

CONSTRUCTING PERCEPTIONS OF VALUE:
CORPORATE ACQUISITIONS IN THE COMMUNICATIONS INDUSTRIES,
1997-2002

by
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ABSTRACT

The origin of market value has not been sufficiently explored in the social sciences. While there is a tendency among economists and sociologists to see value as imported to the market from external sources (e.g. culture, internal preferences), I argue that shifts in market value are often endogenous to the market setting. Perceptions of value, or collective beliefs that specific sets of assets will yield benefits for the owner, are most malleable when markets are unstable. Instability is caused by intense competition and rapid technological change, both of which upset firms' abilities to make consistent profits and retain their market position. Instability amplifies general uncertainty about the best ways to create value.

Perceptions of value emerge in unstable markets as firms monitor and mimic their peers, who act as information proxies about the future value of assets. I look at acquisitions within the communications industries from 1997 to 2002 to assess this claim. I expect that firms acquire target assets in the same segments as their closest competitors and market leaders. Unstable market conditions amplify the extent to which firms use their peers to guide their acquisition choices. The collective flow of acquisitions caused by this mimicry creates perceptions of value that become reflected in concrete, standard measures of market value. Investors and other third-party observers use peer behavior as an interpretive frame for estimating value creation. They assume the collective acquisitions are social proof that value is being created and this is reflected in their investment behavior, which in turn drives up the stock prices of acquiring firms.

Regression findings support these propositions; although there is weak evidence that market value gains from peer mimicry are long-term. Instead, I find that using peers to frame acquisition value tends to lead to initial overvaluation, which is subsequently corrected through a long-term value discount. I suggest that unstable market conditions tend to lead to speculative behavior and inefficient market pricing.

CHAPTER 1: A SOCIOLOGICAL PERSPECTIVE ON VALUE FORMATION

It has become popular to refer to our society as a “market society” (Hirschman 1986).

This term connotes the idea that markets are one of the primary, if not *the* primary, means whereby people obtain the things they want. Markets, as the interface for the acquisition of scarce goods, use prices to distribute resources to individuals with varying levels of purchasing power. Market proponents argue that a market is the most efficient mechanism for the distribution of scarce goods. The collective good of society, it is often argued, is best and most often met when individuals are allowed to freely pursue their self-interest in market settings.

Underlying claims of market superiority and indeed most academic understandings of market functioning is the heroic assumption that individuals know what they want and that certain things have intrinsic value. Individuals are believed to have ordered preferences and are capable of making rational choices when faced with alternatives. Value judgments preface market choices of any sort.

Despite the centrality of clear preferences to market operation, few scholars question the origin of those preferences. Many economists see preferences and value as exogenous to the market itself and therefore understanding their origin is of little concern. Nevertheless, contemporary research on the behavioral dynamics of choice and economic decision-making has shown that preferences are anything but well-defined and are not completely exogenous to the market setting (Kahneman and Tversky 2000). Instead the findings of behavioral economics suggest that we begin to think of choice and value as

situational and more malleable than previously thought. The findings of the behavioralists make it clear that we need to develop more complete accounts of the origin of value. We need an explanation for how some things come to be valued, and how those perceived differences in value might vary across time and space.

Economic sociologists have also become increasingly interested in problems of value (Swedberg 2002). For sociologists a key question is, how is value constructed and socialized within individuals in the form of preferences (Emerson 1987)? Sociologists, less hampered than economists by the scholarly legacy that economic interests are intrinsic or well defined, see value as an emergent construct that is linked to collective understandings generated through group processes and reproduced through existing institutional arrangements (Zelizer 1979; 1985; Smith 1989; Carruthers and Babb 1996; Zajac and Westphal 2004). Neoinstitutional scholars, for example, argue that configurations of cultural meanings, institutionalized practices, and normative and regulative rules define self-interest (see Meyer and Rowan 1977; Powell and DiMaggio 1991). Action and choice are as much enactments of macro-institutional orderings as they are expressions of individual preferences.

This view of a culturally-informed economic actor, however, still suffers from the propensity to see value as largely exogenous from the setting of choice. While the institutionalists may explain value as emanating from sources of cultural and political authority, they share in common with many rational choice theorists the tendency to avoid discussions of how definitions of value emerge in the first place. The processes

and mechanisms underlying value formation are mostly unexplored. Sociologists lack a general explanation for how, when, and why changes in value occur.

Given the rising prominence of theories of markets and choice in contemporary sociology, it becomes increasingly important that sociologists develop a framework explaining how those preferences and valuation criteria become established (see also Podolny and Hill-Popper 2004). In this dissertation I will elaborate a sociological perspective on value formation. I combine insights from new institutional theory in sociology with research on markets and relational structure. Most notably I borrow from the work of Harrison White (2002) on local market structures. I argue that market choice depends on *perceptions of value* – collective beliefs that specific sets of assets (or capital) will yield benefits for the owner. Individual assessments of value are associated with emerging perceptions, which can, but not always, become institutionalized in the form of taken-for-granted norms and rules. I depart from neoinstitutional theory by moving to the local market setting as the source of these emerging perceptions. Value construction is highly localized. By linking the research traditions of neoinstitutionalism with White’s market perspective, I demonstrate that perceptions of value that drive market choice vary in stability and that new perceptions emerge to replace well-institutionalized perceptions when past orders break down.

I contribute to the development of a *sociological perspective on value construction* by examining changes in perceptions of value produced by firm interaction and the market context. My historical case is the market for corporate acquisitions in the communications industries from 1997 to 2002. The theoretical question I address is:

how do actors in a competitive environment with incomplete information about future demands determine potential asset value? I assess the factors leading to the development of perceptions of value that drove patterns of corporate acquisition. Specifically, I expect that emerging perceptions of value influenced firms to acquire corporate assets in specific business segments. Finally, I examine how these perceptions of value influenced market valuation of corporate assets.

Value and preferences

In the social sciences, the concept of value is used in various ways, but most often it connotes a sense of worth. A popular dictionary of economics relates that value “is a general term of praise. A value in this sense is a bit like a price, but somehow more important, more permanent, and better” (Black 1997). Value is a concept that connotes the underlying worth of an object, service, or person relative to other objects, services, or persons. Emerson states that “valued things have relative but not absolute value” (1987, 13). That is, we assign value to things only by comparing them to other things that we want and do not have. This is the basic idea behind the theory of marginal utility. The value of some commodity is driven by some basic preference level for that commodity (demand) and its supply. As the supply of the commodity increases, the more it is consumed, and the less utility that is derived from its consumption. Thus, as the supply of a particular object increases, the demand for that increase is thought to diminish and the demand for other rival goods increases. Value, according to the theory of marginal utility, is a basic function of supply and demand (see Sowell 2004 for a review).

Value, then, is intimately linked to preference. Sometimes the two terms are used interchangeably; just as price and value are often substitutable. The slipperiness of the value concept, I believe, comes from the inability to precisely measure the “worth” of anything. At the level of the individual, value equals preference. Something is valued when the person desires it above other things. That is, the object has a higher ranking in their order of preferences. But when we talk about value, more generally, we intend a more permanent sense of worth that is shared by a group of individuals. Perhaps at the group level we can begin to differentiate between what Marx called *exchange value* and *use value* (1977 [1863]). Use value is an individual measure of utility for an object. The use value of anything is determined by what a person can do with it. The exchange value, however, is determined by what other people think an object is worth and what price it can demand on the market. The exchange value is inherently social, while the use value is more individually-oriented.

At the group or societal level value becomes represented in the form of price. A commodity’s price, as I will later explain in more detail, represents the collective assessment of that commodity’s worth. The price is the amalgamation of consumer preferences. It is through price that value becomes objectified – turned into a concrete, commensurable measure. Simmel captured this process of valuation in his classic *The Philosophy of Money*:

The subjective events of impulse and enjoyment become objectified in value; that is to say, there develop from the objective conditions obstacles, deprivations, demands for some kind of ‘price’ through which the cause or

content of impulse and enjoyment is first separated from us and becomes, by this very act, an object and a value. . . Within the economic sphere, this process develops in such a way that the content of the sacrifice . . . that is interposed between man and the object of his demand is, at the same time, the object of someone else's demand. The one has to give up possession or enjoyment that the other wants in order to persuade the latter to give up what he owns and what the former wants. . . The two formations are interwoven; a value has to be offered in order to acquire a value. Thus it appears that there is a reciprocal determination of value by the objects. By being exchanged, each object acquires a practical realization and measure of its value through the other object (1978, 76-78).

Of course, in modern societies exchanging value for value means paying a monetary price. Borrowing from Simmel, I assert that the value of anything arrives from a collective assessment of how much one should give up in exchange for an object, asset, or service of any kind. The valuation process as described by Simmel consists of 1) the choice to acquire something and 2) allocating a formal measure of value (a price) for that purchase. The latter step occurs differently according to the market in which one is operating. Auctions work differently than used car lots. The setting of this study, corporate acquisitions, operates in an entirely different way. In fact, the standard measure of value of a corporate acquisition is not always the price one firm is willing to give up to acquire a target firm. In many instances, the ultimate measure of value is the

change to the acquirer's market value. I will treat this issue more thoroughly in the coming chapters.

The main idea of this section is to put forward the concept of value as problematic in social science. Sociologists studying market dynamics have not sufficiently discussed the core concept of how people's conceptions of value arise or change over time. As Podolny and Hill-Popper note, within economic sociology "there has been surprisingly little discussion of the concept of value, which seems so central to the understanding of market exchange" (2004, 91).¹ In this dissertation, I analyze this process more in depth. First, I begin with a discussion of markets and value.

Markets, choices, and value

Markets solve the coordination problem of distributing scarce resources to a large number of people with diverse needs and interests. The main mechanism of a functioning market is price. In a single monetary number – price – individuals assess an abundance of information about the particular product, service, or asset they might purchase. Information about the supply of and the waning or surging demand for the object of purchase becomes evident in the price. Further, the purchaser can compare that price to his or her own internal, subjective measure of demand for the object in making the decision to buy. The price neatly allows individuals to glean information about value and then use that information to make a choice.

¹ A related problem is the study of commensuration processes. Establishing the commensurability of different objects of exchange is an important part of the valuation process and Espeland and Stevens (1998) argue that this also is understudied in sociology.

Prices are the primary market coordinating mechanism. At a collective level, the market is perceived to operate efficiently as the aggregation of individual purchase decisions facilitate the distribution of goods and services to the satisfaction of market actors without the existence of a single, coordinating entity. Investors and producers do not need to be told where to allocate their resources or where to ship their goods. They rationally pursue the opportunities for the most profit – investing in sectors of the market where demand is greatest. By pursuing their self-interest, these market actors unintentionally serve the public good. The market regulates itself through the price mechanism, ensuring that capital will be distributed in those sectors where demand is greatest and thereby ensuring that both capitalist and individual consumers benefit (Smith 1952).

Perhaps no scholar more elegantly or faithfully described the neoclassical image of the market than Friedrich Hayek. Hayek called the market a “marvel” – a naturally occurring aggregator of information that surpassed the information-processing abilities of any single individual decision-maker.

The whole acts as one market, not because any of its members survey the whole field, but because their limited individual fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all. The mere fact that there is one price for any commodity – or rather that local prices are connected in some manner determined by the cost of transport, etc. – brings about the solution which (it is just conceptually possible) might have been arrived at

by one single mind possessing all the information which is in fact dispersed among all the people involved in the process (1945: 526).

Hayek and others point out the capacity of prices to relay information. According to Hayek, this was the function that prices best fulfilled. The primary function of markets - to coordinate a complex system of resource distribution - was perhaps less well served. Others have further noted the remarkable ability of markets to convey information (Lindblom 2001; Surowiecki 2004). Hayek wanted to alert his fellow economists to this most important aspect of the market, which he believed was largely unquestioned or taken-for-granted.

While few would question, I think, Hayek's main point that prices effectively transmit a great deal of information, he fails to grapple with the source of that information itself. In fact, this is probably unimportant to Hayek's thesis. The sources of value that may drive shifts in demand are irrelevant. That markets can deal with the transmission of information about the value of assets, for example, is enough. Value, he might argue as others have, is exogenous to the market. That is, things like preferences, values, and norms – inputs to price – are social phenomena and are external to the market. The market does not shape value; it only allows individuals to determine how best to obtain those things for which there is *a priori* value. For this reason, economics has largely excluded questions of the origin of value or of the dissemination of preferences (although see Gintis 1972; 1974; Pesendorfer 1995).

Of course, this orthodox view of the market begs the question of whether value and preferences are indeed completely exogenous to the market. It may be that market

processes shape the kinds of things that people want and their rank ordering of those preferences. The market may engender feedback mechanisms that shape cultural assessments of value. If this is the case, markets cannot be the unbiased coordinators of information and resources they are sometimes made out to be.

Behavioralist critiques

A number of scholars have presented critiques to the standard view of the market as an efficient mechanism for relaying information about value. Those economists who embrace a more heterodox view of market functioning are often referred to as the behavioralists because of their emphasis on the human behavioral and social aspects of markets. To simplify somewhat, I break the behavioralists into two categories: financial behavioralists and experimental behavioralists. The first group seeks to understand how group and psychological processes affect the change and volatility of market prices – usually stock prices (Thaler 1993; Shleifer 2000). At a theoretical level, financial behavioralists challenge the notion that market prices efficiently convey information about the value of an asset to potential buyers. The second group, the experimental behavioralists, have explored the psychological underpinnings of seemingly rational decision-making (Kahneman and Tversky 2000). These scholars have found that economic decisions often deviate from the expectations of rational behavior and that those decisions are highly sensitive to the situational context.

The two groups of scholars do not, of course, exist in isolation. The finance behavioralists have borrowed insights from the experimentalists to provide substantive

support for their own findings. In general, the two groups of scholars are united in their opposition to orthodox economics theorizing.

Behavioralists offer a pointed critique of the standard economic view of the market - the efficient markets hypothesis (hereafter EMH). The EMH is a dominant paradigm in economics that theorizes the nature of securities prices. People often use a similar logic as the EMH when discussing the prices of other kinds of objects of exchange, such as commodities. Hayek, in fact, largely agreed with the proponents of the EMH in his characterization of markets and prices. According to the tenets of EMH, securities prices should reflect the aggregated, publicly-available information of a security's value. Changes in price occur when new information enters the market, causing investors to change their judgment about the value of a stock and to adjust the price of the stock down or up (Fama 1976; Jensen 1978).

According to Shleifer (2000), the EMH rests on three assumptions. First, investors typically value securities rationally. Trading is based on reactions to new information about the fundamental value of a security. This new information is quickly incorporated into the price of a security. Second, usually irrational investors trade stocks according to non-informational criteria and hence the aggregated behavior of irrational investors is random. The random transactions of irrational investors effectively cancel each other out. And third, when investors act irrationally in a systematic or non-random way, rational arbitrageurs counter their actions and bring the market back into equilibrium (Friedman 1953; Fama 1965; Scholes 1972). Arbitrageurs are persons or companies with sufficient resources to exploit opportunities for price differentials. If the

price of the same, or very similar, security is high in one market and low in another, arbitrageurs sell in the former and buy in the latter to bring the price of the security back to its fundamental value. As irrational investors are disciplined by the trading of arbitrageurs, they are either taught to invest more rationally or eventually they run out of cash and are selected out of the securities market. Rational arbitrageurs ensure that market prices return to their fundamental values even in the presence of irrational investors.

Financial behavioralists contend that empirical observations of securities markets do not support the EMH. Researchers have shown that markets are much more volatile than the EMH would predict (Shiller 1981). Stock prices appear to move at times when new information about a stock is not available (Cutler, Poterba, and Summers 1989; Summers 1986). Movements in stocks prices also appear to follow predictable patterns that are independent of new information (De Bondt and Thaler 1986; Fama and French 1992). These studies suggest that trading may often be based more on past information about stock prices than the EMH suggests.

Theoretically, the rigid assumptions of the EMH have been challenged. The second group of challengers to the orthodox view, the experimental behavioralists, have brought forward some of the most important challenges. The experimental behavioralists have called into question the idea that investors act rationally based on information about fundamental values. Kahneman and Tversky (1979) demonstrate that economic actors tend to be loss averse – they are much more willing to take a risk to avoid a loss than to take a risk to achieve a potential gain. Additionally, experimental behavioralists show

that economic decisions are often determined by the framing of the situation (e.g. is it framed in terms of a loss or a gain?; Tversky and Kahneman 1986) and that actors do not use Bayesian probability to assess the likelihood of future events or trends (Kahneman and Tversky 1973). Actors often expect current trends to continue into the future even though past patterns may have been somewhat random.

The findings of experimental behavioralists directly challenge the first two assumptions of the EMH. If actors are less rational than typically imagined by orthodox theorists, they may be incapable of filtering out the ‘good’ information from the ‘bad’ information. Fischer Black (1986) described the inability of investors to always act on information as noise trading (see also De Long, Shleifer, Summers, and Waldmann 1990). Investors may also rely too much on past information about a stock price, which may inflate their expectations that a particular security will continue to trade at a high price. As Shiller (2000) argued, investors are prone to ‘irrational exuberance.’ They are unnecessarily optimistic that stock prices will rise indefinitely.

But even if investors are less rational than the EMH suggests, would not arbitrageurs be able to successfully return prices to fundamental values by exploiting the irrationality of their fellow investors and selling short overvalued stocks and buying comparable undervalued stocks? This is the third, and perhaps crucial, assumption of the EMH (Scholes 1972). If arbitrageurs are able to bring prices back to fundamental values, then it does not matter how irrational other investors in the market may be. The main problem with the third assumption, however, is that perfectly substitutable securities rarely exist (Shleifer 2000; Siegel 1998). Instead of selling a security on one market and

buying an identical security on another, arbitrageurs are forced to make comparisons between imperfectly similar securities.² The inexact correspondence in alternative securities creates uncertainty for arbitrageurs, which causes them to trade less aggressively than they would otherwise (Wurgler and Zhuravskaya 2002) or forces them to make imprecise value judgments (Beunza and Stark 2004). The imperfect substitutability of securities is illustrated in this quote from Beunza and Stark:

Arbitrage is defined in finance textbooks as 'locking in a profit by simultaneously entering into transactions in two or more markets' (Hull, 1996: 4). If, for instance, the prices of gold in New York and London differed by more than the transportation costs, an arbitrageur could realize an easy profit by buying in the market where gold is cheap and selling it in the market where it is expensive. As such, classical arbitrage lacks sociological as well as economic interest: it relates markets that are the same in every dimension except for an obvious one such, as in this case, the geographical. Reducing arbitrage to an unproblematic operation that links the obvious (gold in London, gold in New York), as textbook treatments do, is doubly misleading, for modern arbitrage is neither obvious nor unproblematic. It provides profit opportunities by associating the unexpected, and it entails real exposure to substantial losses (2004, 369).

² In addition, sociologist Ezra Zuckerman (1999) has pointed out that another problem with evaluating securities is the extent to which they cross multiple categories. For example, large conglomerates operate in a variety of industries and/or business segments, which makes it difficult for any security analysts to make a qualified assessments of the underlying value of that firm. Some stocks are not substitutable because they are uniquely situated across a variety of market segments.

Arbitrageurs are also exposed to some of the same informational constraints that affect the lay investor, and the selection argument – the idea that irrational investors are gradually selected out of the securities market - becomes less supportable. Arbitrageurs are not immune from over or underestimating the value of similar and imperfectly substitutable securities so it is conceivable that they also may become susceptible to irrationality (De Long et al. 1990). Other research has shown that it is, in fact, sometimes a rational strategy for arbitrageurs to ride market bubbles temporarily, which has the effect of further inducing overvaluation of stock prices (Abreu and Brunnermeier 2002; Brunnermeier and Nagel 2004).

Because the financial behavioralists have presented empirical results that demonstrate weaknesses in the armor of the EMH and because experimental behavioralists' findings make us question the general assumptions of the EMH, scholars are now less secure in their assessment of markets as efficient conveyors of information. We cannot assume that a security's price is tightly correlated with its fundamental value. In fact, using firm earnings as an indicator of fundamental value, throughout the history of the stock market, a great deal of variation of price to value has existed. Siegel (1998) notes that in 1998, the price to earnings ratio was roughly twice as high as it was in the years following World War II. It becomes clear that something is driving stock prices other than just reported earnings. Something is taking place in the market that causes investors to assume that over time the earnings will be much greater than they are now, thereby increasing the market value of the firm and causing the price to grow in relation

to the reported earnings. This ‘something’ – the great X factor of the financial markets – has yet to be adequately explained.

These findings also demonstrate that investor behavior is driven by much more than just new information. Some of the research discussed above even suggests that the market itself may provide a source of feedback for investor decision-making. Investors may make investment decisions based on ‘stale information’ from the securities market itself – information that has been known for some time and that should, according to the EMH, have no direct effect on future pricing. Shleifer (2000) argues in his model of investor sentiment that investors typically underestimate the extent to which past gains in stock price were caused by chance and thus overestimate the likelihood that the price will continue to increase over time, if it was previously increasing. Their short time horizon causes them to invest more in overinflated stocks, which can have the potential of causing market bubbles to expand. In Shleifer’s model, stock prices, at least in the short term, are influenced by past trends. This informs us that investor preference is to some degree endogenous to the market itself. Investors’ willingness to engage in risky investment decisions is influenced by the past successes or failures they have experienced.

Experimental behavioralists’ findings also suggest that individual preferences for risk are somewhat endogenous. Actors in a market that is experiencing a boom may become more risk tolerant as their capital gains increasingly exceed their initial investments (Thaler and Johnson 1990). Similarly, investors may be unwilling to sell stocks that are declining due to loss aversion (Kahneman and Tversky 1979). In both

cases, the market provides the context for the formation of risk preferences. The willingness to assume risk can be seen as endogenous to the market.

The behavioralists provide another interesting insight into the relation of markets to value. The EMH assumes that a fundamental value exists separately from the pricing of the securities. The role of the securities market is to convey information about that value, not create or change it. But behavioralists' findings make us question the extent to which we can reasonably separate the formation of value from the determination of prices. Individuals' assessments of value are closely linked with their observations of changes in price. Future assessments of value are not independent of how a stock has performed in the past.

Behavioralist findings and the problem of value

I began the discussion of markets and value with the observation that orthodox perspectives on the market see markets as carriers of information about value. The value of anything – a stock, commodity, or labor – is largely independent of the mechanisms that transmit that information. The work of the behavioralists suggests that this central assumption of orthodox economics is tenuous. Markets may not only be mechanisms for transmitting information about demand and supply, but they may also shape preferences and collective assessments of fundamental value, net of any true indicators of value. This may serve as an important piece of the puzzle in our attempt to understand how preferences or value are constructed.

The behavioralist perspectives, however, lack a general theoretical guide for thinking about value formation. Behavioralists have mostly been interested in the psychological bases of risk preference. The nature of the preference for a particular product or service is (again) assumed to already exist. To use an analogy offered by Summers (1985), while financial economists may be interested in assessing why prices of various bottles of ketchup differ, they are not concerned with trying to figure out why someone would choose to buy ketchup over mayonnaise. Economic behavioralists largely ignore this initial assessment of value. If put to the test, most scholars would probably contend that these kinds of preferences are indeed exogenous to the market.

I argue in this dissertation that consumer and investor preferences are *not* completely exogenous. I contend that market conditions influence investment and consumer choices among a variety of not-so-substitutable alternatives, especially during the initial stages of value formation. To assume that the market has no influence over changes in valuation of different objects of exchange is parallel to assuming that the economic and social spheres are distinct and separate locations for interaction. I embrace a more holistic view of the market that sees market interaction and sociability as inseparable and interdependent (see Granovetter 1985; Krippner 2001). But to develop this idea more thoroughly, we need an empirically grounded understanding of market behavior that is not bound by the theoretical constraints of standard economic thinking. For this purpose I turn to sociological treatments of the market.

Social institutions and value

For many economists, the market is viewed as independent of the social world.³ Actors, when facing market decisions, are seen as capable of acting rationally without clinging to pre-modern ideals and norms. The interaction of market and social life is limited to the transmission of preferences to the marketplace. Once humans enter the door of the market, however, they are expected to leave their social lives outside. In fact, many economists believe that when too much sociability enters market play, market forces are likely thwarted through collusion and irrationality.⁴

One of economic sociologists' main contributions to the study of markets and the economy has been to demonstrate how the distinction between the economic and the social is artificial (Smith 1989; Fligstein 1990; Zukin and DiMaggio 1990; Zelizer 1994; Abolafia 1994). Following the classical work of sociologists and economists interested in political economy (see Weber 1968 and Polanyi 1944; 1951), economic sociologists embraced a holistic view of the market where exchange was as much cultural, political, and relational as it was economically rational (Granovetter 1985; Swedberg 1991; Fligstein 1996).

Despite the vast contributions of economic sociologists to a reality-grounded understanding of markets, there has been little said about the emergence of value itself.

³ Not all economists share this view. Robert Shiller began an article entitled "Stock Prices and Social Dynamics," (1984) with the statement, "Investing in speculative assets is a social activity." He then goes on to explain how various "social movements" might affect attitudes, fashions, and fads in the investment arena. Unfortunately, Shiller's article did not inspire a great number of economists to write papers or books about the social dynamics of market activity.

⁴ This has not always been the case. Hirschman (1986) tracks different economic perspectives beginning from the classical era of economics and notes that early economists often saw the social and economic aspects of human life as intertwined and complimentary. Indeed, the crux of the "doux-commerce thesis" (Smith 1904) is that economic exchange civilizes human interaction, making individuals more sociable than they would be without this form of interaction.

Ironically, sociologists have also been guilty of treating preferences and value as a given in exchange situations. So although sociologists have embraced a more holistic view of the market than economists – seeing the social and economic as inseparable aspects of any kind of exchange – they have not yet sufficiently developed a theory of value formation.

Richard Emerson, a major figure in exchange theory, noted (1987) the lack of a general theory of economic value. For economists, he argued, the lack of such a theory was not important, as their perspective on markets did not deal directly with the causes of market choice. But sociologists, who are interested in questions of interpersonal utility due to our focus on choice and interpersonal behavioral differences, greatly need a theory of value. Emerson attempted to lay the foundations for a theory of value that conceptualized preference (which has seen as in the individual-level equivalent of value) as originating through individual socialization processes. Unfortunately, his theory is built to understand micro-level differences in choice and does not immediately incorporate the market itself. While Emerson criticized economists for failing to consider the social nature of exchange, he was also guilty of ignoring the location of much exchange – the market.

An obvious candidate for providing an explanation for the origin of value is the neoinstitutional perspective. This theory has provided a coherent body of work explaining the proliferation and transformation of organizational norms, rules, practices, and other cultural forms (Meyer and Rowan 1977; DiMaggio and Powell 1983; Powell and DiMaggio 1991; Clemens 1997; Clemens and Cook 1999). New institutionalists and

other culture-centered theorists have forcefully argued that the entire domain of exchange is contingent upon shared understandings about the proper forms of exchange or on norms that define what objects are appropriate for exchange in market settings (Zelizer 1979; 1997; Smith 1989; Friedland and Alford 1991; Healy 2000). These scholars call into question the nature of rationality - suggesting that interests become socially constructed from the cultural and political environments in which they are embedded (Dobbin 1994; Espeland 1998; Dobbin and Dowd 2000). Organizational strategies and practices become popularized not just because they are “effective” means to ends but also because they possess cultural and normative legitimacy (Edelman 1990; Fligstein 1990; 1996; 2001; Dobbin, Sutton, Meyer, and Scott 1993; Sutton, Dobbin, Meyer, and Scott 1994; Dobbin and Sutton 1998). New institutional scholars depict markets as centers of cultural production and identity enactment (DiMaggio and Powell 1991; see also Bourdieu 1984).

Surprisingly however, the new institutionalism has not provided great insights into the emergence of value (although see Zajac and Westphal 2004). This is not to deny there is great potential for fruition of an institution-centered explanation of value formation. Ingram and Clay (2000) noted that rational choice theory might utilize some of the theoretical foundations of the new institutionalism to address the origin of preferences – “the missing link in all theories based on behavioral assumptions of rationality” (526). Yet, most institutional market stories also treat questions of value as though it enters the market externally, or they bypass the question altogether by assuming that actors simply conform to norms about legitimate behavior and practice. That is,

actors choices are dictated beforehand by scripts and schemas that determine (or significantly shape) economic behavior.

Missing from these explanations is the notion that market actors, by virtue of the overwhelming legitimacy of the market idea, are anything but immune from market forces that may constrain their actions and strategies. In some sociological treatments the idea of the market has almost become entirely subsumed by the concept of culture. This was surely not the intent of the original formulators of new institutional theory. In fact, in the two programmatic papers of new institutionalism (Meyer and Rowan 1977; DiMaggio and Powell 1983), the authors argue that certain kinds of market processes exist that should be thought of as distinct from the kinds of processes that lead to the enactment of social rituals and norms. Meyer and Rowan note that when evaluation of means from external sources is possible (such as when investors are present who monitor earnings and sanction corporate executives), efficiency may be the driving force behind organizational behavior (see also Zuckerman 2004b). DiMaggio and Powell contend that there are two main types of isomorphism – competitive and institutional. While they focus on the latter, they submit that in many cases competition may influence organizational behavior.

The emphasis on culture may sometimes cause sociologists to step too far in the opposite direction as mainstream economists. While economists reify market forces, some sociologists reduce markets to little more than a collection of meanings, ideas, practices, and scripts shared by a field of interconnected actors. Missing from this perspective is the role of market feedback. That is, sociologists may sometimes fail to

consider how the market operates on the actors that created it – disciplining and rewarding them through concrete mechanisms.

A holistic view of market behavior requires, I believe, incorporating the effects of both ‘real’ market forces – although they are certainly epiphenomenal – and culture and institutions on things like market choice. I posit that this is necessary for the development of a sociological theory of value formation. Value is both a cultural and market phenomenon. Insofar as the market and culture are inseparable elements of society, we cannot understand the origin of value without considering the interaction of the two.

Social embeddedness approaches

An alternative, yet complementary, sociological approach to markets examines the extent to which economic activity is embedded in interpersonal relations. In a programmatic statement, Granovetter (1985) contended that economic behavior is embedded in a set of social relations that influence economic decision-making. While somewhat vague, the idea of embeddedness has provided economic sociologists with a concrete research agenda to explore the variety of ways that network relations influence market behavior (Burt 1988; Baker and Faulkner 1991; Podolny 1993; Uzzi 1996). Compared to economists for whom markets are seen as consisting of actors who are largely independent of one another, sociologists see a world where actors are embedded in social relations that determine levels of trust in economic exchange, transmit information, and assist in solving problems inherent to any transaction (Uzzi 1997). The

sociability of market actors is a ubiquitous feature of modern markets rather than an anomaly that prevents efficient market functioning.

Moreover, sociologists have examined how social structural properties of market actors' relations serve as the bases of constraint and opportunity for contracting and exchange (Baker 1990; Burt 1992). Resource dependence theorists proffer that interorganizational relations moderate the power of corporate actors and affect the kinds of strategies they implement (Pfeffer and Salancik 1978). Markets consist, in part, of tightly connected webs of relations between potential exchange partners. Those relations both determine and are determined by factors such as price and exchange – things that many economists theorize as independent from the activities of the social sphere.

Another strand of research looks at the role of networks as sources of identity and status for market actors (White 1981; 2002; Leifer and White 1987; Podolny 1993). As Podolny (2001) articulated, networks are not only the “pipes” that transmit information about economic transactions and potential contracting partners, they are also the “prisms” that affect the identities of those same actors. The exchange partners of an organization affect how other third parties perceive that organization. The work of Harrison White has figured prominently in this tradition (see especially 1992; 2002). He argues that the identities of market actors are continually shaped and reshaped through their correspondence with other actors. Firms' decisions about production volume, product quality, and pricing are shaped by constructed identities, which themselves emerge as a consequence of market positioning within network flows of exchange. Changes in the market – like the introduction of new competition or potential trade partners or

fluctuations in demand – may destabilize traditional perceptions held by actors and force them to reconfigure their identities to meet the newly emerging circumstances. White’s view of the market is one of contingency and dynamic fluctuations.

The key observation from these studies is that market functions – like pricing and decisions to buy – are not unrelated to the conditions of the market itself. As the face of the market changes due to changes in the number and kinds of participating actors and connections between them, decisions about what and when to buy or sell will likely shift as well. Those decisions are endogenous to the changing structure of the market.

Market structuralists, such as those mentioned above, would not be surprised by the findings of the behavioralist scholars. Their findings that stock prices are much more volatile than predicted by the EMH might be explained by the internal social processes that underlie market behavior. If sociologists are correct that it is *not* just the calculation of risk and the assessment of correct information that leads to market choices but that market actors are also significantly affected by the relational and normative context of the marketplace, we should expect that prices fluctuate extensively and that markets will not always perform efficiently. A wide variety of collective, social processes may affect those decisions and thereby influence market outcomes.

The embeddedness approach also counterbalances the tendency of institutionalists to see market behavior as merely the enactment of cultural identities in the form of scripts and routines. As mentioned above, institutional theory presupposes that economic value enters markets from exogenous influences or that shifts in value result from exogenous shocks (Fligstein 1996). Drawing on the embeddedness approach may provide insights

to understanding how shared perceptions of value – which may be entirely cultural – get constructed in the process of actors engaging in market activity. Rather than imagining value as entering the market exogenously, value itself may emerge from the close interactions of actors pursuing the goals legitimated by market culture but facing problems in attaining those goals.⁵

I argue in the following section that by drawing on the embeddedness perspective emphasizing the relational nature of the market in combination with an understanding of value as a cultural construct, we gain insight into the internal processes of the market that affect shifts in valuation of different kinds of goods and assets. By integrating both sociological perspectives, we escape the traps of seeing value as completely exogenous to the market. Value is a perception shared by a group of people about the potential benefits acquiring some set of assets might bring. Value changes as the result of shifting identities in a confined space of interaction. In this sense, value formation is endogenous to the interaction of market players, all of which are striving to survive and attain some acceptable level of effectiveness. Value formation is an outcome of market actors dealing with competition in a highly uncertain and unpredictable environment. As actors seek to mitigate the negative effects of competition and predict the future market demands, they embrace certain perceptions of value over others. Those perceptions of value that survive are those that are able to produce positive consistent outcomes.

