The Impact of New Information Technologies on the Commercial Brokerage Industry

Phase III: What Does New Information Technology Make Possible and Under What Conditions Will Changes Occur?[a]

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Dedicated to Education and Research
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The SIOR Educational Foundation mission is to promote, sponsor, and support education and research initiatives that advance professionalism in the commercial real estate industry. Established more than 30 years ago to publish the industry's first graduate-level textbook on industrial real estate, SIOREF has maintained its dedication to expanding understanding of the commercial real estate industry.

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[a]This is the final of three reports written for the research program "The Impact of New Information Technologies on the Commercial Brokerage Industry" for the SIOR Educational Foundation. Phase I estimated the size of the office and industrial brokerage sector and its profitability. Phase II documented and analyzed existing e-commerce initiatives in the commercial brokerage area.

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conclusions in this report are ours alone.

Abstract

The rise of new information technology is likely to bring about three broad changes to the commercial brokerage industry. The first, which already is occurring, is the development of specialist firms that perform only a part of the brokerage process such as the research or listings function. We believe the real issue for the commercial brokerage industry is not whether the research function largely will be outsourced in the future, but who will provide and control the data. If a stand-alone, for-profit firm proves itself to be highly profitable, we would expect some type of collective response from the brokerage firms themselves to capture some of that value. Either they will create some type of multiple listing service platform or the stand-alone firms will share some of their profitability with the brokerage houses by lowering fees. Additionally, we believe other parts of the brokerage process will be outsourced to non-brokerage firms as technology advances and adoption rates increase.

The second area of change involves how new technologies have and will continue to influence the existing operations of traditional brokerages. New technologies already have interacted with the trend towards corporate outsourcing to make it easier for large brokerages to more efficiently manage complex portfolios. And, increased transparency that is making the brokerage process more visible to clients is likely to lead to new payment mechanisms that do not rely exclusively on commissions. Project-based fixed prices should become more common, and a fee per hour worked arrangement, possibly with a bonus or other incentive structure, is likely to become more common in the industry. By no means should this be viewed as unambiguously negative for brokers, as the potential loss of commission upside is balanced at least somewhat by the security of an income stream.

The final change we envision is a discount brokerage model that focuses on smaller, relatively low margin transactions. This represents a major change in the underlying business model of a brokerage firm and requires the meshing of new technology and labor force arrangements. While it is not yet clear precisely how such a firm will be organized, the factors necessary for success are becoming more apparent, and we believe the obstacles to success are not insurmountable. That said, not all firms will want to pursue an explicit discount strategy or even offer it as part of a package for clients. However, a successful discount model should be closely scrutinized by all in the industry because it always has the potential to be adapted to serve higher margin clients. We do not believe that a purely electronic or virtual brokerage is feasible in the near term. Widespread standardization of documents and processes would be required for this, and we do not think that is a likely outcome in the near term.

We conclude that these changes are much more likely to affect the tenant rep and project leasing sectors of the industry than they are the investment sales and corporate disposition areas (in the near to medium term, at least). Hence, relative commission growth going forward should be lower in the tenant rep and project leasing sectors.

I. Introduction

The central organizing question around which our research has been conducted is whether developments involving new information technologies are likely to change the fundamental business model by which commercial brokerages function, thereby changing the basic role and compensation of the broker, or whether these technologies are more likely to serve as another (possibly quite important) distribution channel for commercial brokerages operating with essentially the same business model.

In Phase I of this study, we argued that economic theory provided good reason to suspect that e-commerce developments could materially affect the nature of firms in commercial brokerage as well as the sector's industrial organization. We also concluded that profitability in the office and industrial sectors alone was more than enough (in excess of $5 billion annually) to attract the attention of entrepreneurs who believed they could use new information technologies to capture some of the revenues presently accruing to traditional brokerage firms and brokers.[1] Phase II of our research then surveyed a number of e-business initiatives in the commercial brokerage and listing spaces. A wide range of efforts already are in place, including some very ambitious ones clearly intended to change the balance of power between brokers and their clients–and to change the basic cost and profit structure of the industry.[2]

In this final phase of the research project, we analyze just what the rise of new information technologies makes possible for the brokerage industry and under what conditions those possibilities are likely to lead to significant change in the industry. Three broad areas are examined. The first—the rise of specialist firms that would not exist in the absence of new information technologies—already has

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1 See our research report entitled "Phase I: What Is at Stake? Estimation of the Revenue Flow to the Office and Industrial Brokerage Sectors", February 21, 2001, submitted to the SIOR Educational Foundation for the details.

2 See our research report entitled "Phase II: E-Business Initiatives in the Commercial Brokerage and Listing

occurred, so it is not a mere potentiality. A leading example here is The CoStar Group which has replaced much of the research function previously done in-house by traditional brokerages. However, CoStar is not the only example as our Phase II research into e-business initiatives in the listing area showed.[3]

It is noteworthy that, at this point in time, most of these firms are not trying to replace traditional commercial brokerages or to become electronic versions of those entities. As we discuss more fully below, the key economically to the rise (and ultimate success) of specialist service providers is lower transactions costs across firms, so that outsourcing of specific tasks can be done profitably. New information technologies are the force that has helped lower those transactions costs across firms in the brokerage industry. For example, it is the rise of the Internet that really allows frequent updating of market information by specialist data providers. It also permits much easier and cheaper monitoring of activity both by brokerages who may have outsourced a function (such as research) and by clients of the brokerages. The brokerage can easily tell when a data provider had updated information. And, clients have more direct access to their broker than in the past (e.g., via email and cell phones). Cheap and easy monitoring is at the heart of transparency, thereby making it easier to contract and transact across firms. In the next section, we also explore whether there are other functional areas (i.e., besides research) that could be taken over by specialized firms.

