freeman, 1986; Hannan and Carroll, 1992). The model developed here has blazed a trail that organizational ecologists can follow to analyze a whole new set of outcomes. Future research ought to build on these results and examine diversification behavior in other contexts. In addition, future research ought to examine the flip side of diversification: narrowing of organizational domains through exits from markets, divestitures, and spin-offs. Exit from markets may not mirror entry into markets; however, the question of whether or not these processes operate in parallel, as the processes of organizational founding and failure do, is an important one and worthy of further theoretical analysis and empirical investigation.

This study shows that the legitimation of new markets for savings and loan associations by the presence of successful thrifts is balanced by competitive or crowding effects. This suggests that neoinstitutional arguments are not sufficient to explain rates of market entry: The pull of imitation, on which neoinstitutional theory focuses, is balanced by the brake of crowded markets. We must turn to theories that incorporate notions of competition, such as organizational ecology, to understand why rates of market entry do not continue to rise as successful-firm market density rises. Other kinds of diversification that could be examined using the density-dependence model include acquisitions by established firms of entrepreneurial ventures that possess new technologies, as is happening with biotechnology start-ups and pharmaceutical firms, divestments or spin-offs of subsidiaries, and the establishment of joint ventures and participation in strategic alliances, such as the semiconductor manufacturing technology consortium. All of these kinds of diversification are likely to be propelled by institutional forces such as mimetic isomorphism and to be constrained by economic forces such as competition. While firms may play follow the leader in deciding where and how to diversify, organizational researchers will need to understand the more complex forces that determine their success or failure in that game.

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