⁵ Theorists dealing with institutional change have been receptive to the idea that change may find its footing in the micro-interactions of actors seeking practical solutions to problems (Leblebici, Salancik, Copay, and King 1991; Clemens 1997).

This approach is not entirely unique and is obviously inspired by previous work. Previous studies exemplify the kind of approach needed to develop a sociological theory of value, although none of those studies stated this as their explicit goal (see especially Fligstein 1990; 1996; 2001; Zuckerman 1999; 2004a; White 2002).

A sociological theory of value formation

What conditions affect value formation? I posit that there are two main conditions: 1) general uncertainty about the future benefits of purchases (assets or services) and 2) intense competition or rapid change that creates instability and thereby accentuates uncertainty. Both of these conditions underlie a structured relation of actors – organizations or otherwise - that fill specific niches. An actor's position in the market – where one is situated vis-à-vis other actors – determines one's identity, strategies, practices, and particular perceptions of value. Thus, perceptions of value differentiate in market space. Clusters of actors in close market space are more likely to share similar perceptions of value. These perceptions change as uncertainty is amplified by market instability.

Uncertainty and incomplete markets

Something is valuable when it provides benefits or satisfaction of some sort. The value of something is thought to increase when it continues to provide these benefits for an extended period of time. Value, then, is based not just on how much something is worth right now but also on how much something will be worth in the future. Because

market actors lack prescient knowledge, they often fail to accurately estimate how much something is worth.

The inability to accurately forecast the future is part of a general economic problem often referred to as the “incomplete markets” problem (Newberry 1990; Stiglitz; 1994; Przeworski 2003). This problem is endemic to market choice because of the lack of a complete set of markets for all potential risks. Stiglitz described this problem as it pertains to organizations in the following excerpt:

Once we recognize that myriad events that affect us, we recognize the impossibility of having even a complete set of risk markets (insurance against all contingencies). Each firm is affected not only by the events that affect the industry but by idiosyncratic events – the illness of its president, a breakdown in one of its machines, the departure of a key salesperson. The firm itself can buy insurance for many of the risks it faces, such as that its trucks get into accidents or that its factories burn down, but most of the risks it faces cannot be insured against. The notion that there be markets for each of these risks is mind-boggling (1994, 33-34).

An incomplete set of risk markets is particularly problematic for actors as they try to determine the best way to use their capital or assets to secure future benefits for themselves. For instance, firms cannot tell what the future value of their assets or assets held by others in the marketplace will be. The inability to accurately forecast value is

partly a function of the inability of corporate actors to ascertain which products will generate the most consumer demand in the future.

Although all market actors face uncertainty of this variety because actors are terminally prevented from predicting future events that may disrupt their ability capture value, actors operating in stable markets are the most likely to be able to navigate this uncertainty and make reliable value-enhancing decisions. I define a stable market as a market where actors are able to replicate past choices and feel reasonably secure they will lead to the same kinds of desired outcomes. Stability is obviously related to predictability. When markets are extremely unstable, actors are unable to consistently produce or obtain the things they want and uncertainty becomes more problematic. I argue that two forms of market instability amplify the general uncertainty faced by market actors: intense competition and rapid technological change.

Competition and instability

Scarcity of resources induces competition between market actors. Competition is the presence of multiple market suppliers that provide consumers with at least two alternatives when choosing a particular kind of product or service. Markets, of course, vary in their level of competitiveness. Some markets have very few players while others are more crowded. Even markets with few players may be potentially crowded if the demand for a product is low. Competition thus does not always vary proportionally with the number of suppliers.

Economists often maintain that perfect competition yields market equilibrium – where supply meets demand and profits tend toward zero (Milgate 1989). At equilibrium

the market is thought to work most efficiently because demand is satisfied at the minimal price suppliers can afford. In reality markets do not often reach this fanciful equilibrium state. Sociologists have noted that firms first seek to avoid perfect competition and use their strategic leverage and political clout to prevent competition from reaching these intense levels (Fligstein 2001; Leifer and White 1987; White 2002). The reason for resisting competition is, of course, that as competition increases firms make fewer profits. As firms fail to make consistent profits, they become more susceptible to organizational failures. The need for organizational survival motivates firms to seek to reduce competition in their environments or to at least engender within their organization a competitive advantage over other producers. Attaining either of these two objectives is a constant struggle for organizations and other market actors.

Intense competition produces instability. When competition is stable – predictable and controlled – firms can maintain routines and practices and reap the benefits of achieved legitimation (Hannan and Freeman 1989; Hannan and Carroll 1992). Intense competition may provoke change; controlled competition allows firms to exploit defined niches in their environment (March 1991; White 2002).

I suggest that competition amplifies value uncertainty. Although incomplete information about future risks is a constant condition of all markets, intense competition heightens the risks associated with making poor investment or purchase choices. For instance, firms that invest in research and development in a particular product line assume that in the future that product line will maintain its value or increase in value. When competition intensifies and it becomes more difficult for firms to make consistent

profits, that investment choice assumes more risk than it would have otherwise. Failure to turn a profit based on an investment can imperil a firm's position in the market and reduce its competitive advantage. A firm's place in the market and its continued survivability then depend on making correct valuation assessments. Assessing value becomes even more crucial in highly competitive markets where the stakes are greater.

Technological innovation and instability

There are three reasons that the constant threat of technological innovation amplifies value uncertainty. First, innovation undermines competencies held by market actors that allow them to consistently compete for scarce resources. Following Schumpeter's (1942) views on capitalism, scholars have investigated the dynamics of market change as it relates to technological innovation (Mensch 1975; Klein 1977; Dosi 1982). Schumpeter saw innovation as the chief mechanism motivating profit, growth, and change. Capitalism, he believes, leads to "industrial mutation . . . that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism" (1942, 83). In Schumpeter's view, the need to develop new products through technological innovation is a chief motivator of firm behavior because without innovation market actors could not maintain their competitive advantages.

For instance, competition from other innovative firms threatens to displace a firm's market position by undermining its competencies with rival products and services. Rather than competing entirely on price, firms also compete on product quality. Shifts in technology create alternative, substitutable product lines. The emerging technologies and

product lines created through innovation undermine firms' market positions and their ability to secure profits. To deal with the threat of market change caused by technological innovation, firms invest heavily in R&D and attempt to beat their competitors in the race to find new product innovations (Baumol 2002). Investments in R&D or purchasing other firms that already have new technologies does not guarantee that a firm will survive in a highly innovative market however. In fact, Schumpeter recognized that innovation may often come from the fringes - from smaller, more flexible companies. Schumpeter's supposition about innovation and peripheral market shifts has been confirmed by the resource partitioning model of ecological theory (Carroll 1985; Barnett and Carroll 1995).

The expanding technological base of markets regenerates capitalism, but for individual firms innovation creates instability. Uncertainty about the future viability of a firm's technological competencies is a major source of uncertainty that may cause firms to develop reactionary, suboptimal behaviors. Trying to maintain their current market position and not fall behind in the innovation race, firms may invest too many resources in R&D or overextend their operations through expansion (Khalil 1997; Baumol 2002). The issues associated with the incomplete markets problem are even more serious in rapidly innovating markets.

The second reason innovation causes instability is because distinct industries began to converge as new technologies in one industry threaten to displace the more established products and services in another industry. Following White (2002; see also Porac and Rosa 1996; Porac, Thomas, Wilson, Paton, and Kanfer 1995), the survivability

of a particular industry is based on the legitimacy of structurally equivalent firms that procure resources from the same sets of input and output networks, or as ecologists point out, industries' survive when they occupy and protect a distinct environmental niche (Hannan and Carroll 1992). When industries begin competing with other industries for resources because their niches begin to overlap, firms in those industries will either converge on similar organizational form or firms in the predatory industry become dominant. Technological innovation is often the trigger for this kind of convergence process. New technologies may enable firms to provide consumers with a product for lower costs than firms are able to do using an older technology. Thus, technological innovation may destabilize industry boundaries and force firms to find new ways to secure potential value.

The third reason innovation presents problems for market actors trying to enhance their value is that people lack the knowledge to make good assessments of the potential demands for new technologies and products. Again, using the example of a firm, the value added to a company by adopting a new technology is an unknown quantity. This creates an incalculable risk for firms deciding to implement a new product or use a new technology to improve their services. Adopting a new product or changing the technology of an existing service may incur large costs, and executives want to be sure the costs will be countered by sufficient revenue. Therefore, although innovation may represent a source of potential profit, adopting and utilizing new technologies also creates uncertainty. Executives in firms utilizing new technologies must feel reasonably certain that innovations do not introduce undue risks.

Market stability is constantly threatened by potential innovation. While the “creative destruction” (Schumpeter 1942) may be beneficial for consumer culture as a whole, it creates an environment of great uncertainty for firms seeking to capture future value and consequently undermines the accuracy of estimates of asset value.

Promoting market stability

One of the primary motivations of market actors, and most particularly that of organizations, is to control uncertainty and competition and reduce them when necessary (Fligstein 1990; 2001). Fligstein states, “The purpose of action in a given market is to create and maintain stable worlds within and across firms that allow firms to survive” (1996, 658). Thus, one of the most important goals of market actors is to reduce the conditions that threaten to amplify uncertainty. This is a unifying theme in the work of Fligstein and White, although they each take a somewhat different approach to explain how this stability is introduced.

Fligstein (1996; 2001) contends that the market structure, internal firm design, and strategy are the results of collective attempts to mitigate competition and thereby produce a stable marketplace for the winners. In particular he is interested in the tangible outcomes of institutionalized rules, governance structures, and “conceptions of control” that dictate how competition unfolds and what legitimate means corporate actors can use to maintain their competitiveness. By developing cultural and formal institutions to govern and regulate behavior, firms are prevented from doing things that damage the interests of the most powerful firms in the market. Stable markets allow enough firms to

succeed (or at least survive) that the market appears successful at performing its role of resource appropriation.

While Fligstein's focus is at the extra-local level of markets, White (1981; 2002; Leifer and White 1987) is concerned with local markets of production that involve chains of resource flows between connected market players. White contends that market actors must find ways to deal with Knightian uncertainty – the condition of facing incalculable uncertainties in the future –, which is a constant condition of producer markets.

The problem of profit is one way of looking at the problem of the contrast between perfect competition and actual competition. . . The key to the whole tangle will be found to lie in the notion of risk or uncertainty and the ambiguities concealed therein. . . Our main concern will be the contrast between Risk as a known chance and true Uncertainty. . . At the bottom of the uncertainty problem in economics is the forward-looking character of the economic process itself (Knight 1971, 19, 21, 237; as quoted in White 2002, 8).

Knight recognized that some kinds of uncertainty can be quantified and presented in an objective way, allowing the firm to make a precise estimate of that uncertainty's effect on firm performance. He thought of this as risk. Risks can be handled effectively like any kind of transaction cost. True uncertainty, on the other hand, is incalculable and not subject to objectification. This kind of uncertainty, which often is an unknown of the future, motivates market actors to widen their span of control by introducing stability.

White maintains that to deal with Knightian uncertainty and to minimize the negative effects of direct competition, producer firms differentiate themselves and seek stable niches. White contends that market uncertainty forces firms to seek stable roles in the market structure. Firms join together in clusters of production that are similar in quality and price and therefore more substitutable. Because firms do not have direct measures of consumer demand they use other firms as indicators of changes in consumer demand and of the potential value of future sales, etc. Firms decide production volume and pricing by monitoring signals from their closest competitors and adjusting accordingly. Corporate identities are shaped as firms frame their own decisions and assessments in relation to their peers' behavior. White refers to the structure of firm identities in a local marketplace as the market profile.

Market profiles help alleviate uncertainty by making future decisions about pricing and production more predictable. They mitigate competition by providing a mechanism for firms to define and redefine their specific market niche. Insofar as other markets do not crowd out a particular market and demand remains relatively constant, that market is stable and capable of self-reproducing over time. However, this is not always the case. Some local markets lose their value and are replaced by others. I argue that this occurs when the perceived value of the products or services offered by producer firms in that market diminishes.⁶

⁶ This does not always mean that the demand for a particular product simply disappears. It may mean that demand for diversity in quality becomes so compact that there is no longer a need for a large number of firms in that market. Take for instance the case of the typewriter. When many companies used typewriters there were a number of firms that specialized in typewriter manufacturing. However, when the word processor moved into the market, most of those firms either disappeared altogether or had to find new products. The typewriter market is now a specialty market that cannot support many players.

Perceptions of value and market stability

Markets survive because the pertinent firms have jointly created a profile that generates continuous flows of their products or services to customers. Their particular product has achieved a valued status in a field of consumers. But how does that value emerge in the first place? What dictates which markets survive and which markets fail to materialize?⁷

Market actors face uncertainty about the future value of their assets and experience competition that threatens their viability. They must find a way to reduce this uncertainty and ensure that they make investment choices that secure the future benefits they desire. For instance, a firm must be able to acquire the right kinds of assets that enable it to maintain its position in the market, enhance continued profitability, and improve shareholder value. Without prescient knowledge of asset value, actors rely on other methods to aid in their market choices. I contend that they develop *perceptions of value* that simplify their decision-making. Insofar as other similarly situated actors share these perceptions, the market is likely to be stable and will operate like the market profile described by White (see above).

Perceptions of value are collective beliefs that specific sets of assets will yield benefits for the owner. In the case of firms, perceptions of value instill in corporate

⁷ These are general questions of such magnitude that I could not sufficiently address them in this single dissertation, and I recognize that other schools of thought – particularly organizational ecology (see Hannan and Freeman 1989; Hannan and Carroll 1992) – have already provided some insights. Ecologists have typically examined populations of organizations (similar to White’s conception of a local market) that are known to have flourished. By selecting on the dependent variable, they have been able to describe a general pattern describing the mortality and founding rates of organizations in a successfully legitimated population. They have not however evaluated many populations of failed organizational forms nor are they explicitly concerned with the problem of value origin.

actors the belief that their investment choices will bring future profitability, secure market share, or improve stock performance. These perceptions go beyond the legitimacy of certain kinds of practices and strategies – a common domain of neoinstitutional theory. Perceptions of value guide corporate decision makers' choices of *what kinds* of assets to purchase or *what areas* of research and development firms should exploit. They indicate to market actors the best areas for capital investment.

Perceptions of value are collective beliefs that inform individual market choices. Although each choice may have its own consequences and associated risks, the choice is informed and conditioned by the previously constructed collective assessments of risk and value that make up these perceptions. The fact that large numbers of market actors make the same kinds of investment decisions indicates that they are relying on these collective pools of knowledge and belief about the best way to produce wealth.

Perceptions of value are created as market actors look to their peers' investment choices. When uncertainty is high and competition is rampant, actors increasingly rely on their peers as proxies for the assessment of value (DiMaggio and Powell 1983). Following White's conception of market profiles, firms closest to each other in the quality profile are the most likely to see each other as peers. Because their identities are shaped by their closeness in the market, they come to rely on each other for signals about the appropriateness of particular kinds of market choices. Observing one's peers make investments causes the focal actor to reassess its perception of that investment. While before that investment may have seemed too risky or unprofitable, peers' choices make the investment more attractive. The focal actor changes its perception to fit the

corresponding action of other players in its immediate market profile. Following this pattern, only a little experimentation by a single innovator may cause a rush of capital to flow to a particular investment. Like a line of falling dominoes, peers flock to new investment opportunities.

Perceptions of value become institutionalized when they produce the kinds of gains or benefits that people expect. Particular kinds of purchases or investments become seen as a legitimate source of value. For example, the higher education market is well-institutionalized. Getting an education is seen as a value-enhancing project. People buy into the idea that by becoming well educated and acquiring a degree, you can increase your potential earnings as a worker. The fact that this proves to be true much of the time provides evidence that the system works and ensures the stability of this particular perception of value. The stability of any kind of perception is based on its ability to consistently produce positive outcomes.

Of course, perceptions of value are subject to the stability of the current system. When markets fail or become incapable of producing the kinds of benefits that people expect, perceptions of value break down. White (2002) refers to this as *market unraveling*. I think of unraveling as the process whereby markets become unstable. In stable market profiles, White suggests that producers find distinct quality niches and are able to avoid direct competition by differentiating by production volume and price. However, if markets become unviable producers can no longer replicate those positions because quality differences may become too narrow and its impossible to use the signaling mechanisms to differentiate volume and pricing appropriately. As markets

unravel, competition intensifies, causing crowding and impairing firms' abilities to produce profits. In those cases, the sources of a firm's value are undermined and they are either selected out of the market (e.g. acquired by another firm) or switch to a new market profile in search of potential value. After failing to exploit their current competencies, firms may initiate exploration for new sources of value (March 1991). When markets unravel, actors have to look at their peers once again and develop new perceptions of value. This is what I call the process of *value formation*.

Value formation takes place as actors struggle to reassert their identities and market stability. When markets become unstable because former perceptions of value break down, actors seek new ones. This is accomplished initially by following the investment choices of peers. Value formation may be manifest by increasing expenditures in the R&D for new product lines, expanding geographically, or, as we will see in this study, by moving into new market segments via acquisitions. The creation of new resource bases or transformation of their use of existing assets realigns the market profile. Once enough actors generate a new market profile, a new perception of value becomes institutionalized as they again differentiate themselves along the quality continuum.

Theoretical propositions

Based on the above discussion, I generate five specific propositions that will later be used to generate testable hypotheses. As stated above, market actors are likely to use their peers as signals indicating the best kinds of investments to secure future benefits.

Neoinstitutional scholars argue that cognitive limitations force individuals to rely on heuristics in decision-making. Firms often mimic peers when information is limited or uncertainty is high (DiMaggio and Powell 1983; Haunschild and Beckman 1998; Haveman and Nonnemaker 2000; Bothner 2003).

I break peers into two categories. The first category includes close competitors. Sociologists often hypothesize that competitive rivals are good candidates for mimicry (Burt 1987; Soule 1997; Strang and Soule 1998; Bothner 2003). Similar to White, Galaskiewicz and Burt (1991) argue that close rivals must carefully monitor each other's behavior because they do not want to lose competitive advantages and have their products or services replaced by the other. Given close competitors usually have similar kinds of experiences, opportunities, and constraints, market actors use them as immediate signals for investment opportunities during times of market unraveling. As White (2002) argues, close competitors form the basis for a firm's market identity. The mimicry of close competitors suggests that value is generated among similars in a status group and thus it is a function of "horizontal interdependence" (DiMaggio 1987).

Proposition 1: Actors are likely to make the same investment choices as their closest competitors.

The second category consists of high status peers. High status peers are visible successes. Other actors may believe that by copying the investment choices of high status peers, they also may achieve success. Sociologists studying the diffusion of

business strategies note that a few highly visible, prestigious actors tend to exert more influence than the majority of lesser players (Haveman 1993; Han 1994; Fligstein 2001; Strang and Macy 2001). For instance, Haveman (1993) finds that firms are more likely to diversify in unrelated industries where successful firms in their particular industry have previously diversified. Veblen's (1967) theory of consumption also suggests that individuals use consumption to attain status. By acquiring the goods and services of the status elite, lower status individuals believe they may experience upward mobility.

Proposition 2: Actors are likely to make the same investment choices as their high status peers.

Market conditions should condition the effects of a firm's monitoring of peers. Bothner (2003) argues that the level of competition should influence the effect of mimicry on the adoption of business practices. DiMaggio and Powell (1983) claim that uncertainty provokes imitation among organizations. Similarly, I argue that the value formation process occurs when markets are characterized by high uncertainty and there is a need to create stable markets. Actors in markets that are the least stable are the most likely to seek new sources of value.

Although not always, hypercompetitive markets tend to be the least stable as rampant competition makes it difficult for actors to achieve their desired outcomes. In the case of production markets, firms in intensely competitive markets are less able to consistently make profits and reproduce their positions in the market. High levels of

competition increase the chances of failure for firms that make strategic mistakes. The increased stakes of highly competitive markets motivates firms to be more attuned to information sources when making strategic decisions. Firms may look to rivals and leaders more in highly competitive markets because failure to expand in the “right” way could be more detrimental when there are fewer resources to be allocated among all market players. Therefore, I expect that markets with the greatest levels of competition will induce actors to look for new sources of value.

Proposition 3: Actors in highly competitive markets are most likely to mimic the investment choices of their peers.

Technological change also causes markets to become unstable. Innovation creates new demands among consumers. Demand for new kinds of products that may be substitutable to existing products can potentially damage the consumer base of a once-thriving market. Instability created by technological innovation forces firms to find new perceptions of value because they can no longer rely on the core competencies that allowed them past prosperity.

Proposition 4: Actors in highly innovative markets are most likely to mimic the investment choices of their peers.

As actors mimic each other's investment choices perceptions of value are created. When actors create perceptions of value third party observers are also affected. As an increasing number of actors come to share similar understandings about the best ways to use capital or assets, perceptions filter into the public and gain approval in the eyes of third parties. Industry analysts, investors, and government regulators become caught up in the movement of capital and adopt similar views. Investors, for example, are likely to purchase the stocks of companies they believe are acquiring new sources of value, even if that value has not yet been realized through improved performance. Investors should more favorably assess companies' investment choices when they conform to peer choices. In this sense, the actions of one's peers serve as a frame for a firm's choice (Goffman 1974; Benford and Snow 2000). The driving force behind the decisions to invest in these corporate securities, then, is not the immediate realization of value but the perception that corporations are indeed building value for the future.

The diffusion of perceptions of value to third party observers affects standard measures of value. Perceptions of value may drive demand, which in turn affects pricing and experts' assessments of value. Objective measures of value began to conform with the newly constructed perceptions of value. Prices for a particular kind of footwear, for instance, are likely to drop if a greater number of people begin buying the faddish item. Alternatively, as positive perceptions of value drive interest in a particular kind of corporate stock, the price of that stock is likely to rise. The implication of this is that security prices may shift in correspondence with changing perceptions of value and have

very little to do with standard measures of corporate performance. I discuss these expectations more concretely in chapter 4 of this dissertation.

Proposition 5: As peers mimic each other's choices, the emergent perceptions of value filter into the public and are reflected in formal measures of value.

Finally, I argue that perceptions of value are themselves subject to reform based on the events and patterns that emerge following their construction. The viability of any perception is based on its ability to produce consistently positive outcomes for the actors involved. If a perception of value is associated with beneficial consequences and meets the expectations of the market actors, the perception is likely to persist and become institutionalized. Perceptions of value endure when markets become stable and actors are able to mitigate the difficulties of uncertainty and competition. When markets remain unstable or when they began unraveling again, the perceptions of value do not have a lasting hold and will be replaced by newly emerging understandings.

The nature of perceptions of value is that they create shared beliefs and expectations among a collective of actors who all want to obtain reasonably similar goals (e.g. improve status, increase earnings, or become more attractive to third party observers). As long as actors believe those perceptions provide them with solutions to the problem of how to obtain those goals, they will trust in it until something better comes along. In this way, perceptions of value are faddish. The turnaround time of any

particular perception is directly related to the sunk costs of acquiring the source of value. Buying the right kinds of shoes to be in the in-crowd has a fairly low cost and thus there is likely to be more turnaround in shoe styles. However, if the question of value relates to a larger investment, like a company deciding to acquire specific kinds of assets, the sunk costs invoke stickiness in the perception.

The main point here is that perceptions of value are constantly changing and that this change can be explained by the internal conditions of the market. When markets are stable – for instance, competition is controlled and profits are climbing or maintaining – market actors rely on taken-for-granted perceptions. The impetus for change is the increasing inability of market actors to meet their expectations or at least the rising threat that positive outcomes may no longer be attainable.

Summary of chapter one

I began this chapter with the observation that orthodox economic theories of market functioning assume that sources of value are exogenous to the market. The market is merely the information-processing and resource-distributing mechanism that facilitates social actors' abilities to obtain their desired ends. The origin of those ends themselves is unquestioned, as preferences are assumed to be independent of the mechanism. This perspective does not assume the interdependence of the market mechanism and value. For this reason, the study of value formation is ignored completely.

As DiMaggio (1990, 123) claims, “If there is any field of study that economists are willing to relegate to sociology, it is the issue of tastes and their formation... Economists are limited in their ability to deal with taste formation by their discomfort with interdependence.” As tastes and value are similar and sometimes synonymous, I think the same could be said of economists when dealing with ultimate sources of value. They are not concerned with where it comes from but only with the efficiency of markets in communicating value.

The problem with this dualistic thinking is that value and markets are not independent. Market forces not only communicate value, but they also shape the way that investors, consumers, and suppliers interpret the value of assets, commodities, and other exchangeable items. The economic behavioralists provide empirical support and theoretical reasons for why this is so. However, they have not yet developed a theory to explain how the market produces changes in the way market actors assess the value of alternative investment opportunities or substitutable goods.

I develop a sociological perspective on value formation that depicts value as a social construct endogenous to the market setting. Rather than envisioning a market of atomistic actors pursuing their ends with stable, ordered preferences, I imagine the market as a network of connected individuals who look to each other in their estimations of value. When individuals make choices, they try to learn from their peers – either their closest competitors or their high status peers. By mimicking their peers, they create perceptions of value that heuristically guide market actors in making choices about the best way to invest their capital or spend their funds. Perceptions of value stabilize

markets by making investment choices predictable and by reducing the information costs of the choice. The effect of emerging perceptions is to create value by moving capital to certain markets that may have previously been ignored or that were perhaps recently innovated. The emergence of these perceptions underlies the creation of any new organizational form (Hannan and Carroll 1992) or the institutionalization of a new organizational field (DiMaggio and Powell 1983).

The implication of the process of value formation is that value is not exogenous at all. Insofar as the market is made up of actors who diligently monitor each other and use one another as signals of how to obtain future value, fluctuations in demand and pricing are likely contingent upon the connections and grouping of actors in the market. Changes in valuation occur in clusters – small groups of actors may almost instantaneously begin investing in a new kind of service or good as the result of the innovative behavior of one of their peers. Market choice, then, is not independent at all, but instead, it is intertwined with the actions of other market actors. This will likely have serious implications for our understanding of markets as neutral, efficient allocators of resources and information.

Economists, of course, are not alone in their view of value emanating from exogenous sources. Sociologists are sometimes guilty of the same. New institutionalists, for example, often unnecessarily separate rational-market processes from institutional processes (DiMaggio and Powell 1983). One of the contributions of this perspective is to show how the two domains are inseparable. I do this by linking insights from both neoinstitutional theory and White's (2002) work on markets. Instead of assuming that culture exists external to the market merely providing market actors with input about the

best or most legitimate ways to pursue their ends, we see that markets themselves help shape the ideas and preferences that individuals have about meeting their economic ends. Markets are essentially social in nature, consisting of actors that commit to identities based on their competitive and status relations with other locally-clustered actors (White 1990; 2002). Inasmuch as the market consists of competitive relations among actors that induce tacit coordination (Schelling 1960), some elements of culture, including perceptions of value, are likely to find their origin (and demise) in the market setting.

CHAPTER 2: CHANGING PERCEPTIONS OF VALUE IN THE COMMUNICATIONS INDUSTRIES

Historical case and scope conditions

The sociological perspective presented in this study may be applied to a wide variety of market conditions. In this study I look at large firms situated in a competitive market context to assess the propositions developed above. Organizations' investment choices should depend on the formation and stabilization of collective perceptions of value, and changes in those perceptions should be contingent upon the stability of particular markets to produce consistent positive outcomes for its members. As market profiles unravel due to increased competition, new perceptions of value should emerge to replace the old ones.

Organizational analysis provides a rich literature examining the impact of competition on organizational and institutional change (Hannan and Carroll 1992; Haveman 1993; Barnett and Carroll 1995; Ingram and Simons 2000; Bothner 2003; Barnett and Woywode 2004); however, organizational scholars interested in examining the effects of competition and market conditions on change have been less concerned with assessing the nature of value. One purpose of this study is to show how organizational dynamics that have been shown to underlie other kinds of change processes also shape the dynamics whereby organizations come to share common views about the best ways to utilize their capital and enhance company value.

To test hypotheses generated from a sociological perspective on value formation, I will look at the market for corporate acquisitions in the telecommunications, media, and information-processing industries from 1997 to 2002. Rather than focus broadly on all publicly traded firms, I limit the firms in my analysis to three major industries for a couple of reasons. First, in order to assess the structured nature of the market, I needed to be able to locate a firm's position relative to its closest competitors. The relational nature of the analysis required that I limit the cases involved to a manageable number. Second, these particular industries exhibited a high degree of instability during this time period and witnessed a large number of mergers and acquisitions. Some of these acquisitions have later been interpreted as the result of speculation on the part of investors and corporate managers, leading to a stock bubble in some of the pertinent market segments (Starr 2002; Stiglitz 2003). For this reason, the acquisitions of firms in these industries offer an interesting historical case study in the transformation of a larger organizational field and its subsequent effect on market valuation.

I focus my quantitative analyses on a short period of time during the peak and early decline of the market bubble in the communications industries, but given that my theory has broad implications I also want to get a sense of the historical changes that occurred in some of these industries. The quantitative analysis allows me to make interesting generalizations about a specific kind of market – one that was already rapidly changing and experiencing intense competition – but in order to make more general claims about the kinds of transformations in perceptions of value that industries undergo,

in this chapter I conduct an additional historical analysis of the communications industries.

Rather than tracking the history of all of the communications industries (which would require many more pages than a single chapter of this dissertation), I have decided to narrow my historical analysis somewhat. I examine two of these industries – telephony and radio broadcasting – with more historical depth. Although I will mention other communications industries, my intent is only to make comparisons. The combination of the historical and quantitative analysis that will follow in the next two chapters allows me to make broader claims about the way markets and perceptions of value change over time. I will also describe the broader regulatory and technological changes occurring in the 1990s that affected all of the industries in the quantitative analysis. This background will help the reader understand why corporate acquisitions became a viable strategy for controlling the environment and reintroducing stability.

Examining communications in the U.S.

Three main changes occurred during the 1990s that undermined former perceptions of value and destabilized the market profiles of these industries. First, changes in the regulation of the communications industries led to increased competition and blurred the boundaries separating different forms of communication, media, and information technology services and products. The evolving deregulation policies of Congress that were implemented by the Federal Communications Commission (hereafter FCC) upset former patterns of value enhancement and forced firms operating in these

industries to search for new sources of value so that they could reproduce their current market positions and maintain profitability. Second, the rapidly innovating nature of technology in the communications industries upset companies' abilities to project future earnings and forecast market positioning. New technologies were sources of profit for firms able to harness their potential, but they were also a threat to formerly dominant, established firms whose capabilities and competitive advantage were based on older technology. And third, a shift in the mindset of Wall Street and the investor public motivated corporate executives to pursue rapid growth as quickly as possible. The "irrational exuberance" of the 1990's marketplace (Shiller 2000) was felt most strongly in the communications industries. The shift to investor capitalism – the pursuit of stock value inflation above all other corporate goals – instilled in executives of communications' firms the need to harness their capital to quickly boost earnings (Lowenstein 2004). In the latter part of the decade, this was commonly done through the use of corporate acquisitions.

These conditions contributed to a general upheaval in the communications industries. Not only did these changes affect firms in the technology industries, like telephony and broadcasting, but also among firms providing media and other kinds of information services. The new regulatory policies also included provisions that would affect the way media companies competed. New communications mediums like the internet and digital data transmission provided media with new opportunities to tap their consumers and expand into new demographic, geographical, and product areas. The transforming environment equally affected media and information service providers.

Following Nicholls-Nixon and Jasinski (1995) the changes in the communications industries resulted in a shift in the techno-economic paradigm causing managers to alter their industry perceptions that guided strategic action.

The overall lack of predictability led to heavy speculation and to the propensity for firms to question their current strategies of value creation. As markets in the communications industries became less stable, firms searched for new ways to secure value, improve their chances of surviving the volatility, and attract a plenitude of available investor capital. Former perceptions of value broke down as they no longer seemed feasible in the new regulatory, technological, and cultural environment.

Although market actors in the communications industries knew that their industries were changing and that they could not count on the same practices and asset configurations to lead to the same level of stability in the future, they may have been less certain what sorts of organizational adaptations would best promote their long-term or short-term viability. I argue that the wave of corporate acquisitions in these industries was a reaction to this uncertainty. Corporate executives facing information constraints about the future value of their current assets began looking in novel locations for new kinds of assets that they might acquire and digest in their corporate structure.

In this chapter I will explain these changes in more detail. The bulk of the historical analysis focuses on the telephone and radio broadcast industries as examples of the effects of these changes on firm strategies over time. First, I will explain the foundations of communications regulation and describe the changes in regulatory policy that took place prior to 1997 that disrupted former perceptions of value. Second, I will

describe the state of technological innovation and its impact on communications' firms strategy. Third, I will discuss the relevance of both of these changes in the business and investor environment that increasingly encouraged rapid, short-term growth. And finally, I will discuss the implications these changes had on the value enhancement strategies of communications firms.