In addition to facilitating the development of specialist service providers, the rise of new information technologies also is likely to materially influence the existing operations of traditional

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Spaces", April 6, 2001, submitted to the SIOR Educational Foundation for the details.

3 The interested reader should see our Phase II report (cited above) for more details on any firm mentioned in the text. We should emphasize that we do not endorse any firm noted here, nor have we made an evaluation of any firm's economic worth or viability. Our mentioning of a firm simply signifies that it is an interesting example that helps illustrate a point we wish to make or a conclusion that we have reached.

brokerages. This represents the second broad potential impact of new information technology developments. The forces we have in mind here include the interaction of new information technologies and the continued outsourcing of transaction management tasks to brokerages by major corporations, as well as the impact of increased transparency in pricing and performance. Commercial brokerages already are employing new technologies to deal with large outsourcing opportunities, and it is difficult to see how they could be properly and profitably managed without such technologies. Increased transparency, by which we mean the brokerage process becomes more visible (especially to clients), has been facilitated by the Web. This is important because the more transparent the brokerage process becomes, the more likely it is that some type of fee per hour worked pricing system will be implemented (i.e., akin to how the legal, consulting, and accounting professions function). This is particularly true if the marketing effort by the broker can be more easily monitored by the client.[4] If this type of change occurs, it will not only affect broker compensation, but is likely to alter the type of work done and skills needed by the different personnel in a brokerage operation—even in the absence of a fundamental change in the underlying business model of the firm. And, this trend also could lead to the formation of new specialist firms that focus on discrete portions of the transaction process.

The third broad potentiality examined is whether the rise of e-business will allow for a new type of brokerage firm. Two, somewhat distinct, possibilities are investigated. The first is whether the Web and its associated technologies will facilitate the successful development of an explicit discount commercial brokerage model akin to what Charles Schwab did in the stock brokerage area. While discounting effectively already occurs in the industry, especially on large deals and portfolios, a key question is

4 See Joseph Williams, "Agency and Brokerage of Real Assets in Competitive Equilibrium", *Review of Financial Studies*, Vol.11, no. 2 (1998): 239-280, for an analysis of why a commission structure is optimal when broker effort is difficult to monitor. When the process and the effort put into brokerage is made more visible to the

whether a distinct and explicitly advertised discount broker model will emerge. Our Phase II work uncovered a couple of efforts on the commercial front and others in the residential brokerage business along just this line. As is discussed more fully below, we believe this model has the greatest chance of near-term success to disintermediate the tenant rep function.

An alternative possibility examined is a purely electronic model. Here we are thinking about a predominantly web-based, transactions-oriented firm. The recent failure of Zethus, a firm which started off with a business model that wanted to 'replace the broker' before switching to a technology provider model, suggests that success is not likely to occur soon--and we agree with that conclusion. Only the most homogeneous of transactions seem suitable for a pure e-business model. And, the level of standardization that would be required by most sophisticated users and customers just is not going to happen that quickly in commercial real estate.

The remainder of the paper investigates each of these three areas of change in more detail. We conclude with a brief summary and some final thoughts on the future course of commission revenues in the commercial brokerage industry.

II. Change #1: The Rise of Specialized Firms Within the Commercial Brokerage Industry

One of the most venerable articles in all of economics can help us understand how the rise of new information technology already has affected the nature and type of firms in the commercial brokerage industry.[5] The key insight from that research is that the diversity of tasks performed internally within a firm is critically dependent upon the cost of conducting transactions across firms. When those transactions costs are high, firms are likely to perform many tasks in-house because it is too expensive to contract

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client, a fee for service arrangement becomes viable and, generally, is preferred by the client.

with specialist firms for specific functions. Contracting costs tend to be high when the underlying business process itself is not transparent to all parties. The rise of the Web is relevant here because it has lowered transactions costs and increased transparency. This has occurred partly by making information collection, information processing, information storage, and communication and collaboration cheaper and partly by permitting improvements in the process by which transactions are done.[6]

As a result, numerous firms specializing in the research and listing functions have formed, as documented in our Phase II research report. The effort by The CoStar Group is among the most visible, with that firm attempting to provide a broad array of research services previously performed within each of the major brokerage operations. The potential cost savings from such an operation obviously arise from eliminating the duplicative effort (and associated labor costs) of having many different brokerage firms collecting virtually the same information in-house. A back-of-the-envelope calculation shows that the gross savings to be reaped by a single, large brokerage company operating in a major metropolitan area are likely to be in excess of $150,000 annually.[7]

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5 See Ronald Coase, "The Nature of the Firm", *Economica*, Vol. 4, (1939): 386-405.

6 The two forces are not unrelated. Part of the reason information processing and storage is cheaper is that fewer employees are needed to perform these tasks. That is, a technological improvement allowed an entire business process to be redesigned. For more on process improvements and their impacts, see Paul Milgrom and John Roberts, *Economics, Organization, and Management*, Prentice Hall, 1992.

7 This figure was arrived at as follows. Based on various conversations we had with brokerage firm executives, we presume that at least two more research personnel would be needed in each firm in the absence of a stand-alone data provider such as CoStar. We estimate the all-in costs of such a person to be about $80,000 per year. [This includes salary, benefits, training, office space, etc.] Hence, the savings per firm are $160,000 per year. If there are even five competing brokerage firms in the market, the aggregate savings in research personnel costs amount to $800,000 annually. As long as the specialist data provider can make a reasonable profit by charging less than $160,000 annually per firm, both the data provider and brokerage firm can benefit economically. While we emphasize the back-of-the-envelope nature of this example as it abstracts from many potentially important details (e.g., taxes and the like), it is illustrative that the cost savings could be large and will increase with the number of firms in the market. [This is one reason why specialist research firms are more likely to be successful in larger markets, but that is a separate issue.]

These potential cost savings long have been there to be had. Yet until quite recently, there was no sense in the industry that there was much potential for specialist firms in research or other areas. It is the rise of new information technologies that clearly has created conditions more amenable to individual brokerage firms outsourcing the research function. The cost of collecting, storing, and publishing the vast amount of information required on any given market simply has fallen with the advent of new technology. In addition, it is vital that information can be updated much more frequently and cheaply on the web. The frequency of updates in particular is valuable to brokers, and frequent updating was cost-prohibitive when it required the publication and delivery of the equivalent of a modest-sized paper book.[8]

While we firmly believe that the conditions for the development of specialist research firms have never been better because of new information technologies, this is not to imply that zero researchers will be employed by brokerage firms in the future. In fact, individual brokerage houses still have and will continue to need smaller research teams that augment and manipulate the data provided by the specialist firm. This is because both brokerage firms and their individual brokers have unique needs that are likely to generate specific data requirements that never will be fulfilled by a distributor of market-wide information. Hence, the brokerage firms themselves will need to retain some research staff, even if on a much reduced scale. In addition, brokers will continue to play a role in the research function as much of the unpublished (and often valuable) market and property information resides in their heads.

It also is not yet clear whether this function ultimately will be performed by a stand-alone, for-profit firm versus a cooperative multiple listing service (MLS)-type arrangement financed and owned by the brokerage community. After all, market-wide information on space availability and recent sales comps in

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8 One of the most prominent efforts at providing market-wide research data for brokerage firms prior to the development of the Internet was *Black's Guide*. And, it could not be updated frequently for the very reasons just discussed. Thus, it is no surprise that *Black's Guide* also has gone electronic. [See the description of Blacksguide.com

the owner-occupied housing sector typically is provided by a MLS, not a stand-alone, for-profit firm. Presumably, the existence of a MLS is a question of economics. That is, brokerage firms in the housing sector must believe there is value in providing the space and sales data, and they then cooperate with other brokerages in setting up the MLS in hopes of capturing some of that value. Otherwise, an independent firm would reap the profits.

In fact, this debate is just beginning to take place in the commercial real estate industry. One example is of a firm named Xceligent that is trying to sell technology that allows local brokers to be their own 'CoStar'. Effectively, they are challenging CoStar's business model by suggesting that local brokers form an association and control the data themselves. In addition, we understand that there are non-profit MLS platforms being developed in the Atlanta and Milwaukee markets, whereby brokers would contribute data and collectively pay for the maintenance of the platform.

In sum, we believe the real question for the commercial brokerage industry is not whether the research function largely will be outsourced in the future (it will be), but who will provide and control the data. If a stand-alone, for-profit firm proves itself to be highly profitable, we would expect some type of collective response from the brokerage firms themselves to capture some of that value. Either they will create some type of MLS platform and control the data or the stand-alone firm will 'share' some of its profitability with the brokerage houses by lowering fees.[9] Conversely, should the for-profit firms not be

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in our Phase II report for the details.]

9 Thus far, we have not addressed issues relating to how likely are brokers to quickly and accurately report information. The reason is that we do not think that their incentives differ depending upon whether a firm such as CoStar or a collectively-run MLS exists. Stated differently, what information economists term 'incentive compatibility' does not differ much, if at all, based on who reports market information on space availability and transactions prices. For example, a tenant rep broker who sees the glimmerings of a negative trend or event in the market may not immediately reveal that information if it will delay a decision and fee income (not to mention any lower fee income received). Hence, the speed with such information is revealed seems unlikely to differ depending upon whether an independent, for-profit firm or a MLS exists.

able to reach or sustain profitability, we would expect the brokerage firms to create some type of cooperative rather than inefficiently re-staff the research function in each firm.

It is noteworthy that research is not the only function susceptible to new firm entry. Phase II of our research showed the listings and marketing function to be targeted by a variety of companies. The LoopNet/PropertyFirst combination is one of the more prominent examples. This merged entity clearly hopes to be the place where brokers can market their wares, all while implementing some of the processes involved in executing transactions. Once again, the goal is not to be a full service brokerage company, but to deliver cost savings to brokerage firms and brokers by providing a more specialized service (or set of services) to many firms that used to perform the function in-house, and to market ancillary services associated with a transaction (e.g., provide referrals for mortgage companies and the like).

As was the case in the research area, we do not know whether the new LoopNet or other existing or future competitors will be the winner in this space. What does seem clear is that scale, information quality, and critical mass is vital in the listings area. There are clear benefits from being the place where everything can be seen simultaneously. Hence, we would not expect more than a handful of such firms to be able to survive.[10]

The most obvious change that the rise of specialist firms will bring to commercial brokerages is in personnel. For example, jobs in the research and listing areas will be reduced, but not eliminated, and the remaining research jobs will require greater analytical and technology skills. Using research as an

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10 In our opinion, the research and listing functions are the most viable areas for the immediate development of successful specialist entities. However, our Phase II report found efforts in other areas that bear mentioning. Peracon.com is an example of a firm targeting sellers' agents with a new online process attempting to standardize and streamline some of the sales transaction exercise. Other firms such as Offices2Share.com specialize in a particular customer or product niche (short-term sublets of office space in its case).

example, the specialist provider obviously will provide the basic data. The remaining researchers inside brokerage firms will have to work with and tailor that data to the firm's needs.[11] However, this alone should not affect the underlying business model of brokerages. After all, these jobs are often among the lowest paid ones in the firm. And, the direct impact on the highly paid brokers and what they do (i.e., on the brokerage process itself) is relatively small. For example, brokers still must be active in verifying key data, asking relevant questions about the data, and generally providing a framework for any data analysis (including utilizing relationships to fill in any gaps in the data).