The communications regulatory environment

The modern era of communications in the United States has centered on the regulatory power of the Federal Communications Commission (hereafter FCC). The FCC's jurisdiction covers many of the communications industries, and its influence is felt indirectly even in those industries that it does not regulate. Its wide span of influence resulted from Congress' decision to consolidate oversight of the newly developing radio broadcasting industry with the regulation of all forms of interstate telecommunication. The commission, since its creation following Congress' passage of the Communications of 1934, regulated all use of radio spectrum within the United States and all forms of interstate telecommunications. Although the Congressional act establishing the FCC dealt mainly with regulation of radio and telephony, technological advances have caused the FCC to encompass more communications fields, including cable, satellite, and cellular transmission.⁸

⁸ See the FCC website for more detailed coverage of the agency's current realms of regulatory power. <http://www.fcc.gov/aboutus.html>

Due to the constant regulatory vigilance of the FCC, the history of the communications markets had been one of relative stability and predictability. The forms of communications that have been the least stable are, of course, those industries that lie outside the direct influence of the FCC. Newsprint and movie production companies, for instance, have experienced more unhampered competition, and these industries have consequently been more volatile. For the most part however, up until the late 1970's the FCC controlled competition in the major communications industries and allowed incumbent firms to consistently reproduce their market positioning. The justification for this level of regulatory control was that communications companies provided a public good and that the federal government had the responsibility of ensuring that private companies fairly represented the public's interest in the provision of communications services to the entire citizenry. The FCC's regulations inhibited rampant competition among communications firms and reduced cross-ownership between different forms of communication. This regulation produced particular perceptions of value among actors in the communications industries. Rather than attempting to enhance value by building large conglomerates consisting of a variety of communications assets, telephone and broadcast companies became specialists whose main objective was to maintain monopolistic or oligopolistic dominance in their particular industries and local markets. Attempts to mix different communications assets were inhibited by strict FCC rules that prevented cross-ownership in multiple industries.

FCC regulation of telephony and broadcasting

When Congress established the FCC in 1934, many in the American public saw governmental regulation of the communications industries as a necessity. The FCC's regulation of the communications' industries was based on the idea that communications (wired and wireless) was a public good. Providers of this public good needed governmental incentives and restrictions to ensure that communications services were made available to as many people as possible for reasonable costs. In the case of telephony, this translated into the doctrine of "universal service" (Mueller 1997). The services of the broadcasting industry were seen as a scarce good that could benefit the public interest (Lelebici, Salancik, Copay, and King 1991). In addition, the FCC took the responsibility of ensuring that communications mediums facilitated the spread of plural political viewpoints as a means to societal democratization. The FCC agenda to ensure fair use of public resources and to ensure media pluralism instigated a particular set of regulatory policies that prevented communications conglomeration. Although these concerns were born in the regulation of the early telecommunications and broadcasting industries, their legacy directly influenced every other communications industry that fell under the purview of the FCC.

For nearly fifty years (from 1934 to 1983) the telecommunications industry operated under the governmental promotion of universal service. AT&T president Theodore Vail in the early years of the telephone industry first established the slogan "One system, one policy, universal service" (Mueller 1997). Vail envisioned a dominant telephone network that would surpass competitors in its ability to provide a valuable

service to customers (Wilson 2000). By expanding AT&T's telephone network to more households and businesses in the U.S., they could reduce threats from potentially competing services and eliminate the dual network systems of earlier times.⁹ Others in the industry also began propagating the idea that every U.S. citizen should have access to the telephone network and that the network itself should be completely interconnected (Mueller 1997). When Vail first promoted universal service, however, his intent was to provide a justification for ridding the markets of competition and establishing an AT&T monopoly. He did not want to commit AT&T to build a nationwide network, although by 1921 AT&T had already consolidated much of the industry by acquiring many small independent telephone companies and interconnecting with regional independents (Brock 1981). Yet the ideal took hold in the public imagination in a different way. The public and politicians imagined a single universal network that could be maintained by AT&T and ordered by government regulation.

From 1907 through 1921 Vail and AT&T engaged in massive acquisitions of local independents, building up its network and establishing itself as the dominant player in U.S. telecommunications. The appeal of universal service facilitated Congress' favorable treatment of AT&T's strategic moves. Prohibited by the Kingsbury Commitment and the Clayton Antitrust Act from acquiring assets that would yield a monopoly, AT&T lobbied Congress to allow more industry consolidation in order to improve the efficiency of the current system. Congress responded by passing the Willis-

⁹ Up until the early Twentieth Century many cities across the country had dual networks. In order for any single node to reach every other node in the city one needed to have access to two different telephones. Critics of the dual network system claimed that it was inefficient as the combined price of having two telephones well exceeded the cost of maintaining one network. According to Mueller (1997) before 1915 as many 45% of all U.S. cities had dual networks

Graham Act in 1921, which relaxed the need for telephone competition and gave AT&T permission to acquire more independents (Mueller 1997). Congress explicitly endorsed AT&T's monopoly position during an era when antitrust measures were pursued vigorously in other industries because AT&T was able to convince members of Congress of the value of an interconnected network.

Congress later solidified its position on AT&T's monopolistic practices in the Communications Act of 1934. Most of the guidelines and regulatory procedures defined in the Act were not completely new, but in fact, had been administrated prior to the act by other regulatory bodies, like state utility commissions and the Interstate Commerce Commission. The main purpose of the Act was to consolidate regulatory authority in a single government agency – the Federal Communications Commission (Mueller 1997). This commission had the responsibility of setting interstate connection rates between local telephone stations and ensuring that the network did not discriminate in its local network coverage. Intrastate rate setting was still a function of state regulatory commissions. The Act also designated AT&T (as well as Western Union and RCA in their respective industries) the role of “common carrier” (Preston and Flynn 2000; Smythe 1981). Due to its dominant competitive position, AT&T was expected to act in the public interest and set “reasonable” rates that enabled connection to as many nodes as possible in the telephone network without discrimination. Although the Act never specified exactly how AT&T was to offer universal service, the Act provided the language that later regulators, policymakers, and AT&T itself would draw upon to enforce the practice of rate setting.

As the nuances of the communications industries regulatory issues were unknown to most members of Congress, they abdicated complete regulatory authority to the industry experts at the FCC to decide as they judged appropriate. Congress provided the FCC a great deal of discretion in determining what kinds of regulation best met the “public interest.” The FCC had the power to define the “public interest” in relation to communications policies. As Schwartz described it:

Congress has given the commission what amounts to a *carte blanche*.

Telling the FCC to act in the public interest is the practical equivalent of saying: "Here is the regulatory problem; deal with it as you will" (1973, 2374).

The Act of 1934 was the anchor of the telecommunications flagship company for most of the Twentieth Century. In the 1970's, when AT&T began losing public confidence as a responsible common carrier, AT&T drew upon the language of the Act to explain and legitimize its procedure for subsidizing local telephone costs with inflated long distance rates (Mueller 1997). One of the problems, they claimed, with attaining a single, nationwide network was the cost involved in reaching every area. Many of these locales were sparsely populated, rural areas where the costs of setting up a local phone service may have exceeded the potential revenues. AT&T set higher long distance and urban rates to subsidize the costs of expanding the network into more geographically isolated areas of the country (Borrows, Bernt, and Lawton 1994).¹⁰ By doing this, AT&T

¹⁰ In reality, this practice was not fully instituted until an FCC decision in 1942 required AT&T to account for costs on a “station to station” basis. This meant that costs would be equated according to the distance between connecting phones rather than between regions. This increased the cost of long distance service

and many government officials believed the entire network grew in value. Following the principles of *network externality* (Rohlf's 1974), they argued that the overall value of the telephone network increased with every additional connected node.

The regulation of the broadcasting industry was based on a similar logic. While telecommunications competition was inhibited by the high costs of market entry and the difficulty of developing a system of network interconnections, firms in the broadcasting industry struggled in dividing up a scarce resource – radio spectrum – in a way that met the public's interest. As Lebelici et al. (1991) explain, one of the major problems facing early radio stations was controlling the airwaves, ensuring that signals were sent without competition from other nearby transmitters. Radio waves were limited in their capacity to transmit traffic. Too much traffic in overlapping frequencies weakened the radio signal and may have prevented transmission altogether. Many in the public demanded that the government step in to allocate spectrum to best meet the needs of a public that was increasingly interested in receiving radio signals for entertainment purposes.

Whereas the FCC decided to assign responsibility for wired telecommunications to a single firm, they divided the radio spectrum among a host of potential licensees. Rather than utilizing a market approach to spectrum allocation as was done in other U.S. industries (Coase 1959), Secretary of Commerce Herbert Hoover analogized airwave use to the transportation problem faced in the use of waterways (Lebelici et al. 1991). Believing the government should have first access to all public airwaves, the federal government would not sell rights to spectrum as a private property. Instead, a

but reduced the cost of intralocal calls, which effectively encouraged local phone use and the spread of the network (Temin 1987).

government commission would designate the use of spectrum and maintain first rights to its use in the case of military intervention or some other public need. This logic was first introduced in the Radio Act of 1924 and then consolidated with the greater powers of the FCC in 1934 (Levin 1971).

Broadcasting also faced another set of regulatory concerns. While the provision of broadcasting licenses was primarily worded in terms of the “market for goods,” FCC regulators were also commissioned to ensure plurality in the “market for ideas” (Coase 1974). That is, the FCC was charged with providing that the public airwaves remained open to diverse viewpoints. This particular role of the FCC began taking shape in the era of the New Deal. In 1941, the FCC expanded its efforts to ensure competition in local radio markets by limiting ownership concentration, taking direct action against “chain broadcasting” (Starr 2004).¹¹ The commission prohibited networks from owning more than one radio station in any local market and networks were not allowed to obtain licenses in areas where there were only a minimal number of stations already in existence.

Although some of the FCC’s issues with ownership were anti-trust related, the major concern of the FCC was to ensure a plurality of voices in broadcasting (FCC 1941). Too much ownership concentration, they feared, would lead to a stifling of the

¹¹ One direct consequence of this action was that RCA had to sell one of its two NBC networks. At the time they operated both NBC Red and NBC Blue. They eventually agreed to the regulatory change and sold its NBC Blue network to the American Broadcasting System. The company was later renamed the American Broadcasting Company (ABC).

democratic process.¹² Concentration, they believed, allowed specific business or political interests to monopolize the airwaves and control the market for ideas. This position was solidified further in 1949 when the FCC adopted its Fairness Doctrine, which required stations to broadcast opposing political viewpoints and to offer editorial time to community members (Donahue 1989). The FCC actively protected the broadcast industry from cross-ownership with other communications industries in efforts to ensure that television and radio broadcasters offered unbiased and independent perspectives. Fearing increasing concentration in the media industries and dilution of diversity, in 1974 the FCC implemented a rule that prevented cross-ownership between newspapers and broadcasters in the same market (Gomery 2002).¹³

Bans on cross-ownership were not limited to broadcast and newspapers. The FCC periodically implemented additional restrictions. The most severely limited were the telecommunications and broadcasting industries, although cable and satellite services were also sufficiently restricted when their services became more widespread. The FCC (and Congress) was intent on building boundaries between the various communications services, preventing media conglomeration from developing and preserving distinct technological competencies between the industries. Thus, as cable television companies

¹² Later studies also found that increased ownership concentration decreased overall demand for news media (Ferguson 1983), suggesting that the public was less satisfied with the local media market when there was less media diversity.

¹³ The FCC did not directly regulate the book or periodical publishing industry, which meant that these companies could own or have an interest in broadcasting. In addition, the major television networks were owned, in different periods of their history, by large electronics conglomerates, like RCA or GE. While the FCC prohibited AT&T from owning its equipment manufacturers and suppliers in the post-1984 time period, broadcasting companies were not so constrained (Compaine and Gomery 2000).

began planting wires, the telephone industry was not directly threatened because the two technologies were enforced as complementary and not rival (Shaw 2001).

Regulation and value enhancement strategies

This regulatory mode of setting prices, banning cross-ownership, and defining distinct services dominated throughout much of the modern history of communications provision. FCC regulation produced a particular set of organizational strategies for firms in their industries. In the telephone industry, regulation caused AT&T to invest heavily in building the value of its current networks and technologies. As long as AT&T was protected from competition and guaranteed a profitable environment, it did not seek to grow outside of its area of core competence. It created value by exploiting its current competencies and maintaining its current system. Interestingly, its ability to secure consistent profits enabled, even encouraged, AT&T to develop a sophisticated research and development division. Rather than exerting its resources to invest in assets outside of the telecommunications industries, AT&T's monopoly position allowed it to find ways to reduce the operation costs of its networks and to improve the quality of its service. It did this by reinvesting its resources in the infrastructure (Temin 1987). AT&T's internal improvements were exemplary of the value-enhancing strategy that Lazonick and O'Sullivan (2000) call "retain and reinvest."

Bell Laboratories was AT&T's innovative research unit that produced a wide variety of communications inventions that serve as the technological base of the modern communications infrastructure. Due to AT&T's consistent positive earnings they

possessed the organizational slack needed to pursue an innovative research program and build quality and value for the consumer (Nohria and Gulati 1997). In addition, Western Electric, AT&T's manufacturing division, assembled the telephone products and installed them (and license these devices to users), which enabled AT&T to have direct control over product quality while minimizing their costs. By building a nationwide, high quality telecommunications network, AT&T purported to fulfill its role as a common carrier.

In broadcasting, a large number of small radio companies thrived in local markets. In the early years of the radio broadcasting industry large manufacturing companies dominated the market (Banning 1946; Barnouw 1966). The evolution of ownership of broadcast originated from the fact that the earliest holders of broadcasting patent technology were the manufacturing companies (RCA, AT&T, and Westinghouse), which they tried to put to use to find profit-making opportunities. AT&T began selling its technology rather than utilizing it to create its own stations, perhaps because its competencies were largely in the telephone communication and it saw radio telephone communication as a threat to the viability of its national wired network. As the number of radio receivers in American households increased, retailers and newspapers joined in the competition for radio listeners. These large companies used local radio stations as a permanent source of advertisement to promote their products. Thus, through both the licensing and selling of radio technology a collective base of radio broadcasters emerged in the U.S. that consisted mostly of large companies that were capable of housing and utilizing the new assets (Leblebici et al. 1991).

Still, the costs of setting up interesting and entertaining programming were more than even most large manufacturing, retail, or newspaper companies could handle. The idea of national broadcast networks emerged as a solution to the cost-quality problem. “Networks permitted programs and advertising messages to reach large audiences cheaply” (Lelebici et al. 1991, 347). Thus, after the late 1920s until the advent of television broadcasting, radio broadcasting thrived using the national network business model. Local broadcasting stations licensed programming that was developed by national production companies. Soon popular programs like “Amos ‘n’ Andy” and “Memory Lane” became a prominent fixture in American culture as the result of this successful merger of national advertising with local broadcasting (Hilmes 1997).

This was the primary method of operation until television broadcasting emerged in the 1950s and quickly replaced radio as the dominant form of family entertainment within the home (Sterling and Kitross 1978). National network broadcasting was no longer profitable, given the decrease in advertising revenues. To deal with this new technological threat, radio broadcasting downsized. By the 1950s small independent radio stations dominated the markets. Small stations were better able to meet local musical tastes and could operate more cost-efficiently than large networks producing national radio programs (Sterling and Kitross 1978; Lelebici et al. 1991). Local radio, with very small investments in infrastructure and content, boomed and national networks subsided in their popularity – largely replaced by national television networks. Small stations gained popular followings by promoting the music of independent radio labels, which provided the records free as promotional tools. Under this new experimental

format, new musical genres – like “rock ‘n roll” – thrived. The small radio station succeeded by forming alliances with independent music studios. Tapping into the musical tastes of the baby boomers proved a sustainable strategy.

While the size of the radio broadcasting industry grew in overall density, the operators were smaller than in the past and became disconnected from their former ownership connections with the newspaper and manufacturing industries (Lebelici et al. 1991). While Westinghouse and GE still manufactured much of the technology needed for the operation of radio facilities, they no longer shared in the ownership of broadcasting stations. Whereas in 1940 23% of all radio stations were owned by local newspapers, by 1990 that number decreased to around 2% (Compaine and Gomery 2000). The radio broadcasting industry became increasingly isolated as the result of FCC regulations and a business strategy that sought to tap into more diverse, youthful musical tastes rather than promote expensive network programming.

National broadcasting networks had shifted over to television, where NBC, ABC, and CBS invested most of their resources during the 1950s. Broadcasters believed television had a larger audience than radio and more advertising potential. This shift in value enhancing strategy was intensified once the FCC designated a full spectrum of VHF and UHF channels to be utilized in 1952 (Compaine and Gomery 2000). While the potential for profit was great in the television industry, market entry was limited due to high costs of establishing a national network; therefore, the radio broadcasting networks gained a first mover advantage in television broadcasting. Those large networks (NBC, CBS, and ABC) dominated broadcasting until the proliferation of cable television.

Some of the same constrictions on competition that shaped the radio broadcasting industry had similar effects on the development of the television industry, which further validates the idea that stable competition allowed a particular perception of value to emerge and become institutionalized. In television regulation also prevented cross-industry competition and allowed the national networks to adopt a retain and reinvest strategy (similar to that of AT&T), at least until regulation allowed cable television companies to adopt a more competitive entertainment format.

As was true of the radio broadcasting industry, the FCC sought to ensure heterogeneity in television content and enforced this by capping the number of television and radio stations any single company could own. Further, the FCC prohibited the television networks from producing their own content – forcing a separate industry of program production to develop (Bielby and Bielby 2003). The rationale was that by inhibiting networks from producing their own programming, independent production companies would be forced to compete and this would increase the amount of diversity in programming on television.

Once cable television became a popular alternative to traditional broadcasting, the FCC began to limit cable's ability to compete with broadcast television. Cross-ownership between broadcast stations and telephone companies was prohibited until the early 1990's (Compaine and Gomery 2000). This early regulation largely inhibited the growth of cable television, which was technically available at about the same time as broadcast television. Cable television stations did not begin to spread diffusely until 1977 when a Federal Appeals Court lifted FCC anti-siphoning rules that banned

broadcasting of movies, live sports, and other popular programming (Ourand 2004). Once cable stations began to offer premium content, they were better able to compete with broadcast television for viewers. Despite the competition, FCC rules still prevented cross-ownership and the two industries remained largely separate – their lone association being the program production companies that also syndicated much of the programming that aired on cable networks.

Because the FCC and Congress believed communications conglomeration would lead to a decline in media diversity, the communications industries under the purview of the FCC formed discrete organizational strategies for enhancing value. Industry perceptions of value, then, were fairly stable over the years, as indicated by the early histories of the telephone and radio broadcast industries. Growth tended to occur slowly. Vertical integration was largely prohibited. Firms sought to enhance value by acquiring firms horizontally when allowed; however the FCC even limited horizontal acquisitions for fear that too much industry consolidation would limit free expression.

The advent of deregulation

Specific industry problems and a general trend towards economic liberalization led to deregulatory policies in the communications industries throughout the 1980s and 1990s. Academic rants against regulation (Posner 1969; Wilson 1971; Lowi 1979) preceded a wave of innovative deregulatory policy changes in the trucking, airline, and energy industries in the late 1970s (Wilson 2000). These changes marked a trend towards liberalization of regulated markets. In 1974 the Department of Justice (hereafter

DOJ) began an attempt to break up AT&T's regulated monopoly of telecommunications. Although this was not the first attempt to upset AT&T's market stranglehold, the liberalizing political environment combined with the evolving technological capabilities of rival telecommunications services provided the seeds for a successful revision of the government's regulation of the company (Temin 1987; Wilson 2000).

Beginning in the 1960s firms like MCI offered telecommunications services that, while limited in their range and quality, provided alternatives to AT&T's wired telephone service. MCI offered phone communications between private parties using microwave transmitters. Although these services were originally contested by AT&T and some officials within the FCC, the agency eventually ruled in favor of MCI, allowing them to set up limited services in the select markets (Wilson 2000). Although the FCC did not intend MCI as a rival service to AT&T, MCI set up capabilities in certain cities wherein the public could use AT&T lines to access MCI's network and communicate directly with anyone else living within MCI's microwave range. This strategy by MCI set up a war of lawsuits between the two companies, in which the courts decided in favor of MCI's right to interconnect with AT&T's network (Trebing 1989; Kellogg, Thorne, and Huber 1992). This precedent established an alternative logic for providing telecommunications services to the public. Competition, in at least a limited way, became seen as a feasible option.

The other area of liberalization occurred in the development of satellite communication technology. In 1972, the FCC established licensing guidelines for satellite communications that would allow any company to obtain a license without

providing advance justification as to how their services met the public interest (Kellogg et al. 1992). This was markedly different from earlier FCC decisions, which had always required companies (such as cable television providers) to show strong evidence that there was a demand for services that was not previously met. By allowing an open market in satellite communications – a field for which there was little current demand in the early 1970s - the FCC created a pro-competitive regulatory framework that could be used as a model for future deregulation (Wilson 2000). Both the entry of potential competitors like MCI and an alternative regulatory model provided impetus for the DOJ to end AT&T's monopoly.

The DOJ's efforts culminated in 1982 with the Modification of Final Judgment (MFJ), in which AT&T agreed to divest itself of its Regional Bell Operating Companies (RBOCs). In turn, AT&T could retain its long distance network, Western Electric and Bell Laboratories, and would be permitted to enter the computer manufacturing and information services markets (Simon 1985; Wilson 2000). Although the MFJ did not create competition for telephone service (especially at the local level), it did break up AT&T's monopoly position and created the seeds for future innovations in communications deregulation. It also created a permanent shift in the perceptions of value within the telecom industry. While before AT&T was a common carrier that enhanced its value by continually improving the quality of its telephone infrastructure, under the new regulatory regime AT&T began to see itself as a more diverse communications company that could compete in multiple markets. While still over a decade away, the RBOCs began to yearn for the same freedom to innovate and compete

more openly as AT&T. Whether or not this new perception of value actually improved AT&T's ability to produce consistent profits is questionable, but corporate lobbying by the RBOCs influenced Congress to consider deregulating the entire industry.

Deregulation in the broadcasting industry occurred incrementally. Typical changes to the regulation of broadcasting in the 1980s included removing a cap on the number of commercials television and radio broadcasters could show and removing constraints on radio formats (Krasnow, Longley, and Terry 1982). However, many of the cross-ownership bans remained in the broadcasting industry. In the 1990s more substantial changes in regulation occurred that would undermine the dominant perceptions of value of firms in the communications industries. The fervor for deregulation intensified as new technologies (like cellular and advanced computer technology) began to make the FCC's regulatory mandates appear antiquated (Shaw 2001).

The most significant deregulation of the 1990s was the Telecommunications Act of 1996. Congress passed this act with the intention of taking much of the decision-making for licensing and rate enforcement out of the hands of the FCC and allowing a more laissez-faire approach to guide the industries (Shaw 2001). The Act was an attempt by Congress to reform outdated regulatory statutes and to manage the new capacities and demands of the technologically-driven "Information Age". The old telecommunications regulatory system was meant to preserve the "universal service" of telephony and other communication service providers (Mueller 1996) while also inhibiting competition among providers, whereas the new system would open telecommunication markets to

competition and, in theory, lead to more private investment in the market, more innovation, and more efficient allocation of telecommunication resources by allowing integration of emerging technologies and by lowering consumer prices.

Although the specific ways in which the Act changed the regulatory power of the FCC are too numerous to list here, a few changes had particularly important consequences on the value enhancement strategies of communications firms (Shaw 2001). The first change was to re-specify the areas of FCC concern and to provide the FCC with more flexibility in ensuring competition for critical communications resources. This change gave the FCC more leeway than in the past to encourage market forces to provide services like the Internet access, cable television, and satellite service. The second change was to release the constraints on the RBOCs, allowing them to compete in the manufacturing and publishing industries. The regional companies also agreed to foster competition in their local markets, allowing interconnection to their networks at reasonable costs. Policymakers believed this latter policy change would create incentives for companies in complementary communications industries (like cable television or internet service provision) to combine services in unique ways that were previously stymied. For instance, cable television companies would now be able to offer multiple services through a single cable – television programming, telephone communication, and internet service. The legislation also relaxed constraints on mixing computer manufacturing and other communications assets. This relaxation was intended to enhance firms' abilities to vertically integrate while also increasing capabilities for

innovation. The synergistic intents of acquisitions made possible through this deregulation will be discussed in more detail in the next chapter.

Constraints on cross-ownership between broadcasting stations and other communications organizations were lifted.¹⁴ Previous regulatory changes permitted broadcasting networks to produce their own television programming and to own film production studios (Bielby and Bielby 2003). In addition, the legislation lifted caps on radio station ownership in local markets, setting the stage for national consolidation of the independent radio station market (Boehlert 2001).

Increasing uncertainty under deregulation

Regulatory changes in the communications industries upset long-held perceptions of value and potentially began a general deterioration of industry boundaries. These changes increased uncertainty about firms' current value enhancing strategies in three ways. These changes peaked prior to and during the time period of the acquisitions analysis of this study (1997-2002).

First, deregulation upset normal patterns of competition. Whereas in the past communications firms' competitive relations were severely limited by regulation - especially for the RBOCs and AT&T - or regulation at least provided a set of guidelines facilitating the predictability of future competition, the Telecom Act of 1996 intentionally opened these industries up to competition from large firms in adjoining industries. Even

¹⁴ The ban on newspaper and local radio broadcasting cross-ownership was not lifted; however, corporations were allowed to own assets in both the national broadcasting market and the newspaper industry.

in industries that were mostly unregulated prior to the act, the threat of competition rose as large firms with complementary competencies could now expand their businesses and begin direct competition. Increased competition due to reductions in constraints on cross-ownership amplified the latent uncertainties caused by the “incomplete markets” problem (see chapter 1). Firms’ former strategies for enhancing value suddenly became less viable as the threat of competition intensified.

Second, intense competition may have made it more difficult for communications firms to produce consistent profits. Although the late 1990s were known for the bullish stock market, the overall profitability of U.S. corporations declined during this time period (Mahar 2003). Communications firms were no exception to profitability problems. This may have partly been the result of increasing competition. Deregulation created an environment where investors expected greater profits than firms could deliver. Plagued by high expectations and a capital rich investment market, firms scrambled to find new ways to build their value without knowing the precise methods for doing so.

The third problem is that under the former regulatory environment firms possessed stable categorical identities and segregated boundaries, but after the deregulatory legislation, categories became more vague and open to change. As Zuckerman demonstrates (1999), categorical coherence provides legitimacy to organizations. Organizations that do not neatly fit into predefined categories suffer illegitimacy discounts. Thus, in a situation where categories are thrown into flux by deregulation, we would expect that firms face more uncertainty regarding the best ways to enhance their value.

In sum, the 1996 deregulation of the communications industries presented both an opportunity for firms to expand their business and move into new markets, but it also increased uncertainty. Companies did not know which kinds of investments would yield growth and profitability. Corporate executives may have known that investors and boards of directors expected their corporations to grow, but they did not have a clear blueprint for the best ways to do this.

Summary of regulatory effects on perceptions of value

The history of communications regulation provides a pattern for understanding changes in perceptions of value. Since 1934, companies in the telecommunications and broadcast industries developed value-enhancing strategies that took advantage of the opportunities made available to them under the strict regulatory regime. For AT&T this meant investing heavily in the current telephone infrastructure, thereby improving quality of service and continually cutting costs. In this way AT&T legitimated their claim as a valuable public utility and also made consistent profits. For firms in the broadcast industry, more open competition caused value-enhancing strategies to change somewhat over time. At first, large electronic manufacturing firms operated national radio networks, but after the advent of television most of these networks moved into the television broadcast industry, leaving radio broadcast to a host of small independent radio stations that could focus on local musical tastes. FCC regulations limited cross-ownership, which caused communications industries to develop solitarily. Communications industries maintained sharp boundaries, and firms built value by

building infrastructure and warding off competition. This prevented the formation of large media conglomerates, outside of the publishing industries (which were less constrained by FCC regulation), and led to the formation of local monopolies or oligopolies. These strategies changed in the 1980s and 90s when deregulation stimulated more open competition across industries. Deregulation increased uncertainty and forced firms to find new ways to enhance the value of their assets.

Technological innovation

The threat of innovation

The second condition linked to shifts in perceptions of value in the late 1990s was the rapidly innovating technological base of the communications industries. Firms in these industries depend on a stable set of technology that allows them to deliver communication, media, and information routinely and predictably. When new communications technologies emerge, the former system of communications delivery may be undermined. Innovation was an impetus for communications firms to find new ways to enhance their company value, as the competencies and capabilities upon which they have depended may become obsolete.

Innovation in the communications' markets

Firms in the communications industries during the late 1990s faced uncertainties created by rapid and frequent technological innovation. Much of this innovation contributed to the development of new, rival products and services that undermined the

ability of companies to continue with status quo strategies. New technology in the communications industries created uncertainty about former perceptions of value because 1) firms became caught in races to develop and utilize the most cutting-edge technologies, 2) industries that were once segregated from competition now became competitive due to technological innovation that made their services more substitutable or complementary, and 3) future demand for new communications technologies was difficult to ascertain.

First, because communications firms are so dependent on technology to provide information and media to their customers, new mediums for communication transmission are highly valued, causing firms to compete for access to the most cutting edge technology. The need to innovate is also motivated by the fact that antiquated communications technology typically has low liquidation value. Firms that fail to improve their product quality through innovation are likely to lose market share.

Although occasionally a new technology arises that changes the entire landscape of an industry, most new technologies only change a few components of a current product or service. That is, most innovation is *incremental* and not *disruptive* (Schumpeter 1961; Rosenberg 1982; Godoe 2000). This is true of the communications industries. A few disruptive innovations greatly impacted the industries in recent years, including the development of fiber-optic wiring and cellular technology. However, the vast majority of innovations have been improvements on existing products and services. Examples of the latter include the digitization of music and the creation of high definition television. While these were significant changes, they were incremental improvements

on products for which there was already high demand. In fact, incremental innovation designed to improve product quality – most of which are “unobtrusive, unannounced, unobserved, and uncelebrated” (Rosenberg 1982, 56) – occurs regularly in the communications industries and only became more intense in recent years as the result of the rapid computerization of the industries (McDougall, Deane, and D’Souza 1991).

The need to continuously improve product quality underlies the prevalence of innovation among communications firms. In a survey of communications firms, Gellatly and Peters (unpublished) found that forty-five percent of communications firms surveyed in 1996 introduced new innovations. A little over half of these innovators produced new innovations to their products and services at least once a year. Thus, not only is innovation widespread but it also occurs frequently. Frequent innovation undermines firms’ abilities to compete using long-held perceptions of value. Communications firms must continually innovate to ensure that their products and services do not become obsolete.

The second way that innovation undermined perceptions of value in the communications industries was by blurring the boundaries between industries that were formerly segregated (Nicholls-Nixon and Jasinski 1995). Technological innovation caused formerly isolated industries to become more competitive as their products became more substitutable. Innovation blurred boundaries by introducing product complementarities (Rosenberg 1982). Industries that once had little in common could now conjoin their products in synergistic ways (Caves and Porter 1977).

An example of how innovation created product substitutability is the impact of digital technology on telephone service. Whereas in the past, telephone networks sent voice signals using analog technology, telephone providers can now use digital signal processors (DSPs) to compress and packet voice communications (Dodd 2002). Because digital compression can also transmit a variety of other information (including data and video bits), companies that specialize in the use of digital technology often provide a wider set of services and products than traditional telephone companies could in the past. Cable television companies use DSPs to provide telephone service in addition to television and internet service. This technology increased competition between cable and telephone companies and forced telephone companies to broaden their core competencies to be more competitive (Grover and Vaswani 2000). Another example of substitutability was, as mentioned earlier, the effect that the advent of television broadcasting had on the radio broadcasting industry. Radio broadcasting, rather than attempting to compete with the new entertainment providers, simply shifted their strategy – focusing more on local music tastes rather than in-home family entertainment programs.

An example of how innovation created complementarities between formerly segregated industries was the use of digital technology in the music recording and distribution industry. Firms in the music recording industry operated for years on the assumption that selling artists' work via albums was the most profitable way to distribute music (Lam and Tan 2001). The digitization of music and the proliferation of the Internet undermined this particular strategy by providing listeners with alternative means to obtain new music and diversify their musical choices. Music companies could now

conjoin resources with internet content provision services in order to take advantage of new channels for distribution. This innovation makes music companies look more similar to other information retrieval services found on the Internet and puts them in head-to-head competition with smaller independent websites that in the past would have been outside their industry.

The third way in which innovation destabilized perceptions of value in the communications industries was that it was difficult, if not impossible, to gauge the value of new technological innovations. Whether the innovation was disruptive or incremental, communications firms could not easily estimate the potential demand for the new product or assess the extent to which the innovation would disrupt normal market relations. In many instances, communications firms notoriously failed in their estimations of value.

The primary example of a failure to accurately estimate the future value of a new product was in the case of mobile telephone technology. Although wireless communications devices were available at the turn of the century, AT&T expressed little interest in using the technology to enhance their wired telephone network. Executives may have felt that utilizing mobile communication would have undermined their core competencies as a wired service. Despite the potential synergy between wired and wireless telephone communication, wireless spectrum was instead utilized primarily by law enforcement agencies (Steinbock 2003). Although developed in Bell Labs, AT&T was ambivalent regarding cellular technology. When cellular licenses were distributed via lotteries in the 1980s, AT&T's absence from the competition (and the early dominance of maverick independent partnerships) was the result of AT&T's

miscalculation of the future demand for cell phones. In a 1980 study commissioned by AT&T, researchers estimated that there would be 900,000 cell phone users by 2000. The actual number of 2000 cell users was more than 100 times this original estimate. Consumers themselves failed to realize the extent to which cell phones would be valuable. A similar study of potential cell users found that only 17 percent of all respondents expressed more than mild interest in having cell phones. Given the excessive start-up costs for building a wireless network, AT&T and other dominant communications firms expressed little interest in exploiting the potential of this new market. For this reason, small independents that later grew in size and power were the early players in the mobile phone market (Murray 2001).

The case of the emerging cell phone market demonstrates that estimates of the future value of new innovations are often wrong. Established firms may shy away from developing new technology markets because of the inherent uncertainty. While the costs of expansion may be estimable, the potential future rewards are unknowable. In addition, firms may be weary of moving too far away from their core competencies because doing so could potentially damage their legitimacy and respectability (Hannan and Freeman 1989). Miscalculations of value are also problematic because even consumers may be unaware of their future preference for a new product. While in the early 1980s few people may have failed to realize why possessing a phone that would allow them to talk while moving about outside their home or office would be a valuable purchase, effective marketing and the positive externalities of cell phone use gradually increased demand. Similarly, thirty years ago most consumers may have failed to realize how useful email or

internet communication would be for their occupational or personal well-being. Demand for these products emerged over time. Because product demand and value are inherently unstable and unpredictable, the innovative environment undermined communications firms' abilities to rely on dominant perceptions of value.