We believe that the rise of successful specialist firms is likely to have a greater impact on the industrial organization of the sector. By lowering the infrastructure costs related to research and marketing, these firms make it easier for smaller, boutique brokerage operations to compete with the larger firms in the industry. Smaller firms, as well as smaller teams within firms (particularly those with an industry specialty or product niche), should be able to compete more successfully if everyone has access to essentially the same data and a similar ability to list or market electronically. All firms, larger ones in particular, will have to evolve and innovate to add value to their brokers. Areas in which larger firms should continue to have an advantage over smaller rivals would include brand and marketing, distribution (i.e., deal flow), and the ability to make significant technology and systems investments.

III. Change #2: General Effects on Existing Operations of All Brokerage Firms

The rise of new information technologies will significantly affect the operations of the most

11This has the potential to have wider ramifications for the training of brokers, as many were schooled in the basics of their market by performing market research functions. We suspect new agents will continue to work this function, focusing less on raw data collection and more on data verification and analysis of the basic data. If this is not the case, then brokerages will need to develop a new mechanism for building market knowledge in their new employees.

traditional of brokerage firms independent of the success of specialist firms. For example, it is difficult to envisage the corporate outsourcing trend developing the way it has in the absence of such technology. The execution of any brokerage transaction is, at its heart, a complex communication and project management task. Successfully managing the process for a national or international client would be very hard, if not impossible, without the Internet and related technologies and applications. Part of the future profitability of the larger brokerage operations with such clients is dependent upon their ability to use computing, wireless capabilities, and the Internet to make the process less expensive.

For instance, the process of searching for space (in the case of tenant representation) or buyers (in the case of investment sales) already has become less expensive through the advent of communications technology such as email, and the research, listing, and directory companies which largely were non-existent in their current form only a decade ago. It is noteworthy that making the process more efficient requires brokers to have certain skills associated with technology implementation and team management, in addition to the standard ones pertaining to real estate markets. The most successful brokers will be those most comfortable with the new technology and those who can make the client most comfortable with that technology. Hence, it is not just space that will be marketed, but a somewhat different management process.[12]

Even more important is the impact that increasing transparency can, and probably will, have on brokerage firms. Here, we do not just mean the fee compression that generally is associated with a business process that is more transparent to the client, although that is not insignificant. More broadly, we think it is possible that the basic way in which brokerage services are priced will change. Rather than

12 For example, NetStruxtr.com clearly believes that an auction-like process in which tenants post their requirements and respond to landlords directly will 'work'. Even without a new entity such as NetStruxtr.com to house the system, this approach clearly would alter the process of finding space.

a pricing system that rewards brokers primarily with some percentage of the value of a contract signed, a more transparent model is to price by the hour worked with some type of performance or completion bonus. This would be closer to how other service professionals (e.g., lawyers, accountants, and consultants) are compensated. In effect, the issue is whether brokers will become more and more like virtual employees of their clients, paid more like employees than sales people.[13]

Real estate economists have concluded that a commission structure is preferable when the client cannot easily monitor how intensely the broker is marketing a property. In that case, paying the broker a percentage of the transactions price helps align interests between the broker and client. However, if at least some of the marketing process becoming more visible via electronic media, clients are likely to want (at least partially) to pay a specific fee for a specific service. In any event, that is the outcome in other service industries. We should emphasize that this need not be all bad for the broker. Having the security of a retainer-like feature as part of broker compensation with the upside of a bonus for success upon closing could be attractive to many brokers.[14]

Improved publicly accessible information also generally places clients in a better (i.e., a more informed) position to decide whether they want to use the available technology to substitute for broker time. For example, some tenants now may be more comfortable performing at least some of the initial search function previously undertaken by a broker with the assistance of a research person.[15]

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13 There are a host of issues, mostly legal and tax-related, surrounding employee versus outside agent compensation. Our discussion is not related to those issues, but to the point of commission versus fee-based compensation.

14 Determining precisely who would benefit and who would lose from such a change is an extremely difficult task. Essentially, the risk-reward trade-off is changed under the new compensation scheme. Many brokers may value the trade-off because it reduces the 'feast or famine' nature of the present commission system. However, some risk-loving (and highly talented) brokers would not like the change, as they thrive the most under the current system.

15 As is discussed in the next section, we believe some clients will, over time, choose to substitute technology for broker labor on smaller and more generic deals. It is in this sense that the rise of a discount model analyzed below is

Even more generally, new information technologies afford brokerage firms the opportunity to restructure or reallocate their personnel towards higher valued-added parts of the brokerage process. Brokers perform many tasks, and one way to break down their major activity areas is as follows: (a) sourcing new business; (b) pitching and winning new business; (c) executing business that is won; (d) managing the account; and (e) minimizing non-revenue time. We further maintain that task 'c', executing business that is won, takes the bulk of broker time (perhaps as much as two-thirds), but does not account for nearly that much of commission value. Tasks 'a' and 'b' are the reverse in that they generally account for a much greater fraction of commission value relative to broker time spent generating the commission.[16] The latter two functions are more balanced in terms of the fractions of broker time they take and the commission value they generate.

The point we wish to make from this is that a firm does not have to change business models in order to employ new technology to restructure how it implements the brokerage process. Because the sourcing, pitching, and winning of new business are relatively high value-added activities, it makes sense for brokerage firms to concentrate the high cost broker professional on those activities as much as possible. And, in terms of 'executing business that is won', technology and lower cost professionals should be used to substitute for as much high cost broker time as is feasible because broker value added is relatively low in that function. This can involve a myriad of tasks ranging from arranging initial tours and showing space to having an electronic interface that can answer the standard questions asked

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related to this change in pricing. That is, increased transparency, whether via publicly available data and documents or via better tracking of time spent on a deal, can influence brokerage pricing in a number of ways.