Innovative environments and market stability

Rapid and frequent technological innovation threatened the stability of communications firms to produce consistently positive outcomes for extended periods of time. Because innovation forced firms to compete for rapid improvements in product quality, blurred industry boundaries, and created problems for calculating the future value of products, the communications markets during the mid and late-1990s were increasingly unstable. The innovativeness of these industries intensified the latent issue of estimating the future value of company assets. As new products and services emerged that offered potential competition to existing firms and industries, firms' asset values became less stable over time.

The rise of investor capitalism in the 1990s

The third condition that accentuated uncertainty facing communications firms in the late 1990s was the market-wide prevalence of a new form of capital management and corporate control that encouraged managers to focus on their firms' short term market value and quarterly earnings. A growing academic movement among economists and financial scholars to make corporate managers more accountable to shareholders and the mobilization of large institutional investors to sanction executives who failed to build

stock prices was the source of the emphasis on short-term returns (Khurana 2002; Baker and Smith 1998). Some have referred to this new form of corporate-market relations as investor capitalism (Conard 1988; Useem 1997; Khurana 2002). Fligstein (2001) argues that the new focus on capital building to satisfy the demands of investors marks the dawn of the shareholder value conception of control. Regardless of its label, this new form of corporate management created a new kind of uncertainty for managers. Corporate executives had to figure out new ways to quickly boost their short term earnings in order to meet the demands of eager investors who, during the 1990s, had extra capital to invest in the stock market (Mahar 2003; Lowenstein 2004). Investor capitalism would have a particular effect on the management of communications firms.

The rise of investor capitalism is the result of two major changes. The first change was a transformation in the rhetoric about the best ways to reward managers and the corresponding organizational practices. The second change came about because of the formation of large institutional investors that had the power to influence management because of their strong shareholder positions.

A new model of corporate governance

Agency theory in economics provided a theoretical justification for the changes in corporate governance associated with investor capitalism. Agency theorists argued that managerial capitalism, which separated ownership of the firm from control of its operations, provided incentives to managers to shirk their responsibilities to the actual owners of the firm (Ross 1973; Heckerman 1975; Jensen and Meckling 1976).

Managers, who are motivated by their own personal interests, frequently fail to maximize

the value of the firm and thereby withhold potential capital gains from investors – the owners. The key to aligning the interests of investors and managers is to provide incentives that reward managers according to immediate firm performance. Providing CEOs and other senior executives with stock options and performance bonuses serves this purpose (Jensen and Murphy 1990).

The other motivation for increasing executive ownership in the firm was the wave of hostile takeovers that occurred in the 1980s. Corporate raiders and investment bankers were becoming wealthy through takeover bids, and executives' rewards were not set up to provide executives comparative gains from such transactions. As a result executives often resorted to defensive tactics like "poison pills" to ward off bidders. While defensive tactics may have been legitimate in the eyes of the corporate elite, many investors saw them as costly. The Walt Disney Company, for example, once paid over 300 million dollars to rid itself of one potential takeover (Conard 1989). Many investors felt that liquidation of a firm was often a better choice than retaining current management control, but managers' incentives were set up to retain control at all costs. Kaufman and Zacharias summarize the problem:

In unfettered markets, corporate managers would be disciplined by a simple rule: a decline in market value below the replacement cost of the firm would induce outsiders to bid for control with the intention of enhancing their wealth by the liquidation or reorganization of the acquired business. . . .[A] perfectly fluid system would allow discipline to be imposed on inefficient managers and firms [in] a perfectly competitive

environment with recontracting for all managerial talent with short-term contracts (1992, 547-59).

In the 1990s many U.S. corporations adopted a new style of corporate management that sought to align managers' interests with those of the shareholders (Khurana 2002). Managers were increasingly given large stock options in the firms they controlled. One effect of this realignment was to encourage executives to view their firms as sets of liquid assets to be exchanged freely in a market for corporate control (something to be discussed more in-depth in the next chapter), but its immediate consequence was to instill in managers' a sense of the importance of improving shareholder value above all other objectives. As Fligstein argues, under this new compensation system "the only legitimate purpose of firms is to maximize shareholder value" (2001, 148).

The age of the institutional investor

The percentage of corporate stock owned by institutional investors – large aggregates of shareholders under the direction of skilled investment managers – has increased immensely in recent years. The proportion of stocks owned by institutional investors increased from 15 percent in 1955 to 34 percent in 1980 to an excess of 50 percent by the mid-80s (Conard 1989; Khurana 2002). Another study estimates that institutional investors' holdings increased five times from 1986 to 1995 (Blommenstein and Funke 1998). Most corporate stocks are now owned primarily by institutional investors rather than by individual or family investors (Useem 1997).

Because of their dominant position as concentrated owners of corporations, institutional investors have the leverage to exert influence over boards of directors and corporate executives (Baker and Smith 1998; Useem 1997). Investors demand hearings with board members and express grievances regarding company policies or strategies. When firms underperform, institutional investors use their equity in the firm to directly threaten boards and executives unless changes are made. Investors hold executives accountable for poor earnings and failing to meet growth expectations. Executives are also now more likely to turn to investors as allies when setting new strategies (Useem 1996). In all of these ways, institutional investors have become more prominent figures in the corporate landscape.

Although the specific ways that institutional investors' influence is felt varies greatly, the more general impact of the presence of investors has been to create in executives a sense of urgency to manage assets in a way that will please shareholders. This, combined with executive compensation packages, puts pressure on executives to avoid stagnant organizational strategies. Whereas in the past managers of communications firms were likely to pursue long-term growth strategies, under the conditions of investor capitalism these same firms were encouraged to broaden their horizons and find innovative ways to boost their earnings quickly. Sometimes these strategies may have been quick fixes – for example, buying another company just to temporarily inflate short-term earnings (Lowenstein 2004). At other times, these strategies may have been more earnest. In all cases, executives face a great deal of uncertainty about the best ways to enhance their shareholder value. The constant search

for new sources of value created an opportunity for innovative firms with excess capital to take the lead in defining the future of the communications industries.

Out with the old and in with the new

Three conditions of change – a transformation of the regulatory environment; rapid and frequent technological innovation; and a move to investor capitalism – destabilized former perceptions of value and created an open environment for changes in organizational strategy. The conditions were ripe for the emergence of new perceptions of value that informed actors in the communications industries about the best ways to utilize their assets to reap future profits and growth. Specifically, many communications firms altered the way they conceptualized their industries during the mid and late 1990s and consequently pursued strategies that would transform their current use of assets to prepare for an uncertain future (Nicholls-Nixon and Jasinski 1995). Lacking stability, firms sought to transform their resource base in a way that would lead to future stability.

Many firms began exploring their environment for new resources. These firms sought to expand the base of their operations outside of their core competencies to prepare for future changes in market conditions. If local markets had proven so unstable in recent years, communications firms became increasingly willing to begin ventures in markets and industries with which they had less experience in the hopes of attaining more predictable financial outcomes. This sometimes meant that many firms moved beyond the local markets that they once dominated to compete at a global or national level

(Capron and Mitchell 1997; Capron, Dussauge, and Mitchell 1998; Warf 2003), but for many other firms, this meant developing new competencies.

Of course, not all communications firms operated in equally unstable environments. Although all firms in the 1990s felt the influence of the rise of investor capitalism, not all local markets were equally threatened by regulatory changes and technological innovation. In this chapter I related the history of two of the industries that experienced different levels of uncertainty during the mid-1990s. The stability of the telephone industry was disrupted by both drastic changes in regulatory policy and rapid innovation both within and outside the industry that could potentially alter their consumer base and make their former competencies irrelevant. The radio broadcasting industry, on the other hand, faced regulatory changes that reduced barriers to cross-ownership but their competencies were not as drastically affected by technological innovation. Increasing concentration within the industry, instead, was a major concern. We see, then, that communications industries were differentially affected by transforming market conditions. One important contribution of the next chapter is to determine how variation in market conditions influenced the generation of local perceptions of value.

I argue that as a result of these changes communications firms frequently used acquisitions in attempts to create market stability. Scholars have observed that the late 1990s witnessed one of the largest merger and acquisition waves that the business world has ever seen (Auster and Sirower 2002; Stiglitz 2003). Communications firms were major players in this wave of acquisitions. One of the tenets of this dissertation is that firms in the communications industries used acquisitions to shape their asset base to

improve their future ability to make profits and maintain their market positions. Acquisitions, in this sense, were a key mechanism in shaping the new perceptions of value that emerged following deregulation and during this period of flux in the communications industries. Whether or not acquisitions actually improved firms' abilities to survive the new market conditions is not addressed here. In fact, it is quite possible that the wave of acquisitions impaired firms' competitiveness. Yet, regardless of the effects of acquisitions on individual firms, the collective result of this acquisition wave to jointly produce new understandings about the ways that communications firms could enhance their value. These emergent perceptions shaped the views that firms held about the kinds of assets that could be combined in the most effective ways. Thus, perceptions of value should emerge through the collective actions of firms' acquisition strategies and should be reflected in the locations of those acquisitions. In the following chapter I address this issue empirically.

Summary of chapter two

In this chapter I have 1) related a brief history of two communications industries – telephony and radio broadcast – to demonstrate how changes in market conditions over time resulted in shifting perceptions of value and 2) described the transforming environment of the communications industries in the 1990s to provide background for understanding the causes behind the latest acquisition wave in the communications industries. The historical cases illustrate that regulation of competition enabled telephone and broadcasting companies to develop value-enhancing strategies that produced

consistent positive outcomes. Regulation generated stable conditions associated with predictability of returns to market value. Firms under stable conditions were able to constantly improve their infrastructures through a retain and reinvest strategy. Industry boundaries remained segregated and clear.

Shifts in technology disrupted the stability of former perceptions of value. In the telephone industry, the shift first occurred when new technology made it possible for new entrants to offer competitive long-distance service and was furthered by the judicial decision to break up AT&T. Although not fully deregulated, this change caused the telephone industry to fragment and forced the resulting firms to develop new perceptions of value. For radio broadcasting firms, the shift occurred when a new technology offered competition to the entertainment format that radio had provided to American families for so long. Television programming provided a substitutable service. This caused radio broadcasters to change their competitive structure and to develop new business models. In both cases, firms reacted to instability by altering their value-enhancing strategy.

These histories provide an accurate description of how perceptions of value change and are institutionalized over long periods of time, but the cases tell us little about the internal processes leading to new perceptions of value. The cases are illustrative but do not allow us to test the predictive power of the theory. In the next chapter I delve into the endogenous process of shifting perceptions with more precise, quantitative analysis.

The second half of this chapter provided a general description of the changes that occurred in the early and mid-1990s that led to increasing instability and rising uncertainty in the communications industries. As noted above, not all market segments

were exposed to the same levels of uncertainty. In the following chapter, I will assess how variation in market conditions instigated local shifts in perceptions of value.

CHAPTER 3: THE EMERGENCE OF PERCEPTIONS OF VALUE IN THE CORPORATE ACQUISITION MARKET

The mid to late 1990s witnessed the largest merger and acquisition wave to date (Andrade, Mitchell, and Stafford 2001). The number of acquisitions in the late 1990s was triple the number of acquisitions during merger wave of the 1980s. The total dollar value of acquisitions was seven times that of the 1980s (Bainbridge 2003). Deals in the telecommunications, media, and information technology industries constituted a large proportion of all acquisitions during this time period. *The Economist* estimated that acquisitions in these industries made up 40% of all deals in 2000 – the peak year of the wave (“The great merger wave breaks” 2001).

Changes in the communications industries (deregulation and technological innovation coupled with investor-driven demands for rapid growth) facilitated an intense interest in acquisitions that produced both industry consolidation and the loosening of cross-industry boundaries. This explains, to some degree, the disproportionate representation of acquisition behavior in these industries (Holmstron and Kaplan 2001). However, the general conditions of industry transformation do not inform us greatly of the patterning of those acquisitions. Knowing that deregulation increased competition and blurred boundaries does not tell us which kinds of firms were the most likely to merge. We still know very little about the shifts in industry structure resulting from this acquisition wave. Developing an explanation for the patterns of acquisitions in the

communications industries would provide insight into the more general economic changes in the corporate landscape during this time period.

Previous studies on mergers and acquisitions have focused extensively on explaining the causes of merger and acquisition waves (Davis and Stout 1992; Stearns and Allan 1996; Auster and Sirower 2002) or of its converse, movements of de-diversification (Davis, Diekmann, and Tinsley 1994; Zuckerman 2000). Most research on mergers and acquisitions has ignored location and instead focused on the event of acquiring or merging with another firm (see, for example, Haunschild 1993; Palmer, Barber, Zhou, and Soysal 1995; Palmer and Barber 2001). The current study differs in that I examine the inter-segment location of corporate acquisitions within a larger wave. Rather than trying to predict only when firms will acquire assets, I will try to explain *where* and *what* they acquire. The only other attempt to explain acquisition location looked at the geography of acquisitions within the same industry (Baum, Li, and Usher 2000).

In this study I examine mergers and acquisitions at a dyadic level across a variety of business segments. The purpose of doing a cross-segment analysis of acquisition location is to understand how firms determine the value of potential target assets among a wide range of choices. I will address the question, what made communications firms decide to invest their company resources in the acquisition of a particular kind of company with specific kinds of assets? I contend that emerging perceptions of value guided corporate decision-makers to acquire in particular segments, net of other indicators of the fundamental value of those segments. Because firms did not have

enough good information about the value-enhancing qualities of potential transactions, they instead relied extensively on their peers to gauge the value of those deals. The realization of collective movements of communications firms into certain market segments created a shared belief among those firms and among investors that the deals were in fact value enhancing.

Acquisitions and value

Stearns and Allan (1996) note that merger waves usually occur following shifts in the economic and political environment. These changes destabilize former business practices and create new opportunities for growth and expansion. Fligstein (2001) likewise contends that merger waves are usually indicative that a new conception of control has emerged that provides corporate managers with a new set of strategies and corporate governance tools. Merger waves occur as a particular mindset diffuses throughout the population that encourages the use of capital to expand by acquiring more assets (Auster and Sirower 2002). Although this strategy may actually devalue the acquiring firm, managers believe that, at least in the long run, acquisitions benefit the company's bottom line.

A rich literature in finance explores the effects of mergers and acquisitions on firm valuation (see, for example, Comment and Jarrell 1995; Servaes 1996; Campa and Kedia 2002). Most of these studies operate under the neoclassical assumptions of a market for corporate control, where acquisitions are presumed to produce synergies and create value (Marris 1963; Manne 1965; Jensen 1986; Carney 1999; McChesney 1999).

Acquisitions, according to this view, reallocate resources efficiently to create value from poorly managed and depreciated assets. Despite the fact that studies have shown that acquisitions often, in fact, yield immediate decreases in firm value (Davis, Diekmann, and Tinsley 1994; Lang and Stulz 1994; Berger and Ofek 1995), finance scholars have been slow to develop heterodox perspectives for the causes of acquisition behavior (although see Shleifer and Vishny 2003).

I take acquisitions as an indicator that a firm is trying to create value. At the very least, corporate actors *believe* that through acquiring other firms they are enhancing their ability to make a profit or increase immediate earnings and thereby maximizing shareholder value. How though do firms decide which potential targets represent the best sources of value creation? Clearly, corporate actors use stock price and earnings indicators to determine when a potential target is undervalued – that is, when a potential target is worth less than other comparable firms. But given the large field of assets in the marketplace, how do firms know what kinds of targets have the best potential for synergy and positive future returns?

Value-enhancing functions of acquisitions

There are six main stated reasons that executives believe acquisitions enhance a company's value. First, through acquisitions firms grow, increase their market share, improve earnings, and generate economies of scale and scope that make them more effective competitors. Second, firms acquire undervalued companies, which they believed they can turn around due to more effective management. Third, firms can

reduce resource dependence by vertically integrating their suppliers. Fourth, firms often acquire targets that give them access to innovative technologies or patents that might yield immense future profits for the firm. Fifth, acquisitions allow companies to diversify in new product markets. Sixth, firms acquire complementary assets that can be utilized with their own to produce synergies that would benefit consumers in new ways. In the following sections I examine these alternative motivations for how acquisitions may enhance value and construct testable hypotheses based on the arguments. I then argue that although company executives may rely on information about the potential value that each of these contributing factors may bring to the firm, they still lack enough information about each fundamental indicator to make a perfectly rational acquisition choice. The dearth in good information about the future, in particular, causes executives to rely on their peers as proxies to guide them in their decision making.

Growth

The first motivation for engaging in corporate acquisitions is growth. Managers may find that it is less costly to grow through merging with another firm than it is to enter the market *de novo* (Hirschey 1986). In some cases the acquirer uses the acquisition as a search mechanism for new competencies (Matsusaka 2001). Shareholders of firms that have extra capital expect the company to build shareholder value with this excess. One of the primary ways that firms do this is through corporate growth, which is often measured by increases in net sales or revenue (Zollo 2003). Finance scholars suggest that growth is an intermediate objective that may increase the net present value of the firm (Donaldson 1984; Rappaport 1986). Granted, executives cannot expect absolute

increases in firm size to always improve shareholder value, but if firms acquire companies that have high earnings potential and reduce the amount of equity borrowed to finance the deal, acquisitions may potentially build long-term value.

Horizontal acquisitions can lead to growth within one's primary market of competition. Although excessive growth in one particular industry may alert anti-trust regulators who may thwart the deal's completion, firms that increase market share can expect to improve earnings and gain more leverage in setting prices and more effectively control competition (Scherer and Ross 1990). Gains in market power, although often attributed to collusion (Stigler 1968), may simply be the result of increased concentration and reduced competition in a firm's industry (Caves 1981). Empirical research demonstrates, however, that increased market share does not always translate directly into improvements in shareholder value (Eckbo 1983; Stillman 1983; Seth 1990; Capron 1999), yet firms still use this as an important justification for acquisitions.

Another reason firm growth is thought to improve value is because it allows firms to take advantage of economies of scale and scope. In the case of horizontal acquisitions, firm growth leads to reduction of operating and transaction costs, creating economies of scale (Porter 1980; Scherer and Ross 1990; Wiggins 1981). Unrelated acquisitions often result in the bundling of complementary resources that can produce output more cost efficiently (Singh and Montgomery 1987; Anand and Singh 1997). In both cases, firms that grow through acquisitions may position themselves to reduce costs and operate more efficiently than competitors.

Growth through acquisitions is an important strategy for many communications firms because of the high costs involved in establishing product lines or reliable services. This is particularly true of the telecommunications and broadcast industries. Capron and Mitchell (1997) argue that growth is a major motivating factor for many telecommunications acquisitions as firms try to expand quickly to take advantage of the opportunities created by deregulation. Acquisitions may, in fact, be necessitated if other competitors also have high growth rates. Rather than build new infrastructures and or dual networks, firms in network-based industries (like in telecommunications) can grow more cost-effectively by acquiring competitors.

Also, during the time period of this study firms increasingly used acquisitions to show boosts to reported earnings. Consistent with the logic of investor capitalism (see chapter 2), investors and corporate boards demand that managers find ways to show constant earnings growth (Lowenstein 2004). Due to the increased pressure on managers, many managers may use acquisitions to manipulate reported earnings. Bergstresser, Desai, and Rhau (unpublished) argue that managers assume higher expected earnings from acquisitions than is reasonably attainable. Although this may actually be a poor strategy for enhancing the long-term value of the firm (Ross, Westerfield, and Jaffe 1999), the quarterly report cycle of the current business environment may shorten the growth horizon of executives and may have been a major impetus for the acquisition wave in the communications industries.

I present several growth-related hypotheses for why firms would acquire assets in particular target segments. These hypotheses follow the expectation that firms should

want to grow within their own industry to develop potential economies of scale and should seek to buy assets in high-growth business segments. Firms should also seek targets in segments where profitability is high. Targets that post profits will allow the acquiring firm to post immediate returns to their earnings, which has been suggested as a major motivation for acquisitions during this time period (Lowenstein 2004). Finally, we should expect that firms with a high-growth strategy should continue to seek growth in the future.

H1: Communications firms will be likely to acquire assets in their segment of primary operations as it creates economies of scale.

H2: Communications firms will be likely to acquire assets in segments that have experienced rapid growth.

H3: Communications firms will be likely to acquire assets in segments that are profitable.

H4: Rapidly growing firms will be more likely to acquire assets in every segment.

Buying undervalued assets

The neoclassical assumption about acquisitions is that they produce net gains for shareholders because they put undervalued assets to better use by more capable managers. Acquisitions initiated by profit maximizing managers yield net market gains and efficiently allocate resources among producers and consumers (Marris 1963; Jensen and Ruback 1983; Macksimovic and Phillips 2001; 2002; see Bainbridge 2003 for

review). Manne (1965) argued that acquisitions take place in a “market for corporate control.” Failing firms either go bankrupt or are absorbed by an existing firm that can use their assets more efficiently. Firms run by inefficient managers will be devalued and trade at a discount, which will make them attractive targets for takeover (Campa and Kedia 2002). Acquisitions, rather than reflecting decreasing market competition, may in fact indicate that a market is becoming more attuned to consumer demand. Moreover, agency theory suggests that the threat of merger serves as a monitoring device to prevent shirking among managers (Carney 1999; McChesney 1999).

Maksimovic and Phillips (2001) find that firms tend to acquire the assets of other firms that are underperforming in their respective industries. Acquiring firms look for assets that fail to meet the benchmark productivity standards of the average firms in their industry. Acquiring firms also tend to already be functioning at high levels of productivity. Net productivity gains result from these acquisitions as underutilized assets are transferred to management that is better able to exploit their true value.

Scholars find that firms seeking to acquire undervalued assets will buy targets where the book value of the assets is high relative to the market value of the firm (Lang, Stulz, and Walkling 1991; Graham, Lemmon, and Wolf 2002). The accounting measure used to determine the extent of undervaluation is Tobin’s q . When firms are undervalued, management’s contribution to firm market value is low – that is, market value of the firm is lower than it would be under more effective management. Although it is impossible for strategists of the acquiring firm to determine what the stock price of any given target firm should be, most acquisitions motivated by attempts to reverse poor

management are made under the assumption that the acquiring firm is capable of boosting the stock price of the target. In fact, most acquisition announcements lead to sharp rises in the stock prices of the target firm, which indicates that investors feel similarly.

To gauge the potential value that a target firm has, we should expect acquiring firms to look at the performance of other firms in the target market segment. If other firms are performing well (having high market values relative to the book value of their assets) a struggling firm would be deemed an attractive target. Therefore, we would expect that although acquirers buy target firms that are low market value to book value ratios, they will acquire in segments where the market value to book value ratio is high. The other side of the argument is that acquiring firms are themselves likely to be somewhat overvalued prior to the acquisition. Firms that have high market values can borrow equity to finance the acquisition deals. Therefore, we would also expect the value of the acquiring firm to have an effect.

Following these expectations I develop two hypotheses:

- H5: Communications firms will likely acquire assets in segments where the market value of the firm is high compared to the book value of assets in that segment.
- H6: Communications firms with a high market value to book value ratio are more likely to acquire assets in any segment.

Resource constraints

A third motivation for acquisitions is reducing resource constraints by gaining control of the assets of firms in your supply chain. Pfeffer (1972) found that industries that have high levels of transactions with each other also have more inter-industry acquisitions. Firms acquire other companies that provide resource inputs to their line of business. Dependence upon suppliers for resources introduces a constraint on firm behavior that can be reduced by simply absorbing that constraint. Completion of the acquisition provides the focal firm with more autonomy. Increases in autonomy often translate into enhanced purchasing power or reduced sales interdependence (Pfeffer 1987). The hypothesis that firms will acquire companies upon which they are dependent for resources has been supported in a number of studies (Pfeffer and Salancik 1978; Burt 1980; Galbraith and Stiles 1984; Palmer et al. 1995; Finklestein 1997).

I propose one resource constraint hypothesis:

H7: Communications will acquire assets in segments upon which they are dependent for resources.

Technology

Given the importance of technological innovation to profitability and firm survival (Schumpeter 1962; Mensch 1975; Klein 1977; Dosi 1982), gaining access to new technologies and innovation processes may be a primary motivation for acquiring a target firm. In order to remain competitive in an ever-changing technological environment, firms are impelled to develop new technologies to improve their current product lines (incremental innovation) and to develop new products for which there may be potential demand (disruptive innovation). Although some firms may choose to

internally control the innovation process through investments in R&D programs, other firms may simply acquire innovative companies and thereby gain access to their innovation processes and/or patents. This may be particularly true for technologically dependent firms like those found in the communications industries.

Improving innovativeness is one value-enhancing characteristic of acquisitions. Research demonstrates that innovation is an important benefit of some acquisitions (Hall 1987; Ahuja and Katila 2001). Hall (1987) argues that firms acquiring innovative assets increase their R&D intensity following the transaction. Ahuja and Katila (2001) find that acquisitions of firms with a large technological component improve the innovation performance of the acquiring firm. Few studies have addressed innovation as a contributing factor to acquisition decision-making. Blonigen and Taylor (2000) found that electronics firms that invest heavily in R&D are less likely to engage in acquisitions because 1) they have less capital to invest and 2) they decided to generate innovation through internal processes rather than acquire them directly. No research, however, has adequately looked at the extent to which the innovativeness of firms increases their attractiveness as acquisition targets.

I present two innovativeness related hypotheses:

- H8: Communications firms that have high levels of technological innovativeness will be less likely to acquire in all segments.
- H9: Communications firms will acquire assets in segments where technological innovativeness is high.

Diversification

Another motivation for engaging in acquisitions is to become more diversified. As Davis et al. (1994) argue diversification was a popular strategy for corporate growth following the enactment of the Celler-Kefauver Act in 1950, which put constraints on firms' abilities to become more vertically and horizontally integrated (Fligstein 1991). Operating under the "firm-as-portfolio" logic, corporate executives believed that by acquiring a variety of unrelated assets and managing them with effective corporate practices, the firm could increase its value. This model of corporate behavior fell out of favor however during the deconglomeration movement of the 1980s. During the eighties many firms shed unrelated lines of business and refocused their business strategies, becoming leaner as a result (Davis et al. 1994). Corporations became reconceptualized as bundles of assets that could be reorganized to fit the demands of investors (Espeland and Hirsch 1990; Fligstein and Markowitz 1993).

Zuckerman's (2001) analysis makes clear that decisions to de-diversify were at least partly driven by needs to conform to publicly-defined identities. Firms are constrained by the categories used by investors and security analysts to determine their market value. Thus, firms that covered too many securities categories felt more pressure to de-diversify. However, some firms may be somewhat protected from these constraints because they are able to develop identities as global, multi-product firms. Davis et al. note that "a handful of enormous corporations at the core of the intercorporate network" (1994; 565) were able to maintain their use of the business-as-portfolio model. Such firms may continue to use acquisitions to diversify into new product lines because the market does not punish them as severely for not abiding by categorical constraints.

Those firms that remained highly diversified, even after the de-diversification movement, may continue to view diversification as value-enhancing.

Communications firms have a particular incentive to diversify into product lines with which they were not familiar. As Shaw (2001) notes consumers' appetites for communications services and products are becoming more diverse and individualistic. Consumer demand for personalized information and the availability of various technologies to distribute that information impels firms to branch out of their traditional arenas of competition and utilize a diversity of products and services. Diversifying into new product lines may not be a matter of creating an ideal portfolio. Instead, firms diversify in order to hedge the risks of over-investing in technologies that may soon be outdated and in order to provide a more complete menu of communications technologies and products to a demanding consumer base.

I present one diversification related hypothesis:

H10: Firms that are already highly diversified will be more likely to acquire in all segments.

Asset complementarity

The final value-enhancing motivation for acquiring firms is combining complementary assets in order to create product or operational synergies. This is an additional argument favoring diversification. Firms may want to acquire unrelated assets because the two sets of assets together produce products and services that have more value than they would separately. Some scholars argue that diversification is a wise strategy when firms take advantage of these complementarities and that it is unwise when

firms haphazardly pull together mismatched assets (Wernerfelt and Montgomery 1986; Montgomery and Hariharan 1991). Thus, we should expect that assets from certain industries are more ideally suited to be combined through acquisitions (Comanor 1967; Kamien and Schwartz 1975; Dasgupta and Stiglitz 1980; Brush 1996).

There has been much discussion about the potential synergies that might develop as the result of acquisition activities in the communications industries (Wilcox, Chang, and Grover 2001; Park, Yang, Nam, and Ha 2002; Shusterman, Bessler, and Norsworthy, unpublished manuscript). By bundling together communications services, communications firms should be able to offer consumers more individualized packages that allow them to retain the services they need and reduce personal costs in the process. For example, firms that combine telephone, internet, and cable television services can offer consumers packages of these services depending on their individual preferences. This has been a major motivation behind many of the proposed high-profile acquisitions during this time period, including the AT&T-TCI and AOL-Time Warner deals. Further, certain products may have more value to consumers when offered in conjunction with other products. Cell phone companies, for instance, market their products as more than just voice-to-voice communications mediums. Cell phones now come equipped with a variety of services, including an interface that allows the client to check email and news headlines on the Internet. Such product innovations would not be possible without combining assets in a synergistic way.

I present one synergy related hypothesis:

H11: Communications firms are more likely to acquire in segments that have previously demonstrated synergism with their primary assets.

Perceptions of value and acquisition location

Although corporate executives have an abundance of financial data to assist them in making acquisition decisions, they lack knowledge about the future value of potential targets' asset values. Further, they cannot accurately foresee how the completion of an acquisition will affect the operation of their firm. A mismatch of company assets can cause a transaction to be devaluing rather than value-enhancing. Much of the information needed to make these decisions is ambiguous and laden with uncertainty. Indeed, although a company may exert a thorough due diligence in assessing the potential value of an acquisition target, vital pieces of information are simply unavailable for scrutiny or impossible to quantify. The literature on post-acquisition integration indicates that many of the problems in developing synergy are difficult to quantify, as they relate to human relations or organizational identity and culture issues (Datta, Grant, and Rajagopalan 1991; Chatterjee, Lubatkin, Schweiger, and Weber 1992; Lubatkin, Schweiger, and Weber 1999; Puranam, Singh, and Zollo 2003; Zaheer, Schomaker, and Genk 2003). That missing information may be the crucial factor determining the success of a completed acquisition.

Even assuming that rational managers are driven by a motivation to maximize shareholder value when engaging in acquisitions (Shleifer and Vishny 2003), information problems may inhibit their ability to ascertain the extent to which their efforts will be

fully realized. The incomplete markets problem (see chapter 1) implies that corporate executives' assessments of value are likely to be mistaken because they lack a complete set of risk markets.

Growth only enhances value if it actually improves earnings or market share. Buying undervalued assets implies that managers are able to accurately ascertain the future value of those assets. Vertical integration assumes a relative level of stability in the marketplace that ensures today's suppliers will be equally imperative in tomorrow's production process. Acquiring new technology assets can be risky if new technologies quickly become outdated or if the market demand fails to materialize for new technologies. Investing in new product lines is risky because it may lead to diversification that investors see as damaging to the overall value of the firm. And the ability of firms to effectively take advantage of complementarities between different asset configurations is questionable. Investors may view all of these efforts to create value through acquisitions as uncertain. How do firms deal with this uncertainty due to lack of complete information about the future value of newly acquired assets? How do they decide to make the decision to acquire in the first place given lack of complete information?

Based on the theoretical propositions established earlier (chapter 1), I argue that corporate executives use signals from their peers to generate estimations of the value of potential acquisition targets. Lacking the necessary information to make a precise value assessment, executives turn to their peer companies as proxies for missing information. Firms use their competitors to gauge the value of potential targets in varying market

segments. As a result, firms choose to acquire in new markets based on the acquisition strategies of their closest competitors. As a firm's competitors begin moving into new segments (for example, a telecommunications company acquires a target in media production), the focal firm perceives the target segment of its competitors as value enhancing. The key observation here is that firms use their competitors to assess what kinds of assets will enhance their value in the future and also as a predictor of the expected returns that future investments might have.

Perceptions of value develop as firms monitor their peers and mimic their acquisition patterns. Peer migration into segment x indicates that segment x might also produce potential value for the focal firm, and increases the likelihood that the focal firm will also try to expand into segment x . The potential value of market segment x is constructed out of monitoring and mimicking of competitors. As more firms in a primary segment move into segment x the perceived value of segment x increases among all members of the primary segment *and* among third-party observers.

The emergent perceptions of value are collective beliefs that specific sets of assets will yield benefits for the owner. In the case of firms, perceptions of value instill in corporate actors the belief that their investment choices will bring future profitability, secure market share, or improve stock performance. These perceptions go beyond the legitimacy of certain kinds of practices and strategies – a common domain of neoinstitutional theory. Perceptions of value guide corporate decision makers' choices of *what kinds* of assets to purchase or *what areas* of research and development firms should exploit. They indicate to market actors the best areas for capital investment.

The monitoring and mimicry of peers should be most intense when the markets are least stable. Firms cannot foresee the future conditions of the industries in which they will be operating. The inability to forecast the future conditions of the marketplace becomes a particular problem when the market is already in a great deal of flux. Unstable market conditions lead to corporate control problems (Fligstein 1991) and motivate firms to seek new ways to secure value. As proposed earlier, in unstable markets firms lack perceptions of value that lead to consistent positive financial outcomes. Under these conditions, the normal uncertainties of making acquisition decisions are exacerbated and firms rely to a greater degree on their competitors for signals as to the appropriate actions to take in securing value. Therefore, we should expect that new perceptions of value tend to emerge in market segments where stability is low.

Hypotheses about emerging perceptions of value

Acquisition location is largely determined by the acquisitions of peers. Critical to this process is the identification of influential peers. Sociologists often hypothesize that competitive rivals are good candidates for mimicry (Burt 1987; Soule 1997; Strang and Soule 1998; Bothner 2003). Galaskiewicz and Burt (1991) argue that close rivals must carefully monitor each other's behavior because they do not want to lose competitive advantages and have their products or services replaced by the other. This is a compelling reason for communications firms to closely monitor and mimic their competitors. Small changes in the technology of production or distribution of product

could yield long-term gains for the innovator. Failure to make those changes could prove devastating to future market success. From these assumptions I generate my first hypothesis:

H12: Firms will likely engage in acquisitions in segments where their closest competitors have previously acquired assets.

Firms may also monitor the largest incumbents or leaders in their particular segments. Sociologists studying the diffusion of business strategies note that a few highly visible, prestigious actors tend to exert more influence than the majority of lesser players (Haveman 1993; Han 1994; Fligstein 2001; Strang and Macy 2001). Haveman (1993) finds that firms are more likely to diversify in unrelated industries where successful firms in their particular industry have previously diversified. Based on these findings I generate a second hypothesis:

H13: Firms will likely engage in acquisitions in segments where the largest firms or leaders in their particular market segment have acquired assets.

Market conditions should condition the effects of rivals and leaders on a firm's monitoring of peers. Bothner (2003) argues that the level and kind of competition should influence the effect of mimicry on the adoption of business practices. Firms should be more likely to rely on peers for information about value when markets are less stable and when there is more uncertainty. Firms in highly competitive segments may be more likely to monitor and mimic peers' acquisition strategies. High levels of competition make it more difficult for firms to attain profits and increases the chances of failure for

firms that make strategic mistakes. The increased stakes of highly competitive markets motivates firms to be more attuned to information sources when making strategic decisions. Firms may look to rivals and leaders more in highly competitive markets because failure to expand in the “right” way could be more detrimental when there are fewer resources to be allocated among all market players. This is similar to Haunschild and Beckman’s (1998) finding that firms are more likely to learn from their peers when information uncertainty is greatest. I measure competitiveness by looking at level of segment profitability. High levels of competition cause firms in that segment to attain lower profits. Segments with low profitability then should have the greatest competition, and firms in segments where profit levels are low should be more likely to mimic their peers.

H14: Firms operating primarily in segments with low profitability will be more likely to mimic rivals’ and segment leaders’ acquisition strategies.

Highly innovative market segments are also less stable because new technologies disrupt old patterns of profit making and threaten dominant incumbents’ abilities to maintain current market positioning. Highly innovative markets make it difficult for firms to consistently reproduce their positioning in the market profile (White 2002). Therefore, I expect that the innovativeness of a firm’s primary market segment will affect communications firms’ reliance on peers to determine the value of potential acquisition targets.

H15: Firms operating primarily in segments with high levels of innovativeness will be more likely to mimic rivals' and segment leaders' acquisition strategies.

Data and dependent variable

The dataset consists of all publicly-traded firms operating in telecommunications, information-service, and media market segments from 1997 to 2002 that had at least \$20 million of sales. This is operationalized as any U.S.-based corporation located in a segment that begins with the digits "51" under the 2002 NAICS classification scheme. A complete list of the market segments covered by this category can be found in Appendix A. Data on acquisitions were obtained through Dealogic Inc., a private consulting firm that monitors SEC filings and press releases related to acquisitions. There were a total of 2,260 transactions occurring between firms in the communications industries during this time period.¹⁵ Financial data at the firm and segment level were obtained from the COMPUSTAT and CRSP financial databases.

Figure 3.1 graphically displays the over time fluctuation in the number of acquisitions between communications firms.¹⁶ The number of acquisitions peaked in 1999 and declined thereafter. Note, however, that the number of acquisitions never

¹⁵ The total number of acquisitions by communications firms is greater than this number, but I only count acquisitions by firms acquiring other communications firms and for those company for which I have financial data. I also only count full asset sales as acquisitions. Partial asset sales (where one company buys a portion of the target's assets) or acquisitions of a minority shareholder position are not identified as acquisitions. A more complete description of the acquisitions data and their recoding can be found in Appendix B.

¹⁶ Note that the figure does not include those acquisitions where a communications firm acquired a firm operating outside of the communications market segments.

declined below the 1996 mark. Acquisitions remained relatively high across the entire time period, indicating that even as the economy slipped and the market bubble of the late 1990s ended, communications firms still engaged in acquisitions.

I used the SIC classification system to designate segment boundaries and the COMPUSTAT database to determine the primary SIC grouping for each firm. Appendix B contains information about the COMPUSTAT database. There are 23 possible segments to which any firm can belong. I categorized firms according to their primary segment of operation, which is operationalized as the SIC segment in which a firm has the majority of its assets. I assume that a firm's primary segment forms the basis of its identity. Second, I calculated primary segment level variables for each firm. Third, I calculated target segment level variables that were then paired with each firm by year. Fourth, I constructed firm to target segment and primary segment to target segment specific variables that measured qualities about the relationship between the acquiring firm and the potential target segment. Those variables are described in the next section.

The resulting dataset had 267,444 firm-segment dyad observations.¹⁷ The clearest way to think about the structure of this dataset is as a two-mode network where each firm has the possibility of making an acquisition with each segment during every year of the analysis. Table 3.1 breaks down this information by year.

The dependent variable is coded as 1 for each dyad in which the firm announced the acquisition of a target in the corresponding segment. Note that announcements of

¹⁷ The number of observations used in the statistical analyses is smaller than this due to missing financial data for some firms. The missing firms tended to be newly founded companies or companies that were only recently made public. Therefore, the data are slightly biased toward established firms that have been publicly traded for some time.

acquisitions often precede the effective transaction by months or sometimes longer. Sometimes announced acquisitions never go into effect. To deal with this problem, I only count the announcements of acquisitions that actually resulted in completion of the transaction. I count the date of announcement rather than the date of completion because completion time is often affected by other factors that have little to do with the decision itself. The announcement date, on the other hand, is more likely to be timed according to changes in the environment and should be more attuned to peer influence. Due to the use of lagged independent variables, observations from 1996 were omitted from the analysis.

Table 3.2 shows cross-tabulations of acquisitions between the different market segments for the entire time period. Firms in the software and wired telephony industries were the most likely to acquire other companies (with 502 and 377 acquisitions). Firms in the computer services segment were the most likely to be targeted for acquisition (with 440 acquisitions). Most acquisitions occurred within the same segment. The highest total number of cross-segment acquisitions (156 deals) occurred between the software segment as the acquirer and the computer services segment as the target.

Independent variables

All of the data for the independent variables in this analysis come from the COMPUSTAT database, unless otherwise indicated. Appendix B provides more detail about the data source.

Growth - I include three variables to test the hypotheses relating to growth. *Same segment* indicates whether the target segment is also the firm's primary segment. Firms

may be especially likely to buy firms in their primary business segment as they try to reduce competition through horizontal acquisitions. *Target segment growth* is the average change in firm employee count over one year for firms operating in a particular segment. While this is a standard measure of growth (see Davis et al. 1994), I also created an additional growth measure, which is the average change in net sales for firms in a particular segment. The additional measure will take into account growth that is not employee intensive. Because these measures are likely correlated and test the same hypothesis I do not include them both in the same statistical models. *Target segment profitability* measures the average profit margin (operating income minus expenses) for firms in a particular segment and taps the extent to which a segment is an attractive target because of its ability to boost short-term earnings. This variable and all other financial variables in the models were lagged one year so as to not measure post-acquisition effects. *Firm growth* is the yearly increase in the number of firm employees for that particular firm.

Undervaluation of assets - The following variables are used to test the hypotheses that firms tend to acquire targets in segments with high average market values and that high market value firms are more likely to engage in acquisitions. I use Tobin's q ratio as a measure of valuation. Tobin's q ratio is the market value of common equity a firm plus the long-term debt plus the liquidating value of preferred stock divided by the book value of total assets. Put simply, Tobin's q is the ratio of the market value a firm to the replacement value of its assets. Firms with low q ratios are undervalued. *Target segment's q ratio* measures the average q ratio of firms in a particular target segment.

Firm q ratio is included to capture the extent to which a potential acquirer has a high market value.

Constraint - Resource constraint is a measure of constraint on industry autonomy as conceptualized by Burt (1986). It captures the extent to which a firm's primary segment is constrained by the potential target segment. I use the calculation for industry-dyad constraint found in Burt (1986; also see Palmer et al. 1995) using industry input-output data from the Bureau of Labor Statistics.¹⁸ The constraint measure is calculated as:

$$C_{ij} = p_{ij}^2 O_j$$

where p_{ij} is the proportion of all industry i 's transactions that are with industry j and O_j is a measure of j 's concentration. Thus the constraint measure is high when industry i transacts primarily with j and j is highly concentrated. Following resource dependence theory (Pfeffer and Salancik 1978), I expect that firms will acquire targets in segments upon which they are dependent for a large proportion of their resource input.

Technological innovation - Patent applications is the number of patent applications a firm had in a given year.¹⁹ This variable captures the extent to which a firm is invested in technological innovation. The patent variable is lagged by one year.

¹⁸ These data can be found online at <http://www.bls.gov/emp/empind3.htm>. Because the data were not gathered at the four-digit SIC code level, I calculated industry constraints by grouping several different segments together. More information on this variable and the data used to construct it can be found in Appendix B.

¹⁹ Patent data came from the U.S. government's patent and trademark office website, <http://www.uspto.gov/>. A research assistant searched for patent applications for each firm in the dataset and made a yearly count of applications. I used patent applications rather than actual patents issued because not all applications are accepted but each application represents some level of innovative effort on the part of the firm. Appendix B contains more information on this variable and the data used to construct it.

Target segment patent applications is the average number of patent applications by firms in a particular target segment. This variable is meant to capture the extent to which firms acquire targets in segments that are highly innovative. I expect that innovative firms are likely to be more acquisitive in all segments and that innovative target segments are more likely to attract acquisitions.

Diversification - The *entropy measure of total diversification* is a continuous variable that captures the extent to which a firm operates in a variety of segments (see Davis et al. 1996). The measure, taken from Jacquemin and Berry (1979) is calculated as:

$$DT = \sum P_i \ln(1/P_i),$$

where P_i is the proportion of all a firm's sales in segment i . This provides a continuous measure of diversification. The measure equals zero when all of a firm's assets are in one segment and increases incrementally as the firm's assets are spread across more segments. The highest value of diversification for a firm in the analysis was 2.18. I expect that highly diversified firms are more likely to acquire in all segments.

Asset complementarity – To capture the extent to which latent complementarity exists between different segments, I included a variable that measures any preexisting relatedness in cross-ownership between those segments. I assume that complementarities manifest themselves in patterns of cross-ownership. *Preexisting association* is a dummy variable that indicates whether there was a greater-than-average likelihood of cross-ownership between a firm's primary market segment and the target segment prior to 1997.

COMPUSTAT contains information about cross-ownership. Each firm has a record of the specific segments in which it operates. Using this firm-level data on segment operation, I created segment-level tallies of cross-ownership (i.e. the number of firms in segment A that also operate in segment B). I then constructed a contingency table of firm cross-ownership between the different segments. Each cell is equal to the number of firms in a particular primary segment that owns assets in a target segment. I created a matrix of expected counts by multiplying the row sum of actual counts by the column sum of actual counts and dividing it by the total sum of the rows. If the actual count of asset ownership in any cell exceeded the expected counts, I coded that cell as 1. It was coded as zero if otherwise. Including this variable controls for any previous tendencies for firms to own assets in both segments. These tendencies may be caused by technological affinities or other forms of inter-segment dependence not otherwise captured in the model.

Perceptions of value - The key explanatory variables are closest competitors' acquisitions, leaders' acquisitions, and their interaction effects with segment-level profitability and technological innovation. To create these variables I needed to identify a firm's competitors. I assume that firms are most competitive with firms that share location of primary market operations and that have similar levels of market coverage. Firms that share primary location of market operations offer the same kinds of services and products and therefore compete for the same group of customers. Firms that have similar levels of market coverage have similar operating costs, have similar sizes of customer and supplier networks, and are more likely to share identities in market space.

Empirical research shows that firms with similar market shares experience similar levels of innovation and experience similar kinds of supplier constraints (Hannan 1997; Blundell et al. 1999). Given my sample of firms consists of firms that have broad geographical coverage, I also assume that firms with the largest market coverages will be the most likely to compete head-to-head in local markets. I, therefore, assume that firms operating in the same primary market segment (based on SIC class) with similar market shares are close competitors.

The competitors' acquisition variable is measured as the *number of acquisitions in the corresponding target segment by firms that reside in the same market share quartile as the focal firm*. A firm's market share is the proportion of a firm's sales in that particular segment divided by the total number sales by firms in that segment. A firm's competitors are those firms that occupy the same market share quartile. The second variable measures the *number of acquisitions in the corresponding target segment by the focal segment's leader*. A segment leader is the firm that has the greatest market share in the corresponding segment. In cases where the focal firm is the segment leader, I use the number of acquisitions by the firm with second greatest market share. Both of these variables vary by year and are lagged one year.

As an example, the market leader of the newspaper publishing segment was the Gannet Company, which had a market share of .18. It was in the same market share quartile as five other firms, including Knight-Ridder, Fiat-Spa, Hollinger International, and the Tribune Company. In 1999 Gannet acquired WJXX, an ABC affiliate television station in Jacksonville, Florida. Being the market leader, all other firms primarily

operating in the newspaper publishing segment were exposed to the effect of this acquisition for the television broadcast target segment. This set the market leader variable to 1 for all firms in the newspaper segment. No other newspaper firms acquired television assets in that year however, which meant that the competitors' acquisition variable for firms in the top quartile was also equal to one.

I also include measures of *segment profitability*, which is the average firm profitability for all firms in the focal firm's primary segment, in order to assess the extent to which competition facilitates peer mimicry. Profitability is determined for the primary segment in the same way as it was for the target segment (firm operating income minus expenses). I create measures *interacting segment profitability with the two peer acquisition variables*. The interpretation of a negative interaction is that firms in segments with higher profitability are not as highly influenced by peers' acquisitions. I then include a measure of *primary segment innovativeness*, which is the average number of patent applications by firms in the focal firm's primary segment, in order to account for the extent to which innovativeness mediates the effect of peer mimicry. I create variables *interacting primary segment innovativeness with the two peer acquisition variables*. Innovativeness is again measured by the average number of patent applications offered by firms in a particular target segment. I expect that firms in segments with high innovativeness will be more likely to be influenced by location of peers' acquisitions.

Control variables

I include a number of control variables. Data for control variables, unless otherwise indicated, came from COMPUSTAT (see Appendix B). The firm level control variables are standard for studies of acquisitions. Because most studies do not focus on the inter-segment location of acquisitions, the segment level variables are less frequently included in acquisition analyses. I include them to ensure that the potential peer effects are not biased due to misspecification. It is possible that peer effects could capture other aspects of the target segment that make acquiring a firm in that segment attractive. Also, because I am interested in understanding how peer influence causes changes in perceptions of value, it is important to control for characteristics that might be related to fundamental value.

I include seven firm-level control variables. *Debt structure* is the ratio of a firm's long-term debt to its market value. *Cash flow* is the ratio of a firm's operating income to the book value of its total assets. *Profitability* is the operating income minus expenses. *Operating income to value ratio* is the operating income minus deferred taxes divided by the market value of common equity. The *price to equity ratio* is the closing stock price divided by total equity held by stockholders. *Firm size* is measured as described above. *Market share* is the firm's sales in the primary market segment divided by the total sales in that segment.

I include four segment level variables – each of which is included for both the primary and target segment. Each segment level variable that is a mean is calculated by deducting the focal firm's value from the segment total to reduce artificially high correlations between firm level and segment level variables. The *Herfindal-Hirschman*

index is a standard measure of segment concentration. It is the sum of the squared-market shares of the four firms in the primary segment that have the largest market shares. Where the focal firm is one of the four firms used to tabulate the measure, a fifth firm's share is added and the focal firm's share is subtracted. *Segment diversification* is the average diversification score for all firms operating in the segment. *Segment profitability* is described above. *Segment q-ratio* is the average q-ratio of all firms in that segment. These five variables are also calculated for each target segment in the firm-target segment dyad.

Finally, I also include two variables measuring characteristics of the relationship the firm has with that particular target segment. These variables capture relationship characteristics between the firm and the target segment. *Interlocking directors* is a binary variable indicating whether that particular firm has members of its board of directors that are affiliated with a corporation (either sitting on another board or as an executive officer of another firm) in that particular target segment. Data for this variable were gathered from the corporations' annual proxy statements (see Appendix B for more details). It controls for the extent to which connected individuals in that particular target segment may facilitate acquisitions. Ties may also indicate the flow of information that precedes network learning (Haunschild and Beckman 1998). *Previous acquisition* indicates whether that firm acquired a target in the same segment in the previous year. This variable is included to control for firm-specific strategies that may exist causing them to acquire in specific segments. Correlations for all independent variables in this analysis are in Appendix C.

Statistical model

I use logistic regression to assess the effects of independent variables on the probability of an acquisition between the firm and target segment. Adjustments are made to the logistic model to take into unmeasured heterogeneity of panel level data. Unmeasured heterogeneity within cases (within firms and segments) may be the true cause of the outcome variable. This is often referred to as the “true state dependence” problem of panel data (Heckman 1981; Gulati and Gargiulo 1999). In this study there are two potential sources of state dependence – within-firm and within-target segment unmeasured heterogeneity. Some firms may simply be less likely to engage in acquisitions or certain target segments may be less likely to attract acquirers, net of every other measure included in the model. A common way to deal with this is to use a random or fixed effects model to control for unobserved heterogeneity (Peterson 1993). I use a combination of the two methods. Random effects are most appropriate when there are few observations within each group (Chamberlain 1985). Because of missing data or left censoring,²⁰ there are only one or two observations for some of the firms in the analysis. I use random effects, then, for within-firm unmeasured heterogeneity. I use fixed effects to account for unmeasured heterogeneity among target segments. This was done by including dummy variables for each target segment.

²⁰ Firms going public during one of the years in the analysis, for example, would enter the analysis later. There are as many firm observations for each year as there are target segments; however, because I use fixed effects for each target segment observation, I thought it most practical to use random effects at firm level.

Another potential source of underspecification is the presence of time dependence. I include year dummies in the model to control for year-specific effects (minus a reference year). In the models that follow I show the yearly dummy coefficients, but I do not display the coefficients for the segment fixed effects.

Results

Table 3.3 contains the logistic regression results of models where the dependent variable is the event of a firm's acquisition in a particular target segment. Model 1 contains all variables except for the perception of value explanatory variables. In Models 2 through 6 I add these additional explanatory variables. In order to reduce problems resulting from collinearity, I include each additional interaction variable in a separate model.

Model 1 displays the main effects of all of the control variables and of the variables from hypotheses 1-11. Of the growth variables only same segment transaction has a statistically significant effect. Firms are over fourteen times more likely to acquire targets in the segment of their primary operations than they are in other segments. Part of the reason for this effect may be simply that firms try to acquire assets with which they have familiarity, but this effect also indicates the tendency of firms to use acquisitions to increase their market dominance through horizontal acquisitions. By acquiring their competitors, firms are able to create economies of scale by lowering costs. In addition, horizontal growth allows them to develop more autonomy from their suppliers and clients (Burt 1992). I do not find support for the other growth related hypotheses.

I find no support for the undervaluation hypotheses. Firms appear to be no more likely to acquire assets in target segments where the average market value of the firms is higher than the average book value of firm assets. I also find no support for the hypothesis that highly valued firms are more likely to acquire assets in all segments.

I find support for the resource constraints hypothesis. Firms are 27% more likely to acquire assets in target segments that are one standard deviation higher in the amount of input constraint they exert on the firm's primary segment. This effect indicates that one of the reasons that firms acquire assets is to reduce their dependence on suppliers. The possibility of vertical integration is a motivation for acquiring other companies.

The results provide mixed support for the innovativeness hypotheses. Firms are more likely to acquire assets in segments that are highly innovative. A standard deviation increase in the average number of firm patent applications in a particular segment increases the likelihood by 33% that the focal firm will acquire assets in that segment. Firms use acquisitions to acquire companies in segments that are highly innovative, perhaps to acquire innovation programs that would improve their ability to create innovations and generate future streams of profit. In addition, innovative targets provide immediate sources of profit in the form of patents. I did not find support for the other hypothesis, however, that innovative firms would be less likely to engage in acquisitions in all segments. This expectation was based on the assumption that firms that are already innovative will have less need to acquire other companies and will also have too many internal resources dedicated to research and development, net of other financial indicators, to pursue acquisition strategies. Instead I find that innovative firms are more

likely to engage in acquisitions. In fact, for every standard deviation increase in the number of firm patent applications, that firm is 12% more likely to acquire assets in any segment. This surprising result suggests that innovative firms may be using acquisitions to complement, rather than substitute for, their own internal innovation programs.

Communications firms, for which innovation was of primary importance given the rapid technological base of their industries, may have tried to surpass their competitors by attaining innovative advantages through several strategies. The need for innovation is reflected in this finding.

The results did not support the diversification hypothesis. Highly diversified communications firms were no more likely to engage in acquisitions than less diversified firms. The results support the asset complementarity hypothesis. A firm was more likely to acquire assets in target segments associated by cross-ownership with the firm's primary segment. A firm was almost two and a half times more likely to acquire assets in a segment where there was a previous association of cross-ownership with the firm's primary segment. This finding indicates that any inter-segment complementarities that existed prior to 1997 facilitated future acquisitions between those segments. Historical, path dependent processes linking different segments as complementary shaped future patterns of acquisition location.

In model 2 I add the direct effects of the peer acquisition variables. The inclusion of these variables improves the overall fit of the model as shown by using a likelihood ratio test (chi-square = 21.86 and is significant at .001 level). Both peer acquisition variables follow the expected direction and are statistically significant at the .01 level.

The relative magnitude of these effects is roughly the same. A standard deviation increase in the number of close competitors that previously acquired targets in a particular segment increases the likelihood that the firm will also acquire a target in that same segment by five percent. A standard deviation increase in the acquisitions by the highest status firm in the firm's primary segment also increases the likelihood of acquiring in the same segment by five percent. The direct effects of the peer acquisition variables indicate that firms' choices of targets and the timing of those acquisitions are influenced by peers' acquisition choices.

Model 3 includes the interaction effect of primary segment profitability and competitors' acquisitions. The negative coefficient indicates that the effect of competitors' acquisitions weakens for firms in primary segments where there is high profitability. That is, firms in less competitive environments are less influenced by their competitors in both the timing and location of corporate acquisitions. Model 4 includes the interaction effect of primary segment profitability and segment leaders' acquisitions. While the coefficient does follow the expected direction, the effect is not statistically significant. Therefore, only one of the competition hypotheses is supported. Competition does seem to magnify the effect of peer mimicry in acquisition timing and choice, inasmuch as competition is directly related to profitability levels within a particular segment.

In models 4 and 5 I test the hypotheses that a firm's segment innovativeness magnifies the influence of peers' acquisitions on a firm's acquisition location. While the interaction effect of segment innovativeness and competitors' acquisitions is not

significant (model 4), the interaction effect of innovativeness and leader's acquisitions is statistically significant. Unexpectedly, the effect is negative, indicating that firms are less likely to be influenced by a leader's acquisition location when they operate in highly innovative market segments. I, therefore, fail to find support for the hypothesis that innovativeness amplifies the effect of peer acquisitions. Alternatively, the evidence indicates that less innovative markets facilitate the mimicry of leaders' acquisition location.

Several control variables reveal interesting details about the acquisition patterns of communications firms. Moving down the columns of Table 3.3, five control variables have consistently significant effects in all six models. A firm's cash flow negatively affects the odds of acquiring assets in all segments. This finding may be somewhat surprising, as cash flow is typically thought to be positively associated with the ability of a firm to engage in acquisitions. Scholars believe that firms with extra cash are more able to acquire new assets because they are given more spending discretion by investors and board members. I, however, find that the opposite was true of communications firms during this time period. This effect may be partly explained by the reversal in payment methods for corporate acquisitions. In the 1990s firms were much more likely to fund acquisitions using stock instead of cash. Rappaport and Sirower (1999) state that in 1988 60% of all acquisitions were cash transactions; in 1998 only 17% were funded by cash. The negative coefficient of cash flow in this study suggests that communications firms in 1990s did not need excess cash flows to engage in acquisitions and, in fact, were more

likely to use the replacement value of their assets as collateral to borrow money to fund acquisitions.

Another firm-level control variable, number of employees (logged), confirms that larger firms are more likely to engage in acquisitions than their smaller counterparts. Segment diversification has a positive effect on choosing to acquire in any segment. This effect suggests that firms operating in segments where their competitors are highly diversified are much more likely to acquire assets. A possible interpretation of this finding is that the most diverse segments are those segments that are becoming less profitable over time, which compels firms operating in those segments to diversify in order to enhance their long-term survivability. Firms with highly diversified competitors may continue to diversify in order to find firmer footing in the market.

The effect of interlocking directors is positive. Firms are 36% more likely to acquire in a particular target segment when at least one member of their board of directors is an executive officer of a firm in that segment. For instance, a cable television company is much more likely to acquire a cellular telephone firm if an executive from the cell phone industry sits on its board. This may be the function of the passage of information between firms about potential targets or it may be due to direct interpersonal influence. Firms may also appoint board members who have influence in the industries in which they have acquisition interests, which would facilitate future deals and allow them to obtain lower prices for those transactions (Beckman and Haunschild 2002). Although I do not assert causality, this finding suggests that inter-industry network effects facilitate the location of corporate acquisitions. Not surprisingly, the coefficient

of the prior acquisitions variable is positive, indicating that firms are more likely to acquire assets in a particular target segment when they acquired assets in that same segment in the prior year.

Discussion

The results of this analysis indicate that peers' acquisition choices influenced communications firms in determining when and where to engage in acquisitions. I suggest that the acquisition choices of a firm's closest competitors and their market leader created perceptions of value – or shared understandings about the returns that the purchase of specific kinds of assets would yield in the future. Given the long-term or even short-term value of a range of assets was difficult to assess given a limited amount of information and imperfect assessments of asset value, firms rely on information proxies to guide them in important market choices. Peers' choices serve as a heuristic aid to firms that want to invest capital in acquiring new assets. This is particularly true in the least stable markets. Intensely competitive markets raise the stakes for acquisition choices and demand efficiency from firms even if they lack the necessary information to make efficient choices. In segments where profitability was low, communications firms were the most likely to be influenced by their closest competitors' acquisitions. In highly profitable segments, firms may have been more likely to engage in acquisitions in any segment, but they were less likely to be influenced by their competitors in choosing what kinds of assets to acquire.

Interestingly, I found that leaders' acquisition patterns were less influential in highly innovative markets, but competitors' acquisition choices were just as influential under the same conditions. Although the evidence indicates that acquiring firms use both close competitors and market leaders as information proxies about the potential value of their acquisitions, the underlying dynamics of their roles are different. I interpret their differing effects to reflect a substantive difference in the kinds of moves that acquiring companies make. Mimicking close competitors indicates that firms are struggling to find ways to maintain their market position and are anxious not to lose ground to their rivals. Copying the acquisition strategies of industry leaders, on the other hand, reflects emerging industry-wide standards for the most appropriate ways to enhance firm value and is more faddish in nature.

Competitors are most influential when competition is tight and firms are struggling to make profits. In those circumstances, firms appear to pay more attention to their closest rivals and are more likely to mimic shifts in their strategic behaviors. Under pressure to maintain current market positioning, close competitors become more salient to company executives and those executives are more concerned with the implications of failing to keep up with their rivals. Thus, in highly competitive markets, firms are more susceptible to localized herd behavior, which may have negative long-term effects on company market value.

In more stable markets, where innovativeness is low, firms are more likely to follow the acquisition strategies of market leaders. Following leaders into new markets may be equitable to following the latest fad. All firms in a segment move together, with

the same likelihood, and do so not because they are forced to make moves to remain competitive but, instead, because it becomes the fashionable business strategy for firms in a particular market segment. This kind of faddish behavior is less dependent on the stability of the market and is more reflective of the shifting normative landscape of the institutional environment.

The results also support a number of the alternative hypotheses about using acquisitions to enhance firm value. These findings indicate that communications firms continued to use acquisitions to increase their market share, integrate suppliers and thereby decrease resource constraint, acquire rights to patents and innovation processes, and to build value by obtaining assets that were known to have complementary characteristics for firms in their primary market segment. Several alternative hypotheses found no support in this analysis, most notably hypotheses about undervalued assets. Firms were no more likely to acquire assets in segments where the average firms were overvalued than they were in segments where the average firm was undervalued. Target segment market value is a poor indicator of a firm's acquisition location.

This study has several interesting implications. First, this study highlights the uncertain nature of assessing and enhancing firm value. Rational choice perspectives on the market for corporate control suggest that firms should be driven primarily by objective assessments of value when seeking to acquire assets. Firms should acquire undervalued assets in markets that have high average returns. While this may be true in any specific choice, it ignores the preceding problem of identifying the *kinds* of assets a company should acquire. Given a wide range of alternative choices, how do firms decide

which assets will return the most value to their firm? Given incomplete information about future market risks, firms need more than information, as accurate as it may be, on current earnings and market value. They need insight into the potential those assets have in the future. For this reason firms rely so extensively on subjective indicators of value – namely, on perceptions of value as a frame for understanding and evaluating potential value. Even in the presence of traditional indicators of fundamental value, uncertainty persists, which necessitates the use of peers to guide acquisition choices.

Second, this study highlights the extent to which cultural understandings of value *are not* completely exogenous to market forces. Neoinstitutional theory, while providing important insights into the way norms, rules, and legitimacy shapes market behavior, tends to depict culture as exogenous to the market setting itself. On the other hand, I argue that the conditions of the market and the maneuvering of fellow market actors shape particular cultural conceptions. Value is not always transported to the marketplace from external sources. Instead we see that the market plays a role in shaping market actors' perceptions of value. Market choice is largely endogenous to the setting – dependent on the joint actions of other actors that make up a market profile (White 2002). While this finding may sound rather intuitive, many sociological and economic theories seem to presuppose the duality and distinctness of the market and social spheres (Krippner 2001). I contend that the two are inseparable and intertwined. Market processes are largely social and therefore we should not be surprised to find that market choices can be understood at the collective, social level (Shiller 1984). Cultural

perceptions often emerge out of the interaction of actors in a competitive, market context, rather than in external settings where culture can gestate independent of market influence.

Finally, this analysis provides the beginnings of a larger theoretical perspective on value formation. This analysis is just one window into the happenings of the market transformations that took place during the late 1990's and early twenty-first century. The analysis time period covers the beginning and peak of the 90's merger wave and includes the end of that wave and the demise of the bull market. To what extent did these acquisitions affect shifts in third-party assessments of market value? If perceptions of value emerged, what effect did they have on standard accounting measures of value?

We should expect that if perceptions of value emerge, they become solidified in the actions of investors and other third party observers. Not only should perceptions of value influence executives' choices about the best kinds of assets to acquire, they should affect the way that third parties assess those transactions, which would lead to concrete reactions to a firm's market value. In the following chapter I explore these questions further.