16 We suspect that sourcing new business and then pitching and winning it is responsible for about half of commission value, while taking up less than a quarter of broker time. While reasonable people certainly can quibble with the precise numbers, we doubt that many would disagree that the value-added to brokers associated with sourcing and winning business outweighs the time brokers spend on those activities (in percentage terms, of course, and especially taking into account the 'hit rate' or the number of assignments won compared to the number of assignments

by all clients. However, we emphasize that technology alone should not be viewed as the answer here. New personnel arrangements with small teams of junior (and, therefore, less expensive) technical support people managed by the high value-added broker probably are needed to generate meaningful efficiencies. This suggests that brokers with good management and team building skills and broad familiarity with technology will become more valuable over time.

IV. Change #3: The Possibility of New Types of Brokerage Firms

In order to change the underlying business model by which commercial brokerages operate, a new type of brokerage operation is needed. A largely web-based firm of the type apparently envisioned initially by Zethus has attracted the most attention. While we discuss that model later in this section, we believe the development of a different type of firm, one based on an explicit discounting model, is a more relevant issue for the commercial brokerage industry in the near to medium term.

A brief review of some of the history in the stock brokerage arena illustrates why the development of a successful discount strategy could be very important. That story really begins in the 1970s with the ending of fixed commissions on stock trades. Prior to this, it literally was impossible for a stock brokerage to follow a discounting strategy. Following the end of fixed prices, Charles Schwab successfully entered with a discounting strategy. Schwab's model was a no frills approach that involved lower trading fees, with fewer services. The firm captured customers from the full service firms such as Merrill Lynch, but there still was no fundamental change in the business model by which the traditional stock brokerage houses operated. That said, those firms did respond by providing items such as WRAP accounts with subsidized trading costs. They also began to offer more financial advice, which with

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pursued).

hindsight can be seen as the beginning of a change in their business model. In this case, it involved a change from a trading-based strategy to a financial advisor/manager strategy.

The final stage of this story begins with the development of pure Internet-based companies such as E*Trade, Ameritrade, and the like. Interestingly, recent research suggests these new, virtual firms drew their initial customers more from the discount brokers such as Charles Schwab rather than from full service firms such as Merrill Lynch.[17] Thus, it appears the presence of discount stock brokers facilitated the rise of Internet-based stock brokers. The fact that some clients had done well without a full service broker 'holding their hand' along the way may have led them to believe they could do well despite even less personal interaction. Ultimately, the underlying business model supporting brokerages changed, with the full service firms realizing that they could not rely on trading to generate significant profits. Hence, the decision by traditional firms to provide an enhanced array of data and advisory services to clients, with trading costs dramatically lower than before.[18]

While commercial real estate space is not nearly as homogeneous a commodity as (say) shares of Microsoft stock, we believe the Internet and associated information technologies will speed the development of a successful discount model in the commercial brokerage sector. This model almost certainly will utilize the web extensively, but it will not be a 'virtual' brokerage operation, in our opinion.

Before proceeding to an analysis of that business model, we need to distinguish between the development of an explicit discounting model and the discounting that already occurs in the industry. Presently, discounting by commercial brokerages is tied more to the value of sourcing and 'volume

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17 See "Online Investors: Do the Slow Die First?" University of California at Davis Working paper, October 2000, by Brad M. Barber and Terrance Odean.

18 A recent research report from Salomon Smith Barney (2000) estimated that 30 percent of all retail stock trades on the NYSE and NASDAQ exchanges are now done by on-line brokers. While this includes the electronic trading arms of traditional exchanges, it illustrates how much the industry has changed since virtual trading became

discounts' than it is to the idea that less cost can equal less service in a revamped brokerage process. Stated differently, one of the concepts presently driving discounting is that if someone else sources the business, that someone, not the broker, should get the benefit. This often occurs when large users negotiate some type of discount with brokerages in return for a certain pipeline of transactions whereby the client receives a portion of the value of the deal (or commission) related to the sourcing portion of the brokerage process.[19]

So, the question for us is whether a purely discount model along the lines pioneered by Charles Schwab in the stock brokerage sector will be developed for commercial real estate brokerage. Our Phase II research found TenantWise.com, a New York City-focused firm, to be one of the first in the commercial sector to attempt to restructure and streamline the process by which brokerage is done. This company is a good example because it is attempting to put some or all of the three primary parts of the tenant rep process (from the tenant's perspective) – search, negotiation, and execution – online. For example, a tenant can do a targeted search and select spaces or buildings for one's shopping basket. Also online are a schedule of tours, analytical tools such as market comparisons and equivalent lease templates, and offer sheets.

The firm's profit model is based on transactions fees and our Phase II report provides the details for the interested reader. For our purposes here, the key point is that fee compression is possible is due to the use of technology as a substitute for some of the human element in brokerage. It is our understanding that only relatively small transactions presently are being completed in this fashion. This is

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possible.

19 From the broker's and brokerage firm's perspective, a volume discount is given since the work to execute a small transaction often is not materially less than that required for a larger one. In other words, there is a fixed cost to executing any transaction. Additionally, the broker and brokerage firm highly value "delivered business" and so are willing to negotiate the price in return for an exclusive pipeline of work from one client.

not surprising to us, as many experienced brokers will not put much time into such deals, particularly in a strong market environment, so that the quality of service from 'traditional' brokers may be relatively low in this market segment. Also, users in this segment may be less sophisticated and more willing to do some of the work themselves in order to save money.