Table 3.1 Number of firms, segments, and dyads by year

Year	No. of firms	No. of segments	No. of dyads
1997	1308	23	30084
1998	1817	23	41791
1999	2173	23	49979
2000	2341	23	53843
2001	2204	23	50692
2002	1785	23	41055

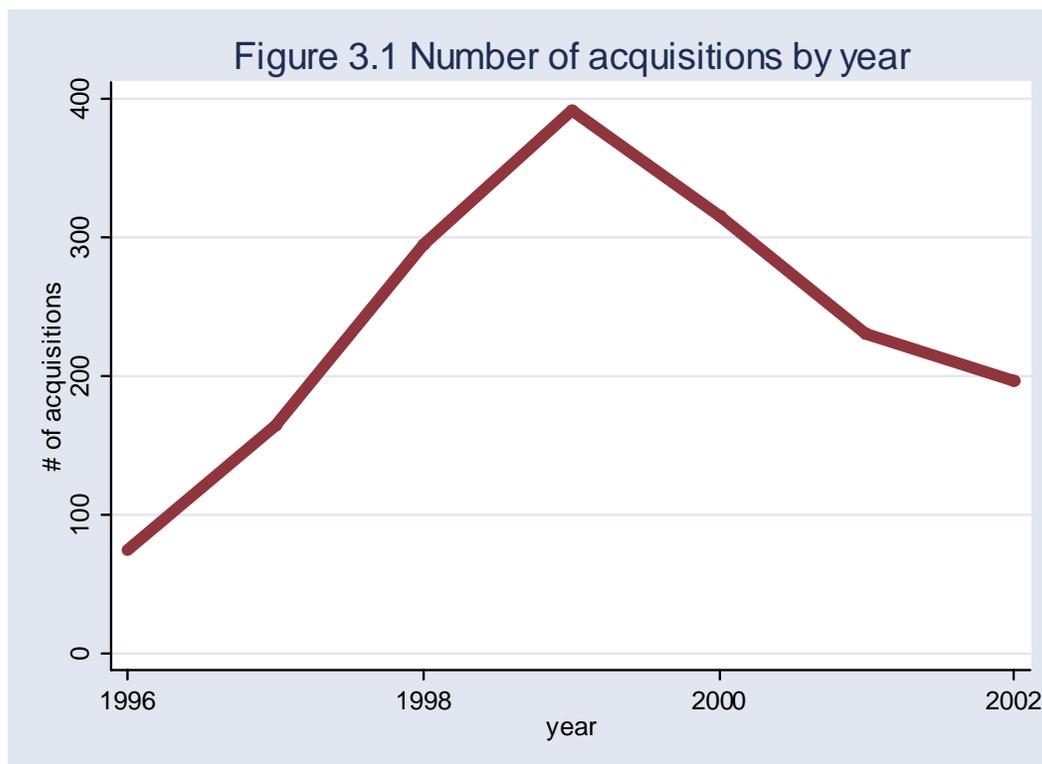


Table 3.2: Cross-tabulation of acquisitions by business segments

Target segments	Acquiring segments																							Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1. Publishers: Newspapers	23	4	0	5	0	0	0	0	0	1	5	2	0	0	0	1	0	0	0	0	0	0	0	41
2. Publishers: Periodicals	18	7	7	22	0	0	0	0	0	1	2	1	1	0	1	0	6	1	1	0	2	0	0	70
3. Publishers: Books	1	5	6	15	0	0	0	0	0	0	0	1	0	0	2	1	2	0	0	0	3	0	0	36
4. Publishing: Misc.	16	15	8	0	1	1	0	9	0	2	3	1	3	0	10	2	12	1	0	6	6	1	0	97
5. Greeting cards	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6. Record companies	0	0	0	2	0	1	0	0	0	0	1	0	2	0	0	0	1	0	0	0	2	1	0	10
7. Wireless telephone	0	0	0	0	0	0	23	36	1	1	0	3	25	0	4	1	3	0	0	0	0	0	0	97
8. Wired telephone	2	1	0	3	0	0	34	72	3	0	0	15	69	0	17	2	10	4	0	0	1	0	1	234
9. Telegraph and misc.	0	0	0	1	0	0	0	5	0	0	1	0	0	0	0	0	2	0	1	0	0	0	0	10
10. Radio	0	0	0	2	0	0	0	0	0	32	8	6	2	0	0	0	0	0	0	0	2	0	0	52
11. Television	8	3	1	1	0	0	0	3	0	9	23	16	0	0	0	0	1	0	0	0	2	2	0	69
12. Cable	0	4	0	0	0	0	5	21	0	0	9	28	4	0	1	0	0	0	0	0	7	1	0	80
13. Satellite	0	1	1	0	0	0	19	69	0	3	1	19	16	0	17	2	12	1	1	2	4	0	0	168
14. Direct mail	3	0	0	0	0	0	0	2	0	0	2	0	1	0	0	2	2	0	0	0	1	0	0	13
15. Software	3	3	7	7	0	0	2	33	1	1	0	7	16	0	206	47	34	1	1	2	3	1	0	375
16. Computer processing	1	0	0	5	0	0	1	4	0	1	0	0	3	0	15	12	8	0	0	1	0	0	0	51
17. ISPs	5	12	4	7	0	0	4	38	0	0	0	9	17	0	47	39	30	0	1	0	2	0	0	215
18. Computer services	5	21	1	12	1	0	3	64	2	5	3	24	37	0	156	33	63	2	1	2	3	2	0	440
19. News syndicates	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	6
20. Business services	4	7	4	9	0	0	2	17	0	4	4	4	13	0	22	28	19	0	0	5	3	1	0	146
21. Motion picture	0	2	0	0	0	0	0	2	0	1	4	2	1	0	3	0	1	0	0	1	4	6	0	27
22. MP services	0	1	1	0	0	0	0	1	0	0	1	4	1	0	0	0	1	0	0	0	3	0	1	14
23. MP dist.	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0	2	0	0	0	1	1	0	8
Totals	91	86	41	91	3	2	93	377	7	61	69	142	212	0	502	170	210	10	7	19	49	16	2	2260

Table 3.3: Random effects logistic regression of likelihood of acquisition in target segments

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Constant	-33.5*** (1.07)	-34.1*** (1.07)	-34.6*** (1.07)	-34.1*** (1.07)	-34.0*** (1.07)	-33.4*** (1.07)
<i>Growth</i>						
Same segment	2.66*** (.09)	2.53*** (.10)	2.52*** (.10)	2.52*** (.10)	2.53*** (.10)	2.52*** (.10)
Target segment growth	-.01 (.09)	-.03 (.09)	-.05 (.09)	-.03 (.09)	-.03 (.09)	.03 (.09)
Target segment profit	.15 (.22)	.06 (.23)	.36 (.26)	.07 (.23)	.06 (.23)	.04 (.23)
Firm growth	.006 (.006)	.007 (.005)	.007 (.005)	.007 (.005)	.007 (.005)	.005 (.005)
<i>Undervalued assets</i>						
Target segment q-ratio	.004 (.003)	.003 (.003)	.003 (.003)	.003 (.003)	.003 (.003)	.004 (.003)
Firm q-ratio	.39 (.49)	.39 (.49)	.44 (.48)	.39 (.49)	.40 (.49)	.40 (.48)
<i>Resource constraint</i>						
Constraint	.02*** (.004)	.02*** (.004)	.02*** (.004)	.02*** (.004)	.02*** (.004)	.02*** (.004)
<i>Innovation</i>						
Firm patents	.04* (.02)	.04* (.02)	.04* (.02)	.04* (.02)	.04* (.02)	.04* (.02)
Target segment patents	1.00 ⁺ (.60)	1.20 ⁺ (.63)	1.20 ⁺ (.63)	1.20 ⁺ (.63)	1.20 ⁺ (.63)	.94 (.64)
<i>Diversification</i>						
Firm diversification	-.05 (.12)	-.03 (.12)	-.04 (.12)	-.03 (.12)	-.03 (.12)	-.05 (.12)
<i>Asset complementarity</i>						
Preexisting association	.86*** (.08)	.86*** (.08)	.86*** (.08)	.86*** (.08)	.86*** (.08)	.86*** (.08)
<i>Perceptions of value</i>						
Competitors acquisitions		.02** (.009)	.03*** (.009)	.02** (.009)	.02* (.01)	.03** (.009)
Leader's acquisitions		.26** (.08)	.25** (.08)	.25** (.08)	.26** (.08)	.89*** (.06)
Segment profit	.14 (.20)	.09 (.21)	.31 (.22)	.09 (.21)	.09 (.21)	.12 (.21)
Comp. acq. * seg profit			-.07** (.03)			
Leader acq. * seg profit				.36 (.94)		
Segment patents	.36	.36	.36	.36	.36	.14

Comp. acq * seg patents	(.53)	(.53)	(.53)	(.53)	(.56)	(.53)
Leader acq * seg patents					<.0001 (.03)	-19.4*** (4.63)
<i>Firm-level control variables</i>						
Debt structure	-.004 (.02)	-.003 (.02)	-.003 (.02)	-.003 (.02)	-.003 (.02)	-.003 (.02)
Cash flow	-.004*** (.001)	-.004*** (.001)	-.004*** (.001)	-.004*** (.001)	-.004*** (.001)	-.004*** (.001)
Operating income/book	.009 (.03)	.002 (.03)	.004 (.02)	-.002 (.03)	-.002 (.03)	.001 (.03)
Price to equity	-.0006 (.007)	-.0005 (.007)	-.0005 (.007)	-.0005 (.007)	-.0005 (.007)	-.0006 (.007)
Employees (logged)	.27*** (.03)	.26*** (.03)	.26*** (.03)	.26*** (.03)	.26*** (.03)	.25*** (.03)
Market share	1.40 (1.18)	1.77* (.86)	1.74 (.95)	1.76* (.87)	1.77* (.87)	1.17 (.73)
<i>Segment control variables</i>						
HH index	.42 (.44)	.62 (.36)	.59 (.38)	.62 (.38)	.62 (.38)	.41 (.34)
Diversification	1.41* (.57)	1.37** (.52)	1.39* (.54)	1.38** (.52)	1.37** (.52)	1.23* (.56)
Growth	.10 (.05)	.09 (.06)	.08 (.05)	.09 (.06)	.09 (.06)	.11* (.05)
Q-ratio	.002 (.003)	.002 (.003)	.002 (.003)	.002 (.003)	.002 (.003)	.002 (.003)
<i>Target segment control variables</i>						
HH index	-.49 (.50)	-.62 (.51)	-.64 (.51)	-.62 (.51)	-.62 (.51)	-.56 (.51)
Diversification	.95 (.82)	.84 (.81)	.88 (.81)	.84 (.81)	.84 (.81)	.74 (.81)
<i>Firm-segment or segment-segment control variables</i>						
Interlocking directors	.35* (.14)	.29* (.15)	.29* (.15)	.29* (.15)	.29* (.15)	.28* (.15)
Prior acquisitions	1.02*** (.12)	1.00*** (.12)	1.01*** (.12)	1.01*** (.12)	1.00*** (.12)	1.00*** (.12)

<i>Year dummies</i>						
1997	.42*	.59**	.56**	.59**	.59**	.46**
	(.18)	(.18)	(.18)	(.18)	(.18)	(.18)
1998	.31	.44*	.40*	.44*	.44*	.44*
	(.17)	(.18)	(.18)	(.18)	(.18)	(.17)
1999	.31*	.49**	.46**	.49**	.49**	.41**
	(.14)	(.15)	(.15)	(.15)	(.15)	(.15)
2000	.13	.31*	.30*	.31*	.31*	.26
	(.13)	(.14)	(.14)	(.14)	(.14)	(.14)
2001	.07	.21	.23	.21	.21	.15
	(.15)	(.15)	(.15)	(.15)	(.15)	(.15)
Observations	196,633	196,633	196,633	196,633	196,633	196,633
Log-likelihood	-4319.85	-4308.32	-4304.67	-4308.25	-4308.32	-4299.40

***p<.001 **p<.01 *p<.05 (two-tailed tests) +p<.05 (one-tailed test)

CHAPTER 4: STOCK PRICE REACTIONS AND MARKET VALUE
ADJUSTMENTS FOLLOWING ACQUISITIONS IN THE COMMUNICATIONS
INDUSTRIES

Acquiring firms often suffer a discount in market value as a result of their acquisitions. Most empirical studies demonstrate that immediate returns to stock price to the acquiring firm are nonexistent or at least very small (Jensen and Ruback 1983; Bradley, Desai, and Kim 1988; Capron and Pistre 2002). Target firms capture most of the created value from the transaction. However, in some instances the acquiring firm is able to retain some value from the acquisition as evident by increased returns to stock price and market value. Capron and Pistre (2002) note that the mean returns to market value mask the large degree of variation in the underlying distribution of acquirer gains. What explains this variance in returns to acquiring firms?

I argue that standard research on the financial rewards of corporate acquisitions fails to take into account the social dynamics guiding the valuation of corporate acquisitions. Without considering the perceptions of value that guide executives in their acquisition decisions and that consequently shape investors' and analysts' reactions to acquisition announcements, researchers ignore one source of variation in acquirer value gains. In this chapter I look at the effect of peer acquisitions on abnormal returns to stock price and changes in market value over time.

I maintain that firms' acquisition decisions are framed by the acquisition choices of their peers. Investors rely on the emerging perceptions of value generated by the joint actions of competitive peers to guide them in their assessment of the extent to which an

acquisition is likely to be a synergy-producing, and therefore value-enhancing, transaction. Firms that follow their peers' examples in target choices are more likely to be rewarded by investors than firms that acquire in target segments where their peers have not recently ventured. Thus, emerging perceptions of value translate into concrete shifts in market value for conforming firms.

Market value returns to corporate acquirers

There is general agreement among scholars investigating the effect of acquisitions on corporate wealth that the acquirer's shareholder value drops following the transaction (Bainbridge 2003). The loss of value is directly attributed to the premium the bidder pays in the acquisition of another firm, particularly if that acquisition is done through shareholder stock. Scholars believe that diversification strategies negatively influence stock price relative to the book value of assets (see, for example, Lang and Stulz 1994; Berger and Ofek 1995; Comment and Jarrell 1995; Servaes 1996). Studies have also shown that at the time of the acquisition announcement acquirers tend to not experience excess abnormal returns to their stock price (Jensen and Ruback 1983; Bradley, Desai, and Kim 1983; Capron and Pistre 2002). That is, investors do not immediately reward acquiring firms by increasing the stock price over that which is expected. Instead, the immediate returns to stock price are given to the target company. Both of these research findings lead us to believe that acquiring firms do not experience gains in market value for their acquisitive behavior, neither in the short term to stock price nor in the long term to the overall market value of the firm.

But as Capron and Pistre (2002) argued, not all acquirers are equally rewarded for their transactions. The variance of stock price returns indicates that while some acquirers may experience no abnormal returns, other firms receive more positive or negative abnormal returns following the acquisition announcement. A firm's motivation for deciding to acquire a target will likely affect the post-acquisition returns to market value. Campa and Kedia (2002) recently showed that some of the diversification discount may be due to factors endogenous to the acquisition itself. When firm characteristics of the acquirer and target (or target segment) are added as controls to a model predicting the change in market value of the acquiring firm, the direct effect of diversification becomes positive. They argue that most acquisitions positively, or at least do not negatively, influence firm value when considering the endogeneity of the decision to engage in an acquisition.

These recent studies suggest that scholars studying the effects of corporate acquisitions on market value should pay more attention to the context of the decision to acquire. Once researchers begin to take into account the various factors that influence the timing and location of acquisition decisions, our understanding of market value outcomes will likely change. As a proponent of a sociological perspective of market value, I argue that the social dynamics underlying decisions to acquire moderate the transformation of acquirer value following acquisitions. When the public perceives acquisitions as conforming to shared, locally-situated beliefs about the best ways to enhance value, acquiring firms will be rewarded. When firms take undue risks and acquire in segments

where there is less agreement about the synergistic qualities of the combined assets of the merging firms, acquiring firms will experience more negative returns to value.

Perceptions of value and market value

Following proposition 4 (see chapter 1), I expect that as new perceptions of value emerge in the field of interaction among locally situated peer firms, those emergent perceptions filter into the public and become reflected in formal measures of value. This occurs as third-party observers become aware of the constructed beliefs shared by the peer firms about the best ways to utilize assets. Industry analysts and investors rubbing shoulders with executive officers at shareholder meetings began to adopt similar views about the future value-enhancing opportunities for firms in a particular industry. Those views are transmitted to other investors in the form of expert opinions and shape investment strategies of traders and brokers. Thus, perceptions of value are diffused throughout the investment population and shape the way that investors react to new acquisitions.

Perceptions of value, once established, form the basis for assessing the potential fitness of any acquisition. Peers' acquisition choices create the *interpretive frame* whereby investors give meaning to a focal firm's acquisition (Goffman 1974). Framing processes underlie any kind of collective behavior. Within sociology framing processes have been used attentively by social movement scholars to explain how movement actors give meaning to their causes and attract potential participants (Benford and Snow 2000). Here, I describe a framing process as the dynamic whereby investors and other third-

party observers use the actions of a firm's peers to provide meaning to a firm's acquisition, to provide an account for the motivations underlying that acquisition, and to predict the subsequent effects the acquisition will have on market value. Interpretive framing, as noted elsewhere (Fiss and Hirsch 2005; see also Levin 2005), is a kind of "sensemaking" where "reality is an ongoing accomplishment that emerges from efforts to create order and make retrospective sense of what occurs" (Weick 1999: 42). In the situation described here, investors try to make sense of the past actions of peer acquisitions by attributing value to them, and then inscribing that value on future, comparable transactions.

In this sense, a firm's market value is not judged in isolation (neither is the value of an acquisition); instead, market value is understood primarily in relation to the actions of a firm's peers. The peers serve as the interpretive frame for understanding the valuation implications of a firm's choices. The framing of acquisition choices becomes evident in the rhetoric employed by analysts discussing new acquisitions in target segments where acquisition activity by particular kinds of acquiring firms is plentiful.

Sometimes the interpretive framing of corporate acquisitions through the lens of peers' acquisitions may be captured in media hype. Media coverage becomes especially prominent following very large deals, such as the reports following WorldCom's acquisition of MCI in 1998. The MCI-WorldCom deal was one of the largest of the decade. WorldCom, one of the major players in the burgeoning business of internet information transmission, acquired MCI, the nation's second largest long-distance telecommunications provider, for \$40 billion. The media celebrated the deal as

exemplary of the merger of the new internet media with the old forms of telecommunication. Following the acquisition, analysts praised the deal, despite the large amount of debt incurred by WorldCom and the rising costs of building its network infrastructure. An analyst of Sanford Bernstein lauded the new acquisitions occurring in the late 1990s between the internet providers, like the old WorldCom, and telecommunications providers as realizing the potential that came from transmitting data rather than just voice communication. "We are simply in a more 'Net-centric world,'" the analyst claimed, suggesting that telecommunications services needed to become increasingly integrated with data transmission services to maintain the future competitiveness of older telecom assets (Blumenthal 1999).

More often, however, the framing of acquisitions occurs as analysts advise brokers and investment bankers behind closed doors, who in turn offer advice to their clients or to other institutional investors. Certainly much of the advice given by analysts is decided by standard measures of value (price to earnings ratio, forecasts for future earnings, etc.) but given the nature of uncertainty surrounding the reliability of these data in predicting future value creation, analysts come to rely heavily on the meaning generated by the perceptions of value (see chapter 1). Lacking precise estimates of future value, brokers and analysts rely on the common wisdom circulated on the trading floors and in the halls of investment banks about the potential value had by particular asset configurations. When an acquisition is aligned with that shared perception, investors are likely to react more favorably to its announcement and collectively drive the price to higher levels than it would be under other conditions. Past acquisitions by peers provide

“social proof” that certain combinations of assets create value, even if no substantive proof exists to validate this assumption (Cialdini 1993; Rao, Greve, and Davis 2001).

An understanding of investors and analysts utilizing peer firms as interpretive frames is rooted in sociological conceptions of market behavior described elsewhere. Abolafia (1994) argues that traders exist in a socially constructed field of interaction where actors come to rely heavily on norms to parse, disseminate, and dissect the meaning of information about stocks, bonds, and financial securities. Even though traders are often thought to be the ideal type of *homo economicus*, Abolafia points out that so much information passes before their eyes that market makers like bond traders are forced to rely on intuitive judgments that find their origin in social norms based on past experience. Traders establish value by comparing current trading situations with past experiences and extrapolating future value based on their comparability. Zuckerman (1999) argues that industry analysts (“the audience”) look for comparability when making value judgments. Market actors that stray from existing categorical schemas suffer an illegitimacy discount and are subsequently devalued. Finally, Rao, Greve, and Davis (2001) demonstrate that analysts are not immune from social influence when assessing firms’ market values. Analysts use each other as heuristics for estimating value, which often induces analysts to overestimate firms’ market values. Analysts, lacking complete information about future earnings, rely on their social environment for cues that simplify the decision and reduce search costs (Fiske and Taylor 1991).

I assume that investors and analysts compare firms’ acquisitions with past actions by categorically-similar others – specifically, they are compared to the acquisitions of

their peer predecessors. When a precedent for combining assets from different market segments has already been established, the focal firm receives a greater return to its market value. Firms that cross boundaries outside the realm of precedent are likely to be discounted in the value assessment. Using peers as interpretive frames for estimating the value of a focal firm's acquisition reduces costly searches for good information and provides investors and analysts with a temporary assurance that they are making good investment decisions.

Measuring returns to market value and hypotheses

I will measure returns to acquiring firms' market value in two ways: 1) abnormal returns to stock price in reaction to the acquisition announcement and 2) long-term returns to market value as indicated by a change in the Tobin's q-ratio. Abnormal returns capture the immediate reactions of investors to an acquisition and indicate the perceived value of the transaction by third-party observers. The Tobin's q-ratio indicates to what extent a firm is able to improve its stock price relative to the book value of its assets. Firms with a high q-ratio are worth more as a company than the liquidation price of their assets. That is, they are worth more as a whole than they are as sums of their parts. I measure the change in q-ratio in years following the acquisition in order to assess the long-term impact of the acquisition on market value change. Data for these measures came from the CRSP and COMPUSTAT databases.

Using a methodology known as an event study I calculate the abnormal returns for each firm engaging in an acquisition. The abnormal return measures the difference

between a firm's actual return and the expected return to stock price as distributed around some important event (Patell 1976; Brown and Warner 1985; Chatterjee 1992; Gaver, Gaver, and Battistel 1992; Capron and Pistre 2002; Zajac and Westphal 2004). Returns to stock price, or *the percentage change in the stock price at the end of a day of trading*, are available from the CRSP database (see Appendix B for more detail). Using the daily return data, I calculate the abnormal daily returns as distributed around the event of interest - the announcement of an acquisition. Event studies assume that the daily returns are generated by a stochastic market process, where corporate stock prices deviate from the market return randomly. Simply put, we should expect the returns to a firm's stock to deviate randomly from the expected return. Patterned deviations would indicate that the market is reacting to the event in question (the acquisition) in a particular way. In the regression models that follow, I will attempt to substantively explain any non-random deviations from the expected returns.

The abnormal return for a firm, j , is described as

$$\text{abnormal return}_{jt} = R_{jt} - a_j - b_j R_{mt}$$

where R_{jt} is the rate of return for a day centering around an acquisition and a_j and b_j are regression coefficients taken from the following expected return equation:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt}$$

where R_{jt} is the rate of return for firm j for a period of days preceding the acquisition, R_{mt} is the market return (the weighted daily return for all firms in the CRSP index) on day t , β_j is the systematic risk of firm j , α_j is the rate of return on firm j when R_{mt} is zero, and ε_{jt} is a serially independent disturbance term with $E(\varepsilon_{jt}) = 0$. The regression coefficients for

expected return are calculated for a 239-day period prior to the acquisition (days –244 through –6 where day 0 is the time of acquisition announcement). The 239-day prior period is standard for event study analyses (see, for example, Zajac and Westphal 2004). To assure the robustness of the findings I calculate the abnormal returns for a three-day period (days –1 to +1), 11-day period (days –5 to +5), and a twenty-one-day period (days –5 to +15). I also calculate a cumulative abnormal return (summing up the abnormal returns for the entire time) for the twenty-one day period and three other shorter time periods. The analyses of the cumulative abnormal returns (CAR) for the firms should validate the daily abnormal returns findings. Each one of these dependent variables will be regressed in a separate model.

The Tobin's q-ratio is the market value of the firm divided by the book value of the assets. Specifically, this is the market value of common equity a firm plus the long-term debt plus the liquidating value of preferred stock divided by the replacement value of total assets. I use yearly change in q-ratio to assess how much value a firm has captured in the years following the announcement of the acquisition. A yearly increase in the q-ratio indicates that a firm has captured value over the course of the year. The data used to calculate this variable come from the COMPUSTAT database.

I count the change from the time of announcement because I expect that some of the returns to market value will follow immediately after the announcement as investors try to forecast potential synergies before the transaction is ever completed. The short-term return to stock prices following the announcement should perpetuate into the future, until new information enters the market regarding the transaction or until the post-

acquisition integration period when those synergies fail to be realized. In other words, it is entirely possible that the greatest returns to market value occur in the pre-completion period, and subsequent corrections to value are only a reflection of a failure to meet those pre-acquisition expectations.

Taken together, these two measures allow me to assess the impact of an acquisition on a firm's market value. Positive stock price returns indicate that investors react favorably to the acquisition. Positive changes to the q-ratio indicate that a firm has increased in value subsequent to the acquisition. However, positive (or negative) returns around the acquisition date may not endure. In fact, if excessive exuberance for an acquisition promotes overvaluation of a stock, we may see this price deflate over time. The initial positive reaction would be an indicator that the price was overvalued and largely speculative in nature. I look at changes in the firm's q-ratio annually for three years following the initial transaction to assess the long-term impact of perceptions of value. In the first model, the dependent variable will be the change in q-ratio at t , where t is the year of the acquisition announcement, from $t-1$. Further analyses will examine ratio changes (from the previous year) at $t+1$ and $t+2$. Thus, in the final analysis, the dependent variable will be the difference in ratio at year $t+2$ from $t+1$. By assessing changes in market value at multiple points in time, I can determine if the returns to market value occur fairly quickly or if increasing returns occur over time as the acquiring firm is able to fully harness the capabilities of the acquired assets through integration (Zaheer, Schomaker, and Genc 2003; Puranam, Singh, and Zollo 2003).

I expect that firms following their peers in location of acquisition choice will have greater returns to market value. This leads me to make the following hypotheses:

- H1: Firms that acquire in the same segments as their competitors will have greater abnormal returns than firms acquiring in other segments.
- H2: Firms that acquire in the same segments as their market leader will have greater abnormal returns than firms acquiring in other segments.
- H3: Firms that acquire in the same segments as their competitors will experience positive returns to their q-ratio.
- H4: Firms that acquire in the same segments as their leader will experience positive returns to their q-ratio.

Cumulative abnormal returns analysis

Following the earlier analysis (chapter 3), I only look at acquisitions in the communications industries from 1997 to 2002. I include in the analyses only those firms that engaged in acquisitions during the time period and that had at least \$20 million in net sales. Communications firms that did not acquire any firms during the time period were missing from the analyses. Some firms lacked complete stock price data and were therefore dropped from the analysis.

The dependent variable is the abnormal return measure described above. I regress the rate of return for the periods (a three day period, an 11 day period, and a 21 day

period) centered on the acquisition announcement. The main explanatory variables for the analysis are the peer acquisition variables as described in chapter 3. I do not interact the market instability variables with peer variables in this analysis, however, because I do not expect that investors pay more attention to peers when firm uncertainty is high. Market instability affects corporate executives making decisions about the best ways to enhance the value of their company, but instability does not affect investors in the same way. Framing is the main function of peer behavior for investors.

I include a number of standard control variables of acquisition event studies. Because I used these variables in the previous analysis, a complete description of each variable can be found in chapter 3. I include three firm level variables: the log of firm size (as measured by number of employees), firm cash flow, and debt structure. These variables control for firm-specific characteristics that may predispose investors to favorably assess an acquiring firm. I control for firm size because investors typically perceive acquisitions large firms more favorably, particularly when the target firm is relatively smaller (Capron and Pistre 2002; Campa and Hernando 2004). Firms that already have a large cash flow should have more resources to use for growth; however, recent evidence indicates that cash-rich firms' acquisitions are usually value decreasing (Harford 1999). Excessive cash flow encourages firms to hastily acquire other firms in which other bidders have little interest. Too much debt indicates that a firm may be overexpanding too rapidly. Investors may negatively assess firms that acquire with excessive debt already on the books.

I include three target segment level variables: segment innovativeness, segment growth, and segment concentration. I control for innovativeness because the previous analysis demonstrated that firms were much more likely to acquire assets in innovative target segments. Innovation-motivated acquisitions may be attractive to investors looking for synergistic outcomes (Capron and Pistre 2002). By including the other two target segment control variables, I hope to control for other segment specific characteristics that investors might see as potentially damaging or beneficial to the acquisition value.

I also include five variables measuring characteristics of the firm and target segment relationship: a variable indicating whether the target segment is also the firm's primary segment of operations, the resource constraint measure, a board interlock variable, a measure of previous cross-ownership association, and a dichotomous variable indicating whether the firm acquired in the same segment the previous year. Evidence demonstrates that firms acquiring related targets (firms with the same kinds of assets) experience greater returns to value (Lubatkin 1987; Capron and Pistre 2002). Investors, then, should assess firms acquiring targets in the same segment more favorably. I include the other variables because they had statistically significant effects in the analyses predicting location of corporate acquisitions. Although no previous research indicates that vertical integration influences investor reaction to an acquisition announcement, I control for this possibility. In addition, I assume that network effects may facilitate the availability of information about the value-enhancing potential of the transaction. As Beckman and Haunschild (2002) argue, firms with previous network connections to their

targets tend to have better post-acquisition performance. Including a measure of previous cross-ownership association allows me to control for the presence of asset complementarities that may enhance the ability of the acquiring firm to capture value. Finally, previous acquisitions in the same segment may either indicate that the company is predisposed to integrate assets in that particular segment well, which should please investors, or that the company is overexpanding in a particular segment and therefore reducing its ability to capture value. In both cases, previous acquisitions are influential on investor reaction to the acquisition. Correlations for independent variables in this analysis can be found in Appendix C.

I use ordinary least squares regression to assess the effects of independent variables on the abnormal returns of acquiring firms. Because I am looking at stock price returns to the same firms over a period of time, I need to account for autocorrelation in the data. I use the Prais-Winsten method to correct for autocorrelation. Following Zajac and Westphal (2004), I also control for time effects by obtaining robust standard errors, clustering the cases by year.

Analysis results

The cumulative average abnormal return (or the average cumulative return for all firms over a twenty-one day period) is .10. This mean is not significantly greater than a mean of zero, which follows the pattern found in other acquisition event studies (Capron and Pistre 2002). The average abnormal return (.003) is also not significantly different

from zero. As expected, on the average acquiring firms do not deviate significantly from expected returns following the announcement of an acquisition.

However, Table 4.1 indicates that there is a great deal of variation in stock price returns. The standard deviations (12.38 for the cumulative average abnormal return and .44 for the daily abnormal returns) indicate that some acquiring firms experienced greater or lesser returns to stock price. Breaking the means down by groups, we see that some of this variation may be explained by following peers' acquisition patterns. The average returns for firms acquiring in the same segments as their market leaders is the only mean significantly different from zero. The table reveals, unexpectedly, that firms acquiring in the same segments as their competitors may actually have had lower returns to stock price compared to firms acquiring in other segments, although neither mean is statistically significant from zero. Interestingly, both firms that followed their competitors and their leaders in acquisition location experienced more variation in their stock returns. The standard deviations of abnormal returns are higher for both groups compared to the two groups of firms that did not acquire in the same segments as their leaders or peers.

Figures 4.1 and 4.2 track the daily abnormal returns over a twenty-one day period. Figure 4.1 shows the average abnormal returns for firms following their market leaders and for firms not following leaders. The daily returns for firms following leaders are higher at almost nearly every point during the event analysis. Figure 4.2 shows the average abnormal returns for firms following their competitors and for firms not following competitors. Firms following competitors appear to experience greater

abnormal returns in the period directly before and following the announcement (up to five days after the announcement) but in the 5+ days, those same firms experienced less than expected abnormal returns. Firms following competitors may have been assessed initial positive returns but were not able to sustain them. Multivariate analyses provide more insight to these questions.

Table 4.2 shows the results for the regression analyses. Of the two hypotheses relating to abnormal returns, the models only support hypothesis 2. Firms that acquire in the same segments as their market leaders have greater abnormal returns than firms that acquire in other segments. In the three daily abnormal returns analyses, the coefficient indicates that for every additional acquisition made by the market leader in a particular segment, a focal firm that acquires in that same segment receives, on the average, a daily return of .07 per share above that which is expected. Over the entire 21-day period, a firm acquiring in the same segment as its market leader receives an excess return of 1.96. All of the analyses indicate that market leaders are an important frame of reference for investors assessing the potential value gained by an acquirer's acquisition location. The models did not support hypothesis 1. Firms acquiring in the same segments as their competitors do not receive immediate positive returns to their stock price.

Table 4.3 shows the results for three additional analyses of the CAR. The CAR for each analysis is calculated for a different time period around the acquisition announcement. I conducted these analyses to ensure that the results did not mask some short term effects that any of the variables may have exerted at different points in time before or after the announcement. Figures 1 and 2 suggest that perhaps the effect of peer

acquisitions may have been greater or lesser depending on the time period used to calculate the CAR. Competitors' acquisitions may have significantly influenced stock price returns if we analyze CARs for the day before and the day of the announcement (as I do in the first model of Table 4.3). These additional analyses only further support the earlier results. Investors do not appear to use competitors' acquisitions to frame a focal firm's acquisition value in the days immediately surrounding the acquisition announcement. Yet it is clear that leaders' acquisitions significantly influence the return to stock prices.

A couple of the control variables are statistically significant predictors of abnormal returns. A preexisting association of cross-ownership between the segment of the acquiring firm and the target segment is significant in most of the models. Thus, there is evidence that firms that acquire targets in segments where there is a previously established pattern of cross-ownership receive negative stock returns. Investors may react negatively to firms that acquire assets in segments that were historically linked through cross-ownership of assets because they feel that firms are not breaking out of traditional ways of doing business in the communications industries. In an era when the communications industries were celebrated as revolutionary and innovative, firms may be most rewarded when they try new things. Of course, this reasoning is purely speculative. The negative effect of log of employee size is significant in three of the models, indicating weak evidence that large firms experience smaller returns to stock price following an acquisition than small firms.

Tobin's q-ratio analysis

In this analysis I look at the effects of peer acquisitions on changes to the q-ratio for three years following the acquisition announcement. I do a separate analysis for each year, starting with the change in q-ratio for the year of the acquisition announcement and then for the next three years following the announcement. The cases selected for analysis are the same as those in the analysis of stock price returns. The unit of analysis is the firm-year. Firms that had multiple acquisitions in the same year are counted only once. I began counting firms that had multiple acquisitions in multiple years from the year of their first acquisition. There are 985 total observations.

A number of factors could affect shifts in firm market value over time and many of those factors may be directly related to the acquisition itself. One of the purposes of this analysis is to assess the influence of peer acquisitions net of the measurable financial benefits achieved from acquisitions. Compared to the earlier analysis, where I assessed the influence of acquisition characteristics on the immediate reaction of the investor community to the acquisition, in this analysis I will examine the effects of actual changes in performance on market value fluctuations. I contend that, independent of the actual financial benefits of acquisitions, a focal firm's market value improves when the firm acquires in the same segment as its peers. Investors should use peer acquisitions as a reference with which to frame the focal firm's acquisition choice. This framing should have long-term effects on returns to market value, as investors will continue to react to an acquisition after the actual announcement takes place. To capture the peer acquisition effects I include two variables. The first is the *number of acquisitions by competitors* in

the same segments where the focal firm acquired assets. Because the unit of analysis is the firm-year, I sum all of the acquisitions performed by competitors in the same segments as those acquisitions by the focal firm. Thus, if a firm acquired three companies in three different segments in one year, I sum the total number of acquisitions by competitors in each of the three segments. The second variable is the *number of acquisitions by market leaders* in the same segments where the focal firm acquired assets. This variable is calculated in the same manner as the competitor variable, summing across all segments where firms acquired.

I include five performance related control variables. All of the financial performance variables are based on variables described in chapter 3. All of the performance variables reflect changes from time $t-1$ to time t . First, I control for the change in profit from the previous year. Firms that increase profitability following an acquisition should experience market value gains. Second, I include a variable measuring the change in diversification. This variable is the difference in the entropy of diversification for time t minus the diversification score for time $t-1$. Firms that become more diverse should, according to most financial analyses (Lang and Stulz 1994; Berger and Ofek 1995), decrease in market value. Third, I control for the amount of growth experienced by the firm in the last year. Growth is measured as the increase in employee size from time $t-1$ to t . Firms that become larger typically signal positive financial health to investors and should improve market value. Fourth, I include a variable measuring the change in market share for the firm. Firms that increase market share demonstrate their ability to capture a large consumer base and should increase their value. Fifth, I control

for change in innovativeness as indicated by the number of patent applications. Firms that develop a large number of product innovations should be able to capture more value.