Our previous research also found that another clear attempt to disintermediate the commission flow to tenant rep or landlord brokers is being made by NetStruxr.com. NetStruxr's auction-based system was developed with the assistance of a consortium of large institutional and corporate owners (Prudential, IBM, and Bank of America). Unlike most other electronic leasing sites, on NetStruxr.com, prospective tenants post their space needs online, and then field responses from landlords (and, ultimately negotiate) online. While many tenants and landlords presumably still will need a broker to participate in the interaction, more knowledgeable landlords and sophisticated tenants could use the electronic process to reduce their brokerage expenses by not using brokers in some transactions and reducing their role (and, therefore, their fee) in others. NetStruxr's model certainly is not identical to the more classic discounting strategy of TenantWise. In fact, it is more akin to converting a true middleman into the role of a niche advisor or consultant. Still, the goal of capturing business by fee compression made possible through the use of new information technology to restructure the brokerage process is the same.

Since we cannot tell which of the various new firms will survive, a more fruitful effort for us is a deeper analysis of the benefits and costs of a discount commercial brokerage model. The potential benefits to clients are obvious – reducing the brokerage costs associated with the leasing and releasing of space. Our Phase I research estimated the commission flow on this space to range from $8.5-$9.5 billion annually, so it is not difficult to imagine entrepreneurs wanting to capture a share of such a flow.

Even a 10 percent decrease in commissions would result in well over $500 million in cost reduction for clients. That said, we suspect that decreases at least three times that amount will be needed to attract clients to a discount model.[20]

The full costs associated with the brokerage process could fall for two related reasons. Already noted is the ability to substitute relatively inexpensive technology for more expensive broker time. Another important reason is that adept organizations should be able to make their key brokerage personnel more productive by permitting them to focus on activities more highly valued by clients. Presumably, the benefits of such restructuring would be split with clients in a competitive industry such as commercial brokerage.

That said, an explicit discount brokerage model certainly need not be an unmitigated benefit for those paying brokerage commissions. And, that point is helpful in isolating where and how a discount model first must prove itself. Extensive, if not complete, knowledge of the market place is very valuable and it would take a truly extraordinary electronic system to replicate the insights and judgment of an experienced, high-level broker. While tenants and landlords may not like to pay what they perceive to be high commissions, the fact is that a poorly negotiated lease or inappropriate space can cost a company far more than can be saved by lowering (or even eliminating) brokerage commissions.

This suggests that an explicit discount model is least likely to work (initially, at least) on larger and more complex transactions. Broker value added (and the downside risk per decision) is greatest on those deals and the best brokers work on them. In addition to smaller deals on which high quality brokers do not want to commit much time, a discount strategy that substituted technology for labor also will tend to work best the more standardized the product (e.g., the rollout of twenty 5,000 square feet sales offices).

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20 See the discussion below and the model in the Appendix for more details on this.

The downside risks from not having a good broker for the search and lease negotiation parts of the process generally will be lower the more generic the product and the smaller the transaction.

The ultimate success of a discount model almost certainly will depend upon the quality of data collection and data storage, as well as the electronic interface that substitutes for broker labor and expertise. It is here that the ability of firm management to use technology to make their most valuable employees as productive as possible is critical. The first requirement speaks to the need to have software that is user friendly from the client's perspective, all while providing information that at least approaches what a human would provide in the normal brokerage process. The second requirement for success speaks to the need for new personnel combinations and skill sets that lower overall labor costs while (hopefully) increasing the productivity of the high value brokers in the firm.

The technology required for easy interface among the parties to the transaction already exists. And, the data needed to provide as complete a set of listings as possible for tenants to search through are being amassed by the CoStar's and LoopNet's of the industry. In this sense, the success of specialist research firms is critical to the viability of an explicit discount model in commercial brokerage. While it is not perfectly clear how that will work out, we do not believe this will be an insurmountable barrier to meeting the first requirement of a successful discount brokerage model.[21]

Restructuring the labor force of the brokerage is needed to meet the second requirement for success (i.e., profitability). This strikes us as the more difficult of the two, but by no means should it be impossible. Essentially, the technology must substitute for labor so that there are fewer and/or less

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21 In addition, it should be possible for an electronic system to go beyond the provision and listing of standard market data. For example, search software could provide ratings for the quality of the landlord/owner, a subjective criteria based on the broker's past relationship with the landlord and on knowledge of the landlord's current circumstances (i.e., is the landlord in danger of going bankrupt or actively trying to sell the building). These ratings could, for instance, be compiled through surveys similar to Bizrate's ratings of websites using customer feedback.

expensive employees overall. And, the new labor force configuration must function to make the key broker personnel (i.e., those few who can win the business, exercise good judgment at critical times, and lead a team) more productive. This is likely to involve the need for more technically trained personnel comfortable with new information technology who can support the more experienced brokers with the necessary experience, relationships, and talent to make good real estate judgments for clients (and who have relationships with clients in the first place). Given the technical proficiency of younger people in particular, we would expect a growing share of the workforce accustomed to utilizing technology on a daily basis.

A second skill set required in the junior, less experienced members of the brokerage team is a strong customer service ethic. For those tasks absolutely requiring human intervention, it will be critical that the front line team members be able to communicate in a high quality, service-oriented manner, not dissimilar to the way customer service representatives are trained to perform in a wide range of other industries.

A discount model already exists in the residential sector, and we think it could be transferable to the commercial sector.[22] We have outlined in Appendix I an analysis of how a commercial discount brokerage might function financially. Our example obviously is hypothetical, as there are many unknowns regarding what it would take to produce a successful explicit discount brokerage model. Nevertheless, it does illustrate many of the key factors needed to make the model work. While we leave the details in the appendix for the interested reader, we would like to call attention to the three key unknowns and unresolved issues listed at the end of Appendix I, as they seem critical to the future success of the

22 We know of at least one such firm in our home area of Philadelphia. IMS Discount Realty charges a flat $4,500 commission per home sold. The company employs the Internet to email new availabilities to clients each day. Clients then drive by the homes and let their broker know which houses they wish to see.

business model. One is whether it is feasible to combine senior and junior brokers and associates in a way that increases the volume of business done over what typically occurs in a full service firm with similar experience and staffing. A second is what size discount will be needed to create marketing momentum. We assume a 30 percent discount is sufficient. The model will work with different assumptions, but profitability suffers quickly if greater discounts are required. Finally, can expenses really be reduced to permit incremental discount revenues to generate the 20 percent pre-tax margin in our analysis? In terms of our *pro forma*, the equivalent of a 20 percent reduction in incremental overhead load on payroll costs is required.

Nobody really knows if a pure discount model will succeed, but there seems little doubt that the rise of new technology has created the conditions for it. And, the factors that will determine its ultimate success are becoming clearer by the day. From our perspective, they do not seem insurmountable. That said, we do not see an explicit discount model dominating the commercial brokerage sector. First, we do not see all the key constituents (including clients) in the brokerage industry adopting the necessary technology at the same pace. For the full efficiency benefits to be realized, most if not all parties must participate. Essentially, the bigger the network of participants, the better the process.[23] Second, a lack of standardization, both in the product and in the documents needed to transact, prevents the discounting model from becoming widespread in the near to intermediate term.

This lack of technology adoption and information standardization also are the key factors making an electronic or virtual brokerage very unlikely to be successful in our opinion, certainly in the near to

23 This is true for a number of reasons. Not only will the data and listings be more complete, but better support services will develop if the pool of participants is larger. This is an example of what is termed a 'network externality' in economics—the bigger the network, the more valuable the network.

intermediate term.[24] The fact that commercial real estate is heterogeneous really is what makes the broker relevant. The value added a good broker brings to a deal includes, among other things, the ability to understand the market beyond the published statistics, the ability to deeply understand a client's position relative to the competition (in the case of a project leasing broker), and the ability to know when to be (and when not to be) aggressive during a negotiation.

As suggested above, this value added is greatest when the deal is large and complex, and technology cannot easily replicate these features because they are truly human in nature. Even ignoring the problems with non-standard documents (and we do not wish to minimize the difficulty of managing the document flow in a brokerage transaction), it is here that the analogy with stock brokerage truly breaks down. Simply put, lack of standardization makes the cost-benefit trade-off involved in removing the high cost human from the transaction different for commercial real estate versus stock brokerage. The downside risk from making a mistake on a large, complex (i.e., non-standard) space decision or large sale transaction is very large relative to commission costs in the real estate arena. Hence, totally removing a high cost broker without effectively replacing that person's expertise, judgment, and relationships will not make sense in such cases.

So, under what future circumstances might a largely electronic brokerage firm exist? First, assets, owners, and users will have to be much more fully described with consistent, quantitative measures, not unlike public companies today. Definitions for things as simple as usable square footage would have to be agreed upon and universally employed. Second, the individuals within the real estate industry need to adopt the appropriate technology and then agree on standard systems and procedures. Third, related

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24 Technology adoption will increase as more technically proficient workers enter the workforce, and ultimately become the decision makers for brokerage firms and their customers and vendors. However, without widespread standardization across the industry, we still believe a successful virtual brokerage is unlikely.

services would need to be developed to augment a largely automated system. For instance, some new type of licensing or certification similar to that found in the securities industry would need to be developed.

Thus, in the near to intermediate term the closest the commercial brokerage community is likely to get to a virtual firm is a discount broker that relies heavily on technology to substitute away from high cost labor. And, that will be economically feasible, and valuable from the client's perspective, only on smaller and more generic spaces and properties initially.

We close this section with a note of caution for those who believe the development of a successful discount brokerage model is not relevant to them. While we acknowledge that many brokerage operations quite sensibly will choose not to become discount firms (or even to offer the alternative as part of a package to clients), much experience in other industries suggests that the development of new technology and business processes to serve clients from the 'bottom of the market' can have a huge influence on the industry in the long run. The classic example is from the mini-computer and mainframe computer business. The Digital Equipment Corporation's (DEC) of that industry concentrated on highly complex and expensive computing equipment sold to high margin, high value-added business clients; they made sizeable profits in the process. When the personal computer (PC) was developed, DEC and its peers did not view it as a threat because the early PC models had limited computing power and they appealed only to low margin clients that the firms did not want to service anyway. DEC and others ignored the PC initially largely because they listened to their customers who reiterated the PC's shortcomings.

As we all know, over the long run, the technical capabilities of the PC increased substantially and ultimately did appeal to DEC's high margin business clients. The PC maker's cost advantage proved

impossible to overcome and the rest is history. In general, the process that is developed to serve the lowest margin clients in an industry should be closely scrutinized by all industry participants. By definition, that process has the potential to serve higher margin clients on a cost basis alone. And, if the process can be improved or adapted to the different needs of higher margin clients, it can be a formidable threat to all (including the most profitable incumbents) in the industry.[25]

V. Summary and Conclusions

The rise of new information technologies makes possible three broad categories of change in the commercial brokerage industry. One, the development of a distinct discount model, involves a fundamental change in the business model of the brokerage. While not all firms will pursue such a strategy (and for good reason), the combination of new technology with a new combination of skills among employee teams seems ripe to allow a new type of brokerage operation to more efficiently service what presently are viewed as relatively unattractive, low margin transactions. While this is important in itself, we believe its true significance will not be realized for many years until it becomes apparent whether the new brokerage process employed by discount firms can be adapted to serve the needs of higher margin clients. Until that happens, and it is not at all clear to us that it will, those high end clients will remain with the traditional, full service firms.