I also control for firm size, the number of firms acquired by the focal firm in the current year, and the lagged q-ratio. Firm size is a standard control variable for market value analyses. The number of acquisitions might affect market value because as a firm acquires more assets in a given year they put their firm at risk of overexpanding and incurring too much debt, which might be seen as a liability to potential investors. Acquisitions might also be an indicator of overall company financial health. I include the lagged q-ratio because firms that had higher values are simply more likely to have smaller increases in firm value in the future, regardless of their current performance or of any acquisitions they may have had. Given firm market value is not likely to increase infinitesimally in the future, I expect that firms with high market values will experience smaller returns. Correlations for independent variables for the q-ratio change analyses are in Appendix D.

I use OLS regression to determine the effects of independent variables on the change in the q-ratio. Because I use panel level data, the results could be biased due to time-invariant unmeasured heterogeneity within firm. To reduce the chance of bias, I obtain robust standard errors by clustering observations by firm. Robust standard errors provide more conservative and more reliable estimations of the models.

Results of change in q-ratio analyses

Table 4.4 contains summary data of changes in the q-ratios for acquiring firms. The means shown in the table reflect the change in q-ratio for the end of the year of the announcement. As expected acquiring firms tended to have negative returns to firm market value. The average change in q-ratio for all firms was -25.57. Yet we also see that not all firms suffered equal losses. Comparing the groups of firms that followed peers and those that did not, we see that the group with the smallest decrease in market value was the group of firms that followed their market leader, with an average change in the q-ratio of -3.73. The group that suffered the greatest average losses to value were those firms that did not follow their leaders. The difference in q-ratio change between these groups is statistically significant at the .001 level. Thus, descriptive data indicate that firms acquiring in segments where their market leaders did not acquire tended to suffer the greatest value discount.

Firms that followed competitors suffered less of a discount than firms not following their competitors. The difference in average q-ratio change between these two groups is statistically significant at the .02 level. Therefore descriptive data suggest that firms acquiring in the same segments as their competitors had smaller valuation discounts than firms acquiring elsewhere.

Table 4.5 shows the results for the multivariate regression analyses of change in q-ratio. These results offer some support to the hypotheses that peer acquisitions influence firms' ability to capture market value from acquisitions but the evidence is not overwhelming. In fact, based on this analysis it appears that the long-term effects of peer

acquisitions on market value are minimal and sometimes even negative. The effect of competitors' acquisitions on increases in the q-ratio is only significant in the first year following the acquisition. The effect of this variable for the other two years is not significantly different from zero when controlling for the performance and other control variables. This suggests that, net of other variables, investor confidence in a firm due to competitors' acquisitions in the same segments leads to increased value in the year following the acquisition. The timing of this effect suggests that investors need more time to digest information about competitors' acquisitions, perhaps because in many instances competitors are smaller (in terms of market share) and they are not as salient as market leaders in the eyes of investors. But this effect is null after the first year following the acquisition. Thus, there is only partial support for the hypothesis that competitors' acquisitions served as a frame for interpreting the value of a firm's acquisition.

The effect of a market leader's acquisition is not significantly different from zero in the first two analyses, indicating that market leaders' framing of an acquisition has no influence beyond the first few days surrounding the acquisition announcement. Interestingly, market leaders' acquisitions actually have negative effects in the second year following the announcement. This finding suggests that any positive return to market value that a firm experiences at the immediate announcement of the acquisition is nullified over the long-term and, in fact, becomes devaluing. Following a market leader is only a good strategy for firms trying to provide short-term boosts to their stock price, but the strategy has a negative impact on the firm when looking at the long-term valuation of the firm. But because the negative effect of following a competitors'

acquisition does not by itself produce a negative return to value, but in contrast, any net gains to market value are weakened by the decision to follow in the same path as one's market leader.

Some of the control variables had interesting effects on changes to q-ratio. In all years, firms that had higher market values tended to experience to smaller gains in market. Again, because the constant is positive and tends to be larger than the negative effect of the lagged q-ratio, acquiring firms that had very low q-ratios to begin with increased their market value during the time frame of this study. In my sample, less than ten percent of all acquiring firms had q-ratios of less than 1 and about twenty-five percent of acquiring firms had q-ratios of greater than 5. For the most highly valued firms, acquisitions tended to be devaluing in the years following the initial announcement. This finding, of course, confirms what financial scholars have claimed for some time (Lang and Stulz 1994; Berger and Ofek 1995; Comment and Jarrell 1995; Servaes 1996). Acquisitions, by themselves, do not improve the value of the company relative to the liquidation value of its assets, but these findings suggest that firms that may have been undervalued to begin with were much more likely to experience gains in the q-ratio compared to firms that started off with q-ratios.

Somewhat surprisingly, in the year of the acquisition announcement changes in profits, diversification, size, market share, and innovativeness had no effect on shifts in value. In the year following the announcement, only change in profit had a positive effect on q-ratio change. The lack of effect is probably due to the fact that most firms take time to integrate the assets of their newly acquired companies and thus any synergies

created through the acquisition are lagged. In the third analysis, we see that actual performance increases that may have resulted from the acquisition began to yield higher returns to market value. In the second year following an announcement, acquiring firms tend to experience gains in the q-ratio when they increase the size of their firm and when they become more innovative. The effect of innovativeness is relatively small. The most innovative firms (the maximum change in patent applications was 16) only increased their q-ratio by just over .6. This effect is also somewhat negligible because the mean change in patent applications for acquiring firms was zero. Thus, although innovative firms experienced slight improvements to their q-ratio, most acquiring firms did not improve their innovativeness much.

Most acquiring firms also did not experience sharp enough gains in growth for it to matter much to their market value. The firm with the largest growth was Verizon Communications in 2000 after it acquired several smaller telecommunications companies to expand its workforce by 115,000 employees. Even with this growth in employee size, Verizon's expected increase in q-ratio, net of other effects, was only 3.45. Most acquiring firms experience lower growth spurts. In fact, the average increase in employee size for all three years in which I did analyses was around zero. Thus, only a few firms experienced significant gains in market value due to growth. I also ran a model where I substituted the variable measuring growth through increase in employee size with a variable measuring growth through an increase in sales. This variable had the same pattern of effects. Its effect was statistically nonsignificant in the first two analyses and significant in the last model ($b=.0001$ for an increase in sales of a million dollars). The

relative effect is similar. The firm with the greatest increase in sales only improved its q-ratio by 3.13.

That the performance variables did not have a strong impact on shifts in market value may be indicative of the extreme fluctuations experienced by communications firms during this period. As shown in Table 4.4, there is a great deal of variation in changes to q-ratio. Much of this variation may be more random than is often thought. This may be especially true of the time period of this analysis.

Discussion

The findings in this analysis suggest that the perceptions of value emerging in the communications industries in the late 1990s influenced the market value of firms involved in acquisitions in those industries by temporarily inflating the stock prices of firms that acquired targets in the same segments as their market leaders. Long-term firm market value did not improve as a result of those acquisitions however. Using change in Tobin's q-ratio as a measure of market value improvement, these findings suggest that firm's still suffer a discount to their value relative to the book value of the assets purchased. Firms that acquired targets in the same segments as market leaders even suffered a decline in the q-ratio two years following the acquisition. Firms acquiring in the same segments as their competitors received modest gains to their q-ratio in the year following the acquisition announcement.

I argued that the acquisitive behavior of a firm's competitors and market leaders served as an interpretive frame for investors and analysts trying to put a value on the

gains returned from a focal firm's recent acquisition. The shared perceptions generated by firms become reflected in investor behavior as they use a firm's peers as comparable models of action that provide substantive knowledge about an otherwise relatively unknown quantity – value. The findings provide strongest support for the market leader hypotheses. Competitor acquisitions did not have an immediate influence on returns to stock price, but market leader acquisitions had a consistent effect across a twenty-one day period distributed around the announcement of the acquisition.

Those initial returns to value for firms acquiring in the same segments as their market leaders did not endure however. The findings do not suggest that the initial framing of an acquisition translates into long-term value gains. But it is apparent that upon learning of a new acquisition, investors first look to market leaders' actions to provide an account for that acquisition.

What explains the difference in the initial framing effects of market leader and competitor acquisitions? One possibility is that market leaders are more visible actors to third party observers. Market leaders are operationalized as the firm with the largest share in a particular segment. Large firms with wide market coverage are probably more salient in media reports and are more intensely discussed in trader and investor circles. Always in the forefront of investor minds, it is not surprising that investors compare acquisitions by other firms in the same segment with those of the market leader.

Close competitors on the other hand are not always large or visible. In fact, the competitors of firms with low market coverage also have low market coverage. Although earlier analyses demonstrated that close competitors have a strong influence over the

decision to acquire in a certain location and are therefore responsible for the generation of local perceptions of value among groups of competitors, their influence is not as widely felt among actors outside of this context. Investors are more concerned with understanding general trends as indicated by a few salient firms.

Competitors' acquisitions, however, have a more lasting effect on changes to market value. Once the initial reaction to a new acquisition dies and the market leader's influence on stock price washes out, investors and analysts may become more aware of other comparable acquisitions taking place in the market. In many instances, those comparable events are the acquisitions of competitors. The models of this analysis suggest that communications firms continued to experience value discounts as a result of their acquisitions in the year following the announcement – the period during which the acquiring firm begins the process of putting its newly acquired assets into use. If competitors acquired the same kinds of targets as the focal firm, investors may be slightly less likely to negatively assess the acquiring firm during the integration process.

What are the valuation implications of the emerging perceptions of value? Previous research indicates that acquiring firms tend to suffer a value discount. The shareholders of the target firm capture most of the returns to value. This study confirms that acquiring firms tend to lose value after the acquisition, but not all acquirers suffer the same fate. Some acquiring firms fair better than others. Part of the variation in returns can be explained by the local market context in which an acquiring firm is embedded. That is, acquirers' returns are influenced by the actions of their peers.

Although acquiring firms engaging in acquisitions in the same segments where their peers previously acquired still tend to suffer a value discount, the discount is initially smaller. In fact, for firms following their leaders' acquisition choice, immediate returns to stock price tend to exceed the expected return. The discount is more strongly felt in the change to q-ratio, where the average acquiring firm is likely to experience a loss in the first year following an acquisition announcement.

This finding has implications about the investor mindset. Investors are thought to be rational actors who are capable of utilizing all of the information in the market to make efficient decisions for the pricing of securities (Fama 1970; Chancellor 1999). Although individual investors may deviate and act less than rationally, as a group investors are thought to use information efficiently (see Chapter 1). These findings suggest that not all information is used equally. Investors have cognitive limitations to their use of information (Simon 1982). Some information is more salient in the minds of investors and has an undue influence on their trading behavior and the subsequent valuation of corporations. When processing a new corporate event, such as the announcement of an acquisition, investors may be overly-influenced by pieces of information that have relatively little to do with a firm's fundamental value. Thus, firm market value may become inflated as investors come to believe in the correctness of value-enhancing decisions of large firms.

Inflated stock prices have a way of returning to more moderate levels. A number of studies looking at stock price volatility and returns find that price increases are often followed by declines in stock price (Blanchard and Watson 1982; De Bondt and Thaler

1985; van Norden 1996; Schaller and van Norden 1997; Chen, Hong, and Stein 2001).

Thus, we should expect that markets drive prices down when they have been inflated for any reasons other than increases to dividends, earnings, or other indicators of fundamental value. The initial reaction of investors could be thought of as a market inefficiency that was later corrected. But the fact that market values were eventually driven down does not mean that the initial market reactions are unimportant. In fact, understanding the causes of inefficient markets is one of the main objectives of the behavioral economics agenda. This study provides an important insight into understanding how value is constructed through collective action of competing peers.

These findings reinforce my earlier point that financial scholars have ignored the social context of the valuation effects of acquisitions. Although investors rely heavily on the sophisticated machinery of financial analysis to assess firm value, they lack the necessary information to make completely rational valuation decisions. Like executives caught in uncertainty and unwilling to sit idly by while the marketplace changes, investors must rely on cues in their social environment to guide their investment choices. The social context then provides an important background for the formation of market value. Shifts in firm value cannot be understood as a function of the performance criteria of an isolated firm; instead, valuation occurs in a social context where investors use comparable others as interpretive frames.

Table 4.1 Summary of abnormal return data^a

	All firms	Following competitors	Not following competitors	Following leaders	Not following leaders
Cumulative average abnormal returns	.10 (12.38)	.08 (13.30)	.15 (10.06)	.28* (13.61)	-.04 (11.40)
Daily average abnormal returns	.003 (.44)	.003 (.45)	.005 (.42)	.009* (.49)	-.001 (.40)

* Indicates that group mean is significantly different from zero

^a Numbers in cells are means; numbers in parentheses are standard deviations

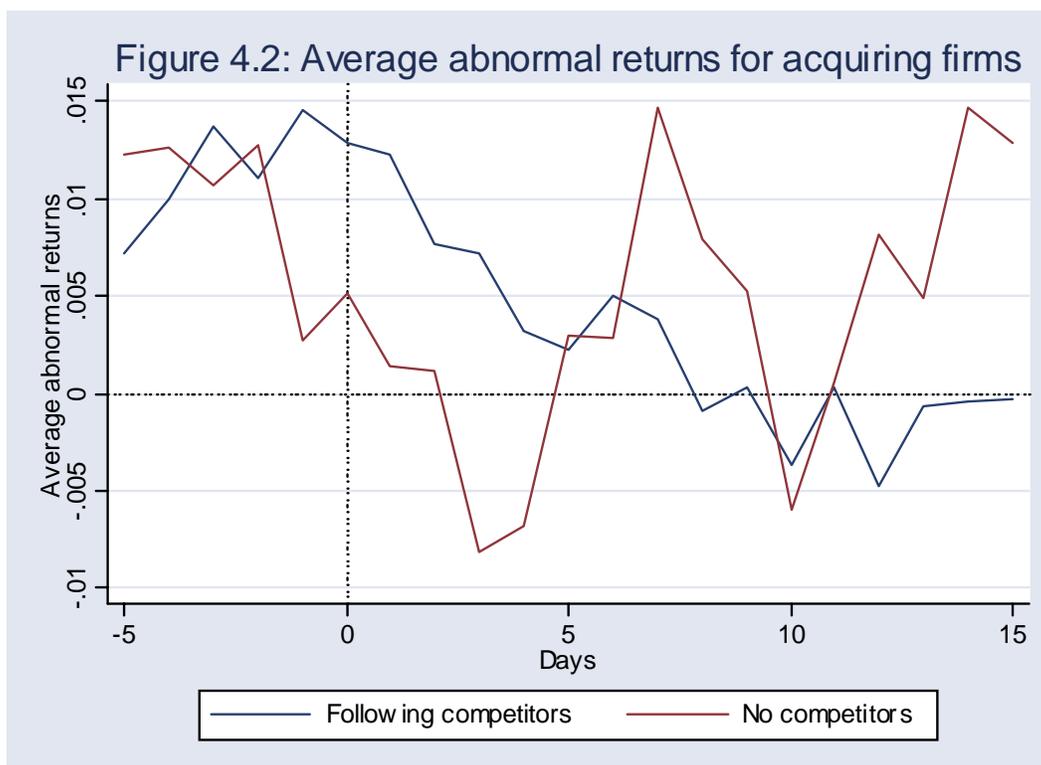
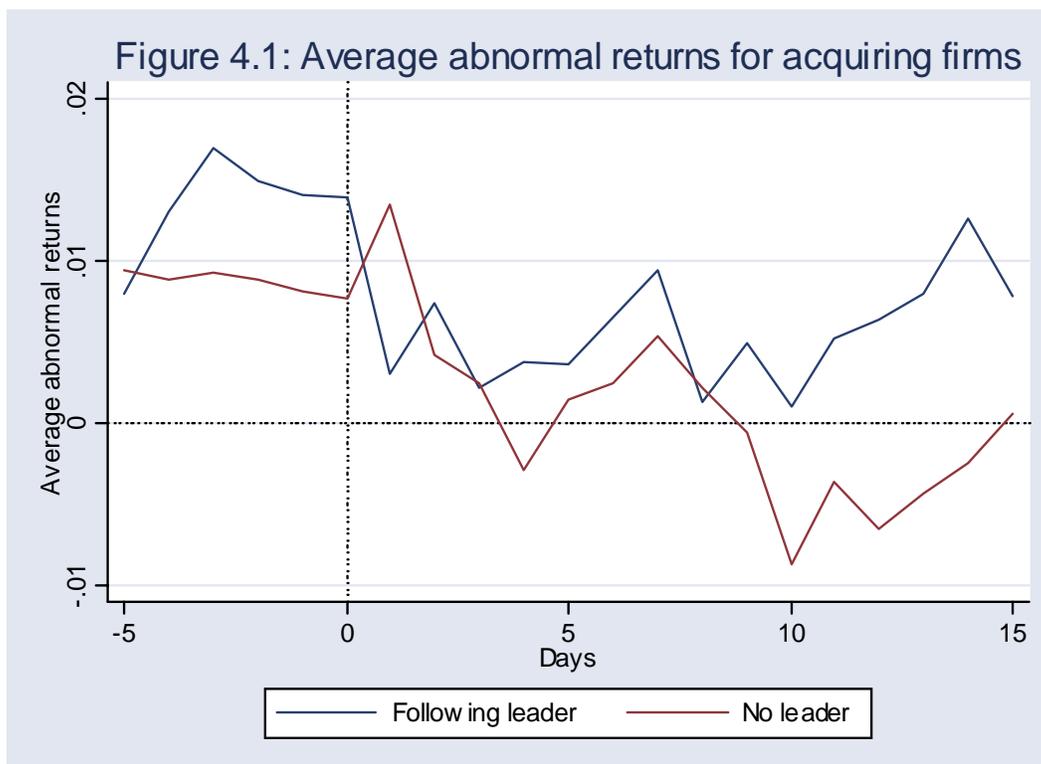


Table 4.2 Prais-Winsten regression of abnormal returns for acquiring firms^a

Variables	3-day period	11-day period	21-day period	CAR (21-day) ^b
<i>Perception of value variables</i>				
Competitor acquisitions	<.0001 (.003)	.0009 (.003)	.001 (.001)	.02 (.08)
Leader acquisitions	.07** (.01)	.06*** (.007)	.07* (.02)	1.96* (.84)
<i>Firm level variables</i>				
Log of size	-.01 ⁺ (.005)	-.01 (.007)	-.01 (.006)	-.30 (.32)
Cash flow	-.007 (.02)	.02 (.02)	.02 (.02)	.69 (1.18)
Debt structure	-.0004 (.001)	-.001 (.001)	-.001 (.001)	-.02 (.06)
<i>Target segment variables</i>				
Segment innovativeness	-.08 (.05)	-.01 (.007)	-.006 (.008)	-1.85 (2.38)
Segment growth	.02 (.01)	.01 (.01)	.02 (.01)	.41 (1.05)
Segment concentration	-.03 (.06)	-.03 (.03)	-.007 (.02)	.73 (4.84)
<i>Firm-to-segment variables</i>				
Same segment	.01 (.02)	-.03 (.02)	-.04 (.02)	-.32 (1.35)
Dependence	.0006 (.0006)	.0001 (.0003)	<.0001 (.0002)	.02 (.04)
Interlocking directors	-.08 (.06)	-.03 (.05)	-.02 (.05)	-1.83 (1.82)
Preexisting association	-.06** (.01)	-.02 (.01)	-.01 (.02)	-2.34 ⁺ (1.21)
Prior acquisitions	.05 (.05)	.04 (.04)	.03 (.05)	1.78 (1.34)
Constant	.04 (.04)	.03 (.03)	.02 (.02)	.57 (4.84)
R-squared	.02	.01	.0004	.03
N	1397	7641	13892	696

***p<.001 **p<.01 *p<.05 +p<.10 (two-tailed tests)

^a Robust standard errors calculated by clustering on year

^b Results obtained from OLS regression

Table 4.3 Additional OLS regression of CAR for acquiring firms^a

Variables	2-day period (days 0 to 1)	6-day period (days -5 to 0)	6-day period (days 4 to -1)
<i>Perception of value variables</i>			
Competitor acquisitions	-.0006 (.005)	-.001 (.02)	.0004 (.02)
Leader acquisitions	.14** (.03)	.42** (.07)	.35** (.06)
<i>Firm level variables</i>			
Log of size	-.02 ⁺ (.01)	-.09 ⁺ (.04)	-.06 (.03)
Cash flow	-.01 (.04)	.08 (.13)	.06 (.12)
Debt structure	-.0008 (.002)	-.005 (.008)	-.006 (.008)
<i>Target segment variables</i>			
Segment innovativeness	-.15 (.09)	-.33 (.23)	-.38 (.24)
Segment growth	.02 (.04)	.09 (.11)	.06 (.13)
Segment concentration	-.03 (.11)	-.13 (.32)	-.19 (.36)
<i>Firm-to-segment variables</i>			
Same segment	.01 (.04)	.005 (.12)	.04 (.12)
Dependence	.001 (.001)	.002 (.003)	.004 (.003)
Interlocking directors	-.13 (.10)	-.43 (.33)	-.38 (.31)
Preexisting association	-.14** (.03)	-.37** (.08)	-.47** (.10)
Prior acquisitions	.11 (.12)	.32 (.33)	.33 (.33)
Constant	.07 (.08)	.27 (.22)	.23 (.23)
R-squared	.03	.03	.03
N	696	696	696

***p<.001 **p<.01 *p<.05 +p<.10 (two-tailed tests)

^a Robust standard errors calculated by clustering on year

^b Results obtained from OLS regression

Table 4.4 Summary of Tobin's q-ratio data

	All firms	Following competitors	Not following competitors	Following leaders	Not following leaders
Number of observations	1031	559	472	89	942
Change in q-ratio	-25.57* (9.64)	-19.74* (117.05)	-32.47 (439.52)	-3.73 (20.68)	-27.63* (323.68)

* Indicates that group mean is significantly different from zero

^a Numbers in cells are means; numbers in parentheses are standard deviations

Table 4.5 OLS regression models of change to firm q-ratio^a

Variables	Acquisition year	Year + 1	Year + 2
<i>Perception of value variables</i>			
Competitors acquisitions	-.44 (.34)	.09* (.04)	.04 (.03)
Leaders acquisitions	-.74 (1.30)	-.06 (.32)	-.42 ⁺ (.24)
Control variables			
Δ in profit	-.0004 (.001)	.0001 ⁺ (.00007)	.0001 (.00007)
Δ in diversification	-1.58 (2.77)	-.41 (.81)	-.96 (.68)
Δ in size	.36 (.29)	-.007 (.01)	.03** (.01)
Δ in market share	30.62 (20.43)	4.21 (4.20)	1.02 (2.75)
Δ in patent applications	.71 (.53)	-.005 (.03)	.04** (.01)
Log of employees	-7.65 (5.31)	.31 (.42)	.09 (.16)
Number of acquisitions	.09 (.68)	.003 (.12)	.19 (.22)
Lagged q-ratio	-1.01*** (.01)	-.59*** (.02)	-.91*** (.09)
Constant	15.39 ⁺ (9.13)	.46 (.87)	1.84*** (.37)
R-squared	.66	.76	.84

***p<.001 **p<.01 *p<.05 +p<.10 (two-tailed tests)

^a Robust standard errors calculated by clustering on firm

CHAPTER 5: CONCLUSION

Value, while a central concept to the study of markets and economics, is often treated as a given – a latent construct that manifests itself in the actions of individuals or in the price of some commodity or asset. Markets bring together individuals in relations of exchange to produce collective estimates of value. The origin of that underlying value is not often explored however. Instead we are often told that prices efficiently reflect real or fundamental value. The nature of the market institution is to aggregate individual opinions, beliefs, and tastes and represent them in a single number – the price. This is the message of the EMH.

The EMH states that stock prices tend to reflect the aggregated opinion of investors about the underlying value of a firm. As those beliefs change, then, we should expect that stock prices adjust accordingly. While not attempting to refute the EMH in any way, in this study I try to think more seriously about some of the sources of variation in the opinions and beliefs held by market actors. Thus, the first question of interest in this study is, how can we explain changes in valuation over time? But in addition, I want to argue that some characteristics of the market make it difficult to accurately estimate value. While the stock market itself may be designed to aggregate traders' actions in a way that produces an unbiased estimate of value (but even this is questioned by the behavioralists), other markets have obvious deficiencies that increase the uncertainty of market actors. Thus, my second question of interest is, do market conditions moderate or even initiate changes in value? If so, we can begin to think about valuation as an

endogenous process to the market. Changes in individual preferences and pricing may be partly explained by variations in market conditions.

Summarizing the theory and findings

Rather than thinking about opinions about value as being imperceptibly rooted inside the individual's heart and mind (i.e. caused by biological characteristics) or as arising from exogenous shifts in cultural tastes, I instead make the claim that shifts in value can occur at the collective level as part of a process endogenous to the market itself. Perceptions of value, as I call them, are locally situated beliefs about the best way to use available capital and assets. Those perceptions shift when local actors are no longer able to achieve the expected benefits that come from older, established perceptions of value.

When uncertainty increases because actors are not able to consistently obtain needed resources, actors begin to look for new ways to secure value. To aid them in this process, actors look to those close around them for cues. This leads to uncoordinated collective action. Individuals or corporations begin following their successful counterparts (i.e. market leaders) and/or their closest neighbors' moves in order to find alternative ways to enhance their value. The joint actions of proximate actors create new perceptions. If these new perceptions prove to be reliable – they become associated with consistently positive outcomes – they become institutionalized. If the new perceptions of value do not produce desirable outcomes for the actors involved, they may disappear and actors begin the search anew.

Finally, we should expect that shifts in perceptions of value among market participants should become reflected in market value indicators. As investors and other third party observers take note of the movements in capital that occur as market actors find new ways to use their assets, these outsiders may begin to adopt similar perceptions of value. As long as the new utilization of assets does not have obvious negative drawbacks, investors, who lack good information about alternative uses of those assets, rely on the joint actions of market actors as “social proof” that value is being created and captured (Rao, Greve, and Davis 2001). They use the past actions of market actors to frame the current actions of similarly situated market actors. The generated beliefs of investors, analysts, and other third party observers are made concrete in market value indicators, such as stock price.

To assess this general theory of the social construction of perceptions of value, I looked at the corporate acquisitions market in the communications industries from 1997 to 2002. How did this theory hold up to evidence? I use both qualitative-historical evidence from the examination of two industries and quantitative evidence examining patterns in corporate acquisitions across a broad array of communications industries to offer support.

What evidence do I have for the long-term changes in perceptions of value resulting from shifts in the stability of particular industries? As support for this part of the theory, I present in chapter 2 the case studies of two particular industries – the telephone and radio broadcast industries. I show that both industries went through times of stability and instability that led to transformations of their value-enhancing strategies.

Much of the stability in these industries was due to the regulation of competition. When competition was controlled and firms were allowed to consistently reproduce their market positions, firms were discouraged from changing their value-enhancing strategies. For telephone companies (particularly AT&T) this meant investing excess cash flow in building and improving the nation's telephone infrastructure. Improving value was quality motivated. AT&T could reproduce their dominant position (almost a monopoly) by simply demonstrating that they provided a high-quality, valuable public utility. Their regulators would not interfere with their monopoly position as long as they showed improvements in infrastructure quality.

Radio broadcasters, on the other hand, faced more competition, but as long as competition was localized and capped through regulation, broadcasters could predictably make a profit without changing their strategies. For a long time, this meant that radio broadcasters offered syndicated content based in national networks. Large manufacturing firms or newspaper companies often bought or invested in local broadcasters as a means to promote their products and create brand images. This setup created an alliance of broadcasting companies with large, nationally-based manufacturing and newspaper companies.

One of the most important conditions for the stability of both industries was the FCC prohibitions of cross-ownership. As long as telephone and radio companies were not allowed to mix assets with other kinds of media and communications services, they had a predictable set of assets they could utilize to ensure their survivability. For the

majority of the history of both industries, policies banning cross-ownership promoted the segregation of communications services and products by specific industries.

Changes in both industries disrupted their value-enhancement strategies, forcing telecommunications and broadcasting firms to find new ways to utilize their assets. When television broadcast became a popular form of entertainment in the 1950s, radio stations dropped much of their national network programming and began to focus more on meeting the demands of local music tastes. When the telephone industry was broken up by a 1983 judicial mandate, new telephone companies emerged that had unique missions and purposes. AT&T was forced to compete with other firms in the long-distance market and the regional Bell companies managed the local interconnections. This move caused AT&T to attempt to move into new markets – including computer manufacturing. The case studies demonstrate that changing industrial conditions create uncertainty that leads to a shuffling of assets until a new value-enhancement strategy is discovered. This was evident in both industries – changes to the market conditions facilitated the emergence of new perceptions of value.

The latest changes to the communications industries, as initiated by the Federal Communications Act of 1996, created cross-industry uncertainty and instability, which forced firms in these industries to look for new ways to do business and utilize their assets. In many cases, the uncertainty forced firms to search their environment for new kinds of assets that they could use to synergistically improve the value of their existing assets. This deregulation, along with rapid innovation and intense pressure from investors, set off a wave of acquisitions in the communications industries. Not all of the

industries experienced the same pressures to develop new sources of value however because of varying levels of uncertainty. For this reason, in the quantitative analysis I look at how market segment characteristics facilitated the drive to acquire new assets and the location of those acquisitions.

The quantitative analyses offer three main findings. First, I found that communications firms were likely to engage in acquisitions in the same segments as their market peers. Net of other indicators of value, firms tended to acquire target assets in the same segments where their market leaders and closest competitors had previously acquired assets. I suggest that this is because firms lacked good information about asset valuation and tended to rely on their peers as information proxies. By relying on their peers, firms believed they were reducing their uncertainty and increasing the likelihood that they would capture value in the future.

Second, I found that market conditions facilitated this mimicry. Communications firms were much more likely to follow their competitors' acquisition locations when profitability was low in their segment of primary operations. I suggest that intense competition yields lower profitability, which in turn leads to increasing reliance on peers. Communications firms that are involved in intense competition have less room for error, so in those environments it is even more crucial that they embrace good value-enhancing strategies. Lacking information about the future risks of their market, firms in these environments use their competitors to gauge the relative value of potential target assets.

In the last analysis I find some evidence that investors use the past acquisitions of peers to assess the value of a focal firm's acquisition. Firms that acquired in the same

segments as market leaders have a greater return to stock price at the announcement of the acquisition than do firms that acquired in other segments. Investors use market leaders to frame the initial announcement, but over time any value gained at the announcement dissipates. In fact, over the long term, firms that follow their leaders acquisition strategies tend to have greater reductions in their q-ratios than firms acquiring elsewhere. I suspect that this decrease in value occurs because investors are correcting their earlier overvaluation of those same firms. This correction takes over two years to finally manifest itself. Firms that acquire in the same segments as their closest competitors, on the other hand, have slightly smaller long-term decreases in market value. Both of these effects are net of other indicators of changes in performance and of indicators of the potential of value enhancement, indicating that these effects probably stem from emergent perceptions of value rather than from characteristics endogenous to the acquisition itself.

Theoretical implications

The findings from this study provide support to the theory of social construction of perceptions of value that I describe in chapter 1. We can break value formation into a two-part process: 1) market actors make choices based on their beliefs about the best way to secure value and 2) those choices aggregate into prices and other concrete indicators of value. I have demonstrated that both of these steps in the process are mediated by the social context of the market. Market actors do not operate in isolations. Rather, as economic sociologists have argued, market behavior is embedded in webs of social

relations and meaning. Although this basic idea is not new to our sociological understanding of markets, I believe this study makes important theoretical contributions.

Contributions to economic sociology

Neoinstitutional theory has enriched our understanding of markets by showing how schemas, practices, strategies, etc. become taken for granted and institutionalized within fields of organizations. A major contribution, I believe, of neoinstitutional theory is to show how market behavior is shaped and structured by cultural elements like schemas, routines, and meaning systems. Typically, neoinstitutionalists think of innovation to the cultural tools of actors within a field (or market) as occurring in one of three ways: 1) powerful actors instigate reform and demand change (coercive isomorphism), 2) norms transmit through a field via external linkages (normative isomorphism), or 3) actors mimic each other's actions to produce more homogeneity (mimetic isomorphism) (DiMaggio and Powell 1983).

Interestingly, neoinstitutional scholars have not considered market value as a domain of theoretical interest. Neoinstitutional scholars have mostly limited their research to the study of the proliferation of policies and practices that are more easily disconnected from questions of efficiency. It is not inconsistent with the theory that some kinds of organizational behavior are driven by competition and the need to create more efficient organizations. Both DiMaggio and Powell (1983) and Meyer and Rowan (1977) argued that competitive forces may at times drive organizational managers to adopt certain practices or policies for strategic reasons. Strategic decisions that are driven by efficiency criteria are not the object of interest for neoinstitutionalists.

Neoinstitutional theory, in contrast, concerns the kinds of decisions that managers make where the effectiveness of means to accomplishing ends is ambiguous. Scholars working in this theoretical orientation, then, are more concerned with behavior that is more difficult to assess as rational or strategic.

In a footnote to their 1983 paper DiMaggio and Powell explicitly state that “two of the three forms of isomorphism described below – mimetic and normative – involve managerial behaviors at the level of taken-for-granted assumptions rather than consciously strategic choices” (149). Decisions that are obviously subject to efficiency-related criteria are less ambiguous and are therefore less likely to be driven by the kinds of symbolic motivations underlying institutionalized behavior, or so goes the argument.