The second broad area of change is that involving the implementation of new technology in all

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25 See Clayton M. Christensen's *The Innovator's Dilemma -- When New Technologies Cause Great Firms to Fail* (Harvard Business School Press, 1997) for the classic statement and analysis of this principle. His book speaks to 'disruptive technologies' that ultimately kill off market leaders. And, he provides examples outside the computer industry (e.g., the rise of mini mills which initially produced rebar, the lowest margin product in the steel industry, before 'moving up the food chain' and driving the integrated steel companies out of product segment after product segment. Today, the integrated companies are left with only the most complicated steel products.

commercial brokerages. Big brokerage firms with complex portfolio assignments can be more efficiently managed with the clever use of new information technologies, thereby helping counterbalance the effect that specialist data providers provide for smaller, boutique brokerage operations. Better technology generally should allow greater outsourcing opportunities with more flexible execution strategies. For example, a full service brokerage firm need not bring in-house all the expertise needed to provide its portfolio of services. This is a direct consequence of the brokerage process becoming more transparent to its users and its practitioners, along with the greater capability to coordinate different parties, whether individuals or companies or both, through the use of technology.

The potential for new technology to make more transparent (i.e., visible) the underlying brokerage process to clients is particularly important. It is almost certainly the case that the present commission structure in the industry arises out of the fact that it is difficult for clients to monitor broker marketing effort. Paying a percentage of the ultimate transactions price helps align the interests of the client and broker. However, a percentage commission structure is rare among other service professionals. If clients can more readily monitor the underlying brokerage process, we would expect to see a move, at least partially, to a fixed fee per hour worked, akin to how lawyers, accountants, and consultants typically are compensated.

The third broad change involves the rise of specialist firms that perform a single function—research or listings, for example. While we cannot be sure whether these functions ultimately will be provided by stand-alone, for-profit firms or an entity akin to a MLS, we believe they will continue to be largely outsourced by traditional brokerages as time passes. This does not change the underlying business model by which such firms operate, but it does help level the playing field across competitors, thereby providing an advantage to smaller, boutique brokerage operations.

Finally, all of this has implications for the development of commission revenues in the industry. Our Phase I research estimated that there were from $10.4-$13.3 billion in annual brokerage commissions on office and industrial properties alone. Virtually all of the changes we envision would affect the tenant rep and project leasing areas first, so it is important to break down the commission flows by category. We estimated that about $9 billion, or just over 75 percent, of the aggregate commission flow arose from the tenant rep and project leasing business. Going forward, we would expect the most pressure on commissions to be here.

We see no reason why the rise of new information technologies would have much of a short-term impact on the share of investment sales and corporate disposition brokerage in the overall economy. These services tend to deal with relatively larger and more complex transactions, which increase the downside risk for clients should the deal go poorly or perhaps not happen at all. Therefore, we believe the investment sales and corporate disposition sectors of the commercial brokerage business will continue to grow commensurately with the expansion in the economy at large over the near to intermediate term. This is not the case in the tenant rep/project leasing arena. The rise of a discount model in particular will squeeze fees, meaning that the size of this sector should shrink somewhat in relative terms if and when a discount model emerges.

The state of the economy largely will determine the long-term commission flow for the industry. The change in the nation's gross domestic product (GDP) probably is a good benchmark for determining how commission flows will change on average over a number of years. That said, in the shorter run, it certainly is true that brokerage business revenues (commissions) can and do experience substantial volatility for reasons not related to aggregate growth in the economy. For example, leasing and sales activity can increase because a few large industries are changing materially. Companies in rapidly

growing industries often consume new space far in excess of the nation's growth rate, and those in rapidly declining industries often are in a sublease or sell mode independent of when their leases are up or whether it is a truly desirable time to sell and owned property. Both sets of activities generate brokerage commissions.

On the other hand, the brokerage business can experiences slowdowns in activity and commissions due to events not directly tied to the national economy. One recent example was associated with the Russian default and ensuing currency crises in the late summer and fall of 1998 which virtually shut down the investment sales market for several months. A second example would occur in a market in which demand outstrips existing supply, requiring new construction that only occurs with a lag. Until the new space becomes available, tenants cannot take occupancy and no commissions are paid.

Thus, in any given year the distribution of industries experiencing great change can lead to changes in brokerage activity that differs substantially from the change in overall national economic activity. However, we would expect these events to cancel out one another over the long run. Assuming this canceling out does in fact occur, we use GDP growth to provide a simple example of how commission revenue growth may change in the next five years.

We begin by assuming an average nominal GDP growth rate of four percent per year for the next five years. While we obviously cannot know what economic growth actually will be over the next five years, four percent is a reasonable assumption. It reflects a one percentage point increase from underlying population growth (which has been occurring for the past decade and looks steady given birth rates, death rates, and recent immigration), a 1.5 percentage point increase from real productivity growth, and then another 2.5 percentage points from inflation. If productivity is lower, growth will be lower;

if inflation is higher, then nominal growth also will be higher**.** Given this, we would expect commissions in the investment sales and corporate disposition areas to grow at something close to 4 percent per annum over that time period.[26] Using the midpoints of the ranges estimated in our Phase I paper, this implies an increase in commissions from investment sales and corporate dispositions of about $600 million from $2.7 billion to $3.3 billion.[27]

We expect lower than average growth in commission revenues associated with the tenant rep and project leasing businesses. While impacts from discount brokerage and the like may not be felt immediately, we do expect them to have a dampening effect on commission growth over a 3-5 year period. We cannot predict with any accuracy by how much commission growth will lag general economic growth due to the pressures associated with new information technologies, but even if it does so only by one-half percentage point per year[28], the commissions will have increased by approximately $300 million less than they would have otherwise over the five year period.[29] Naturally, one can arrive at larger numbers if one assumes that cost pressures will cause tenant rep/project leasing commission growth to

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26 To reiterate, this presumes nothing special occurs in terms of rapid growth or decline of key industries to generate abnormal brokerage activity. In addition, even though we do not expect developments in information technology to materially impact the investment sales and corporate disposition areas in the near term, we do believe they