Value creation typically occurs in a decision-making environment where objective, efficiency-related criteria abound. Clearly, this is the case in acquisitions. Managers have an abundance of tools at their disposal to assess the relative value that a given target might bring the acquiring firm. In fact, so much of the recent financial literature has addressed the effects of acquisitions on market value that managers should be able to make more intelligent and rational decisions than ever before regarding acquisition choice.

But just because managers possess rational, calculating tools to determine acquisition value does not mean that institutional processes are not present in the decision to acquire another company. Strategic behavior of all sorts is shrouded in uncertainty, especially those kinds of strategic decisions that directly address value creation. The reason for this is simple: actors lack information about the future value of assets that they

own now, that they may own in the future, or that may be substitutable or complementary with their assets at some time. Although corporate managers may be able to utilize their available financial instruments and current information about assets to make value forecasts, they still lack good information about the potential risks involved for these forecasts to be completely reliable. This permanent condition of uncertainty is part of the incomplete markets problem (Stiglitz 1994). Without complete information about the future risks involved in investment opportunities, executives are always liable to over- or undervalue assets. Even the market, with its wide diversity of knowledge and information, is incapable of handling this kind of uncertainty. Investors can become caught up in speculative bubbles, believing that stock prices will rise indefinitely or at least believing that other investors believe this enough that it justifies buying more stock in the short term (Shiller 2000).

The bond trader/amateur philosopher Nassim Taleb (2004) describes markets as essentially operating in a random way, which causes markets to be shrouded in permanent uncertainty and unpredictability. Events happen randomly that dramatically change the perceptions of value that investors have about specific kinds of assets. Innovation occurs that destroys the value of assets (Schumpeter 1942). Individual traders, investors, or corporate managers do not deal well with the randomness of markets. Humans look for order and patterns even when randomness rules the day. Thus, human decision-makers can easily fool themselves into thinking they have found patterns of true value creation, when in fact they are just observing an upswing in the volatile patterns of stock prices. Quoting Taleb:

In 1992, who would have believed that the Nasdaq would cross 5000...But it did. And in March of 2000, how many people believed that it could lose more than 3000 points over the next 13 months? ... All we can learn from history is that the unpredictable will happen – and does – time and again. The most dangerous error that an investor can make is to mistake probability for certainty (as quoted in Mahar 2004, 283).

The uncertain nature of financial and corporate asset markets causes managers intense anxiety. This anxiety, claims Jackall (1985), motivates corporate executives to try to establish (or find) order both within their corporation and in their environment. As Fligstein (2001) has argued, social organization is produced as managers try to find ways to stabilize an otherwise tumultuous environment. If patterns cannot be found, managers will try to create patterns.

The condition of incomplete markets implies that managers face sufficient uncertainty when making strategic, value-enhancing decisions. This uncertainty necessitates a reliance on taken-for-granted assumptions about the best way to organize their business and assets. Although neoinstitutionalism has largely ignored valuation strategies because they exist in a domain that should be most amenable to calculating, efficiency driven decision-making, I assert that the general uncertainty facing managers trying to place a value on any asset impels them to rely extensively on cues from their social environment. Value, then, itself becomes a taken-for-granted perception shared by groups of actors. Lacking good information about the future value of assets, managers use the observations of peer behavior as social proof that value exists. Thus, one major

contribution of this study is to show that the processes that facilitate the institutionalization of other kinds of organizational behavior also lead to the emergence of perceptions of value.

These analyses also offer a corrective to neoinstitutional theory and other cultural theories of economic behavior. As argued in chapter 1, many cultural theories view the economic actor as passive and wielding to her environment. Culture informs actors about the best ways to behave. Less investigated are the origin of those cultural conceptions and identities. I argue that culture is largely endogenous to the structural conditions of social life – in particular, endogenous to markets. New conceptions of value emerge when market conditions become unstable and fail to provide consistent, positive outcomes for the actors involved. Lacking stability and order, market actors seek new sources of value. Thus, the emergence of perceptions of value is endogenous to market conditions. Perceptions are created as actors look for new ways to reproduce past success. In this view, social actors are active rather than passive, although they are largely constrained and motivated by the stability of their market environment. This perspective, I believe, offers a useful corrective to neoinstitutional and cultural explanations, which see the economic actor as mostly passive and culture as emanating from external sources. Change often occurs as part of market activity. The roots of changes in valuation, I assert, can be found in the market conditions. Thus, we should be able to make predictions about what kinds of markets lead to shifts in the value-enhancing strategies of market actors. This perspective gives us leverage on understanding the origin of guiding cultural assumptions about value.

Another contribution made to economic sociology is that I have attempted to draw connections between two literatures that have not previously been linked – neoinstitutional theory and Harrison White’s theoretical work on the structure of markets. Both provide different insights. Neoinstitutional theorists are concerned with the larger cultural transformations occurring across and within organizational fields. White is concerned with the more minute, transactional adjustments that firms make as a result of changes in their competitive environment. He believes that identities are locally-based and rooted in the competitive roles that organizations form within a market profile and that change occurs when those identities become challenged as a result of changes to the very structure of competition. I argue that we gain a better understanding of the transformations occurring in large organizational fields by narrowing our vision to the local levels of competition where White is most focused. New perceptions of value are most likely to emerge within the context of real competition, as actors jockey for niche space with their closest competitors. Although firms are aware of their institutional environment (as made obvious by the large impact the FCC had on all of the communications industries), on a day-to-day basis they plan strategies based on the actions initiated by those companies with which they compete directly. Thus, when the entire market structure seems to be unraveling (to use White’s concept), firms look to those with whom they share niche space for answers to their survival problems. Close competitors, which already formed the basis of their identity, provide the clues for understanding how identities must change to meet the future demands of the market.

Thus, a contribution of this study is to demonstrate how changes in the institutional environment can emerge from the most local spaces within a market.

The empirical analyses also demonstrate that although the motivation to change perceptions of value may arise from local uncertainty and reactions to close competitors, investors view the environment somewhat differently and are more likely to focus in on the actions a few salient firms to guide their assessments of acquisition value. Past acquisitions of competitors have little influence on investors' initial reactions to a focal firm's acquisition; instead, investors compare that acquisition to the past acquisitions of market leaders. Larger firms are probably more salient to the public and their acquisitions are easier to recall. When a new acquisition is made, investors are more likely to use large firms' acquisitions as interpretive frames to gauge the acquisition value. These findings show a bifurcation in the value formation process. Organizational decision-making tends to be most affected by the conditions of local competition, but the public's perceptions of value tend to be most affected by the largest players in the market.

Finally, this study helps us better understand the decision-making that goes on when investors make valuation decisions. I show that while perceptions of value may emerge through a process that is similar to the ways in which other organizational practices become institutionalized, those same perceptions are subject to feedback from the market itself. Market feedback may provide new information about organizational choices and cause previously taken-for-granted practices and policies to become abandoned. Investors actively alter their perceptions of value if new evidence indicates that old choices may have been based on bad information.

As Rao, Greve, and Davis (2001) argue, new institutional theories tend to depict economic actors as “cognitive dopes” who “blindly follow others.” Rao et al. instead characterize economic actors as “cognitive misers” who “use heuristics to reduce search costs but are quite capable of abandoning a choice in light of new evidence about its value” (501). Rao et al. further argue that imitating one’s peers may reduce uncertainty about a decision but it *also* tends to lead to overvaluation. The findings of this study provide some evidence of this. Investors, lacking better information about the synergistic qualities of communications acquisitions, used market leaders past acquisitions to estimate the value of an acquirer’s purchase, but over the long run acquirers that followed their market leader experienced greater devaluation than if they had acquired targets elsewhere. The market then has the tendency to pull overvalued assets back to the mean, correcting for any overvaluation generated by emerging perceptions of value. Although market leaders may have sparked a series of acquisitions between firms in their segment and particular target segments, those particular perceptions of value tended to disappear within a few years of the initial transaction. Market discipline offers feedback to investors and managers, thus shaping the survival of emerging cultural conceptions of appropriate behavior. Neoinstitutional theory, despite its many contributions to a sociological treatment of markets, has not yet created an accounting for how the cultural elements of organizational fields interact with real market forces. This study provides a healthy step in that direction.

Contributions to economic behavioralism

The EMH proposes that stock prices reflect the combined wisdom of investors concerning the true value of some set of assets. Stock prices change, according to the strong version of this theory, only when new information enters the market. Any shifts in prices indicate that the public is responding to new information that has direct valuation implications (Shleifer 2000). Behavioral economists have suggested that this depiction of the market is somewhat misleading. Price changes occur all the time and do not always reflect new information about fundamental value. Instead, price can be thought to vary with public opinion, which is subject to many irrational tendencies. A full critique of the EMH is presented in chapter 1.

Behavioral economists usually attack the theoretical premises of EMH by pointing to individual-level psychological biases. Preferences for risk taking are highly dependent on the context and framing of the available choices (Kahneman and Tversky 2000). The behavioralists are less inclined to explore the social dynamics of financial markets. Behavioralists have not yet developed their own theories of collective behavior that would explain some of the variation observed in market returns. The tendency to discount social dynamics may partly arise from the rational choice tradition in economics. Beginning with a few basic assumptions about individual psychology, economists can derive formal models of market behavior that purport to explain economic outcomes. However, the exclusive focus on the psychological underpinnings of markets blinds the average economist to group-level dynamics that would potentially

have large effects on the ways markets operate, independent of individual-level differences.

Often times, when economists seek explanations for market abnormalities that lie outside of the individual, they turn to external influences, like the news media. The influential behavioral economist, Robert Shiller, explained the irrational investment behind the stock bubble:

The market is high because of the combined effect of indifferent thinking by millions of people, very few of whom feel the need to perform careful research on the long-term investment value of the aggregate stock market, and who are motivated substantially by their own emotions, random attentions, and perceptions of conventional wisdom. Their all-too-human behavior is heavily influenced by news media that are interested in attracting viewers or readers, with limited incentive to discipline their readers with the type of quantitative analysis that might give them a correct impression of the aggregate stock market level (Shiller 2000: 203).

The construction of value is taken for granted in Shiller's statement. Conventional wisdom is an exogenous influence over individuals. Not explained is where conventional wisdom or media depictions of market forces originate. This study attempts to lay out a sociological explanation for shifts in market value. Although many of the basic problems for estimating value find their source in cognitive limitations, the emergence of value can be explained by observing patterns of group behavior.

I derive two implications from this study that may benefit behavioral economists. First, changes in the “collective wisdom” of value are endogenous to the stability of financial and asset markets. When markets are predictable and yield consistent positive outcomes for the involved actors, huge shifts in valuation are less likely to occur. From this theory we should expect that volatility and mispricing most likely occur in less stable markets. This proposition is based on the idea that markets are themselves designed to produce calculable outcomes and that when they fail to do so, liquid assets become more difficult to price (Carruthers and Stinchcombe 1999). A recent study by Ezra Zuckerman (2004) on market volatility already provides some evidence of this.

Second, to better understand market value fluctuation of individual stocks we need to look to the actions of peer firms. Market leaders and firms’ close competitors frame the valuation consequences of firm strategies. Peers are a comparable group that facilitates commensuration of similar events – such as acquisitions. Shifts in value fluctuation are therefore likely to be clustered in market space rather than distributed independently. Understanding peer influence among firms and investors is important to developing a social behavioralist theory of financial markets.

Limitations to study

As with any empirical research, there are some inferential limitations that can be made from this study. I look at acquisition choice and their valuation consequences for a specific set of industries during a specific time period – the communications industries during the economic boom of the late 1990s and the early years of the subsequent bear

market. This period was a time of extreme market instability for firms in these industries. Further, for much of the time of this analysis the financial markets exhibited extreme fluctuations. During the time from 1997 to early 2000, corporate stock prices, particularly those of firms in the technology industries, were booming. From late 2000 to 2002, stock prices depreciated considerably. The volatility of the market during the time of this analysis indicates an underlying instability that led to, first, overwhelming confidence in the market and, second, to a decline in optimism. Further, as I show in Chapter 2, the market conditions of many of these industries were rapidly changing and uncertain. Rampant competition and technological innovation caused executives and investors alike to be overly-agitated compared to their peers in other industries.

This setting makes an interesting research case to test my theoretical propositions. Sufficient variation in competition and innovativeness existed between the segments within the communications industries to provide points of comparison. Uncertainty in the telecommunications market had never been higher, but the movie production industry was relatively stable. Thus, I could examine industries that had high degrees of uncertainty and varying levels of acquisitions. By focusing on specific industries, I was able to look at the local patterns of acquisition strategies between segments. Including a larger number of industries and firms in the analysis would have been unmanageable.

However, because I limited my case to industries that were by and large much more unstable than their surrounding industries (with perhaps the exception of the banking industry), I have selected an extreme case. How would my propositions have fared in a much less competitive and less innovative set of industries? I would expect,

according to my propositions, that you would see fewer acquisitions and acquisition location would be influenced to a lesser degree by peers. However, because I do not provide a comparison group of a more stable industry, I can infer that only within industries that experience general levels of market instability and uncertainty should we expect to see waves of acquisitions occurring in local clusters of competitive firms. However, within those industries, the segments that are the most competitive exhibit the most intense clustering of acquisitions. This last finding provides solid support for the expectation that market conditions moderate the emergence of new perceptions of value.

Future research

Four areas of future research seem promising based on the theory and empirical work presented here. Following up on the limitations discussed above, future studies should look at other kinds of industries and time periods to evaluate the generalizability of these findings. Given the scope conditions of these analyses should be limited to markets characterized by uncertainty and rapid change, how would we expect patterns of corporate acquisitions to occur in industries that are relatively stable? One pertinent comparison could be made to more stable industries during the same 1997-2002 era. One problem with this, of course, is that firms in some of the more stable industries simply did not exhibit the same acquisitive tendency. Therefore, one line of research would be to look at cross-industry differences in the propensity to acquire. A second would be to examine the varying effects of peer influence by industry. Finally, we might also look at the changing patterns of acquisition behavior over longer periods of time.

Second, future studies should assess the theoretical propositions by looking at different kinds of value-enhancing strategies. Corporate R&D and innovation (Hall 2000; Toivanen, Stoneman, and Bosworth 2002), asset redeployment (Anand and Singh 1997; Habib and Johnsen 1999), and downsizing and restructuring (Dial and Murphy 1995; Lazonick and Sullivan 2000) are all organizational behaviors intended to improve firm market value. Capturing value in each of these examples of corporate strategy is an uncertain process that is dependent on the knowledge of the future value of assets. We should expect that the propositions presented here should apply to the proliferation and use of these strategies. Scholars might also apply the theory presented here to different kinds of exchange contexts. While in this study I have examined corporate behavior, we should find similar dynamics occurring in all kinds of social contexts where exchange and value creation is important.

Third, future research might look at how over-time and cross-segment variation in market conditions affects the pricing of corporate assets. One of the main ideas presented here is that the market context amplifies uncertainty in decision-making. Pricing, therefore, should be more volatile in markets where uncertainty and instability are high. As stated earlier, the research of Ezra Zuckerman (1999; 2004) supports this idea. Zuckerman looks at a dimension of market stability not examined in this study: categorical coherence. He finds that markets low in categorical coherence (where categories overlap frequently, creating problems in the commensuration of different kinds of assets) are more volatile. Volatility tends to lead to mispricing. I suggested that markets where competition is high and innovation occurs rapidly tend to be less stable

and lead to uncertainty in decision-making. In those markets we should also expect preferences to be unstable and subject to change. Future research should investigate this proposition more thoroughly and should extend the propositions to consider other dimensions of market stability, including categorical coherence.

Finally, many of the social processes discussed in this study are endogenous to the market and are not always observable. For example, peer mimicry is assumed when firms, net of other predictive factors, tend to buy assets in the same target segment; yet, we have little direct evidence of how mimicry or the decision-making involved occurs. Future research might attempt to uncover those social processes, providing a richer account of the mechanisms. One of those processes that deserves further attention is interpretive framing. I suggested that investors and other third-party observers make sense of organizations' transactions by comparing them to other similar events and then using those events as a frame of reference. Framing, while explored in detail in the literature on social movements and collective action, has not been studied intensively by economic sociologists (although see Beunza and Garud 2005). An important contribution of this study is to make a link between framing processes and the construction of market value. In the future, scholars should elaborate this further.

Final assessment

Market actors continually deal with uncertainty. This is the nature of economic exchange. Yet, actors find ways to stabilize their environment to, at the very least, reduce their uncertainty to manageable levels. Much of contemporary economic

sociology has examined the myriad ways that firms attempt to control their environment (Fligstein 1996; 2001; White 2002). This research advances this line of inquiry by considering the manipulation of market value as a domain characterized by high uncertainty.

In contrast to orthodox thinking in economics, we cannot assume that value is a given quantity that needs only be discovered by exchanging actors in a market. Rather, the market is much like a prism through which actors view value. Changing the tilt of the prism or lighting in the room alters one's perception. Changing the conditions of the market shifts perceptions of value as well. Thus, we should be careful when we assume that market prices always represent some underlying fundamental value. We should be cautious when interpreting actor's choices as maximizing a coherent and ordered preference. Instead, we should pay attention to the market context and think about how levels of competition and the relative stability of the market might warp value and preference. Following Zuckerman's (2004) advice, we should not assume markets always operate efficiently; rather, social scientists should think about how the social-structural conditions of the market may moderate its level of efficiency. The market, under ideal circumstances, is capable of producing collectively rational valuation, but when conditions are not ideal, markets can produce distortions that will not be immediately selected out of the public mindset. This can lead to speculation and collectively irrational outcomes. As we see in this analysis, momentary distortions can over time be eradicated as investors learn which perceptions of value actually lead to real value creation and which do not. However, markets are incapable of efficiently assessing

value at any given moment as long as the market is rampant with uncertainty. Thus, the goal to eradicate uncertainty and produce stable conditions of competition continues to be one of the motivating behaviors for organizations and investors.

APPENDIX A: LIST OF SEGMENTS USED IN THE ANALYSIS AND THEIR
CORRESPONDING SIC CODES

<u>SIC</u>	<u>Segment Description</u>
2711	Newspapers: Publishing, or Publishing and Printing
2721	Periodicals: Publishing, or Publishing and Printing
2731	Books: Publishing, or Publishing and Printing
2741	Miscellaneous Publishing
3652	Phonograph Records and Prerecorded Audio Tapes and Disks
4812	Radiotelephone Communications
4813	Telephone Communications, Except Radiotelephone
4822	Telegraph and Other Message Communications
4832	Radio Broadcasting Stations
4833	Television Broadcasting Stations
4841	Cable and Other Pay Television Services
4899	Communications Services, NEC
7331	Direct Mail Advertising Services (mailing list compilers)
7372	Prepackaged Software (software publishing)
7374	Computer Processing and Data Preparation and Processing Services
7375	Information Retrieval Services (Internet service providers)
7379	Computer Related Services, NEC (disk conversion services)
7383	News Syndicates (except independent news correspondents)
7389	Business Services, NEC
7812	Motion Picture and Video Tape Production
7819	Services Allied to Motion Picture Production
7822	Motion Picture and Video Tape Distribution

APPENDIX B: DESCRIPTION OF DATA SOURCES AND DATA CODING ISSUES

Acquisitions data

I obtained data on corporate acquisitions in the communications industry from Dealogic - a private consulting firm that provides businesses with data on global and national markets with a special emphasis on merger and acquisition coverage. I contacted Dealogic in the spring of 2004, requesting data on communications mergers and acquisitions. A representative of Dealogic, Wan Ching Leong, assisted me in acquiring the data and authorized me to use it for research purposes. The data came in an Excel spreadsheet with information about both the acquirer and the target firm. Using those data I was able to ascertain which firms in the relevant industries engaged in acquisitions and in which segments those acquisitions were located.

One small problem with the Dealogic data was that they provided too much information for my purposes. Included in the spreadsheet were not only acquisitions but also partial acquisitions (where the acquirer purchased a portion of the target's assets) and large purchases of company stocks. I did not want to include those transactions in the analysis because they represented different forms of investment. Partial acquisitions were not of the same scale or quality as complete acquisitions (where not only assets but the company name was acquired). Large purchases of company stock only represented a takeover if they were able to acquire enough stock to command a majority position. Using Bainbridge's (2003) guidelines, I determined that a complete acquisition occurred when a company either acquired at least 50% of the target's stock or when the transaction resulted in the demise of the target firm. In order to determine this, a research assistant

looked at each individual acquisition and, using newspaper archives available online, reconstructed the circumstances around the deal. If it was clear that the acquirer only purchased a portion of the assets, the transaction was coded as a partial acquisition. If the acquirer purchased less than fifty-percent of the target's shares, the transaction was coded as a strategic stock purchase. This latter task was aided by the inclusion of a variable in the spreadsheet listing the total amount of stock purchased. If neither of these were the case, the transaction was coded as a complete acquisition.

COMPUSTAT and firm financial data

The acquisition data were linked to financial and company data available in Standard and Poor's COMPUSTAT database. COMPUSTAT contains an abundance of financial information about publicly traded corporations. I used the database to create all of the financial variables and many of the other company characteristic variables in the dataset. In fact, all of the independent variables in the analysis came from this database except for variables relating to acquisitions (which came from the Dealogic data), interlocking directors, patents, and resource constraint. I obtained COMPUSTAT data through the Eller College of Management at the University of Arizona. An accounting graduate student, Kristian Mortenson, assisted me in culling the data from the database and then organizing the data for my purposes.

Resource constraint variable

Data on industry resource transactions, used to create the resource constraint variable, came from the from the Bureau of Labor Statistics (<http://www.bls.gov/emp/empind3.htm>). Input-output data is available for the years

1997, 2001, 2002 for the major industry classifications. I used only the 1997 data to calculate the variable as it was the earliest year of the analysis. Using all three years would have forced me to interpolate values for the missing years, which would probably be biased as we would not expect this variable to change linearly. Input-output data was not available at the twenty-three segment level that I used in my dissertation, therefore I had to aggregate the segments into larger industries. The data were instead coded using NAICS classes, which map onto the SIC codes but with some overlap. Seven NAICS classes (5111, 5112, 516, 512, 5151, 5152, and 517) covered the segments in my analysis. Each of these classes corresponded to certain segments. For example, the 5111 class included the segments with the SIC codes of 2711 (newspaper publishing), 2721 (periodical publishing), 2741 (miscellaneous publishing), and 7331 (direct mail services). Once I obtained a matrix of resource input for all of the NAICS codes, I was able to create the cross-segment constraint variable as described in the body of the dissertation.

Patent data

Research assistants also entered data about firm patents. We obtained these data using the search tool at the U.S. Patent and Trademark Office website (<http://www.uspto.gov/patft/index.html>). Assistants searched for patent applications for each firm for every year of the analysis. The data were entered simply as the number of patent applications found through the search. The precise syntax used by the assistants to search for this information can be obtained by contacting the author.

Interlocking director data

Research assistants collected data on interlocking directors from the corporation's annual proxy statements. These statements are available online through the EDGAR database on the SEC website (<http://www.sec.gov/edgar.shtml>). I instructed the research assistants to search for each company's proxy statement (form Def 14A) in EDGAR and to code the directors for either 1) the year 1996 or 2) the year for which an annual proxy statement is first recorded. Because the SEC lists all proxy statements issued by a firm, the first proxy statement available online will be the first actual statement issued by the firm. The recorded proxy statement precedes the acquisition events in the analysis either because 1996 preceded the analysis or because companies more than likely issued a proxy statement prior to engaging in major company transactions. After finding the proxy statement, the assistants entered the GVKEY (a company identifier) of the company on which the director held a formal position. I was then able to match those GVKEYs with information about the company contained in the COMPUSTAT database, including information about the segments in which the pertinent company operated.

CRSP and daily returns data

I used the CRSP database to obtain information on stock price returns, which were used to calculate the abnormal returns in chapter 4. CRSP is an acronym for the Center for Research in Security Prices (<http://gsbwww.uchicago.edu/research/crsp/>), which is a financial research center at the University of Chicago. I used the CRSP stock database for U.S. indices, which contains information on stock returns for all firms listed on the NYSE, AMEX, and NASDAQ. The market return index used in the analysis is a

value-weighted index of all firms in the CRSP database. The daily returns are the percentage change in stock price (closing stock price plus dividends divided by the closing price of the previous day) for a particular firm. I obtained CRSP data from the Eller School. The same accounting graduate student who assisted me with COMPUSTAT also helped me acquire these data.

APPENDIX C: TABLE OF CORRELATIONS FOR INDEPENDENT VARIABLES IN
REGRESSION ANALYSIS *

<i>Variables</i>	1	2	3	4	5	6	7	8	9	10	11	12
1 Same segment	1.0											
2 Target seg. growth	-.02	1.0										
3 Target seg. profit	-.07	.17	1.0									
4 Firm growth	-.00	.01	.01	1.0								
5 Target seg. q-ratio	-.02	.02	.04	.01	1.0							
6 Firm q-ratio	.00	-.01	-.01	-.00	-.00	1.0						
7 Resource constraint	-.00	.00	.00	-.02	.00	.01	1.0					
8 Firm patents	-.00	.00	.01	.00	-.00	-.00	-.02	1.0				
9 Target seg. patents	.02	-.01	.11	.00	-.03	-.00	.00	.00	1.0			
10 Diversification	.00	-.00	-.01	.05	.01	-.02	.05	.02	.00	1.0		
11 Preexisting assoc.	-.09	.02	.02	.00	-.05	-.00	-.01	-.00	-.09	.02	1.0	
12 Competitor acq.	.52	-.02	-.01	-.00	-.02	-.01	-.04	.01	.04	-.01	.02	1.0
13 Leader acq.	.28	-.01	-.01	-.00	-.01	-.00	-.01	-.00	-.01	.00	.01	.29
14 Seg. profitability	.00	.11	.23	.03	.00	-.02	.06	.01	.08	.01	.02	.02
15 Competitor * profit	.00	.04	.33	.01	.00	-.00	.03	.00	.03	-.00	.00	.14
16 Leader * profit	.09	.03	.01	.01	.00	-.00	-.07	.00	.01	-.01	-.05	.08
17 Segment patents	-.00	-.04	.11	.01	-.04	-.01	-.07	.01	.05	-.07	-.05	.09
18 Competitor * patents	.29	-.01	.06	.00	-.01	-.00	-.02	.01	.07	-.01	.00	.69
19 Leader * patents	.24	-.01	-.01	-.00	-.01	-.00	-.01	-.00	.00	.00	.01	.24
20 Debt structure	.00	-.00	-.00	-.00	-.00	-.00	.03	-.00	-.00	.02	.00	-.00
21 Cash flow	-.00	.01	.01	.00	.00	-.32	.01	.00	.00	.02	-.00	.01
22 Operating inc.-book	-.00	.00	.00	-.00	.00	.00	-.00	.00	.00	.02	-.00	.00
23 Price to equity	.00	-.00	-.00	-.00	-.00	.05	-.00	-.00	-.00	-.01	.00	-.00
24 Log of employees	-.00	.01	.02	.07	.00	-.08	.17	.05	.01	.39	.01	.04
25 Market share	-.00	-.00	.01	-.07	-.01	-.01	.00	-.01	-.00	.13	.01	-.03
26 Segment HH index	.00	-.01	-.02	.02	-.02	.01	.05	-.04	-.02	.04	.08	-.12
27 Segment diversification	.00	-.01	-.04	.02	.03	.01	.10	-.01	.01	.20	.06	-.06
28 Segment growth	-.00	.07	.06	.05	.04	-.00	-.04	.00	.02	.01	.03	-.00
29 Segment q-ratio	-.00	.04	.01	-.00	.04	-.00	-.05	-.00	.01	.03	.02	-.02
30 Target seg. HH index	-.06	.15	.05	.00	.11	-.00	-.00	-.00	-.03	-.01	-.02	-.07
31 Target seg. divers.	-.05	.04	.02	-.00	.12	.00	.00	.00	.03	.02	.02	-.07
32 Interlocking directors	.20	-.01	-.04	.00	-.01	-.00	.01	.00	.06	-.01	.00	.21
33 Previous acquisition	.14	-.00	-.00	.01	-.01	-.00	.02	.01	.00	.02	.02	.12
34 Year – 2001	-.00	-.18	-.30	-.03	-.02	.02	.00	-.01	-.07	.01	-.00	-.03
35 Year – 2000	-.00	.25	.05	.03	.23	-.01	.01	-.01	.02	.01	-.00	.02
36 Year – 1999	-.00	.05	.17	.01	-.02	.01	.01	.02	.14	.02	-.00	.04
37 Year – 1998	-.00	-.10	.12	-.01	-.07	-.01	.01	.01	.04	.02	-.00	.01
38 Year – 1997	-.00	.04	.09	.01	-.07	-.02	-.00	.00	-.04	-.08	-.00	-.03

APPENDIX C: CONTINUED

<i>Variables</i>	13	14	15	16	17	18	19	20	21	22	23	24
13 Leader acq.	1.0											
14 Seg. profitability	.00	1.0										
15 Competitor * profit	.02	.26	1.0									
16 Leader * profit	.07	.07	.02	1.0								
17 Segment patents	-.03	.17	.07	.01	1.0							
18 Competitor * patents	.03	.04	.29	.01	.18	1.0						
19 Leader * patents	.85	.01	.02	.09	-.02	.03	1.0					
20 Debt structure	-.00	-.01	-.00	-.00	-.01	-.00	-.00	1.0				
21 Cash flow	.00	.01	.00	-.00	.01	.00	.00	.00	1.0			
22 Operating inc.-book	.00	.00	.00	-.00	.01	.00	.00	.00	.01	1.0		
23 Price to equity	-.00	.01	.00	.00	-.01	-.00	-.00	.12	-.00	.00	1.0	
24 Log of employees	-.01	.05	.01	-.02	-.05	.02	-.01	.00	.08	.04	-.04	1.0
25 Market share	-.01	.02	.00	.00	-.11	-.02	-.01	-.00	.01	.01	-.01	.32
26 Segment HH index	-.02	.05	-.02	.02	-.19	-.09	-.02	-.00	-.01	-.00	.02	-.07
27 Segment diversification	.02	-.01	-.01	-.03	-.31	-.05	-.01	.01	.00	.02	.01	.18
28 Segment growth	-.02	.20	.04	.07	.01	.00	-.01	-.02	.00	-.01	-.00	.06
29 Segment q-ratio	.01	.02	.00	.00	-.06	-.01	.02	-.00	.00	.00	-.00	.01
30 Target seg. HH index	-.03	.01	-.02	.04	-.03	-.05	-.02	.00	-.00	.00	.00	.00
31 Target seg. divers.	.00	-.02	-.02	-.01	.03	-.05	-.00	-.00	.00	-.00	-.00	-.00
32 Interlocking directors	.11	-.00	-.00	.03	.00	.13	.09	-.00	.00	.00	-.00	.03
33 Previous acquisition	.04	.00	.02	.00	-.00	.08	.03	.01	.00	.00	-.00	.05
34 Year – 2001	-.02	-.65	-.16	-.08	-.15	-.03	-.03	-.01	-.02	-.00	-.01	-.03
35 Year – 2000	-.04	.08	.00	.02	-.13	-.02	-.02	-.01	.01	.00	-.00	.00
36 Year – 1999	-.03	.35	.12	.01	.06	.02	-.03	-.01	.01	.01	-.01	.03
37 Year – 1998	-.03	.17	.04	.00	.54	.10	-.01	-.00	.01	.01	-.00	.03
38 Year – 1997	-.02	.09	.01	.01	-.01	-.02	-.02	-.00	.01	.01	-.00	.02

APPENDIX C: CONTINUED

	25	26	27	28	29	30	31	32	33
25 Market share	1.0								
26 Segment HH index	1.0								
27 Segment diversification	-.06	1.0							
28 Segment growth	.05	.31	1.0						
29 Segment q-ratio	.02	.00	.11	1.0					
30 Target seg. HH index	.03	.13	.12	-.03	1.0				
31 Target seg. divers.	.01	.01	-.05	.01	-.01	1.0			
32 Interlocking directors	-.01	-.01	.06	-.01	.01	.34	1.0		
33 Previous acquisition	.00	-.02	.00	-.00	-.00	-.04	-.01	1.0	
34 Year – 2001	.02	-.00	.03	.01	.00	-.01	-.00	.04	1.0
35 Year – 2000	-.02	-.01	.08	-.18	-.02	-.03	.07	-.00	.00
36 Year – 1999	-.03	-.04	.07	.18	.15	-.04	.01	.00	.01
37 Year – 1998	-.00	-.05	.04	.07	-.00	-.02	.10	.00	.00
38 Year – 1997	.03	-.04	.00	-.05	-.04	-.06	.04	-.00	-.00

APPENDIX C: CONTINUED

<i>Variables</i>	34	35	36	37	38
34 Year – 2001	1.0				
35 Year – 2000	-.27	1.0			
36 Year – 1999	-.23	-.24	1.0		
37 Year – 1998	-.19	-.19	-.17	1.0	
38 Year – 1997	-.18	-.18	-.16	-.13	1.0

*All correlations rounded to two decimal places.

APPENDIX D: TABLE FOR CORRELATIONS FOR INDEPENDENT VARIABLES
IN Q-RATIO CHANGE ANALYSIS *

Variables	1	2	3	4	5	6	7	8	9	10
1 Competitors acquisitions	1.0									
2 Leader acquisitions	.35	1.0								
3 Δ in profit	.00	.01	1.0							
4 Δ in diversification	-.00	-.06	.03	1.0						
5 Δ in size	-.04	-.02	.15	.11	1.0					
6 Δ in market share	-.00	.00	.13	-.25	-.30	1.0				
7 Δ in patent applications	-.01	-.01	.00	.06	.01	-.01	1.0			
8 Log of employees	-.05	-.02	-.03	.00	.21	.01	.09	1.0		
9 Number of acquisitions	-.15	-.08	.11	.06	.18	-.05	.01	.24	1.0	
10 Lagged q-ratio	-.03	-.03	.00	.00	-.02	-.00	-.01	-.15	-.05	1.0

*All correlations rounded to two decimal places.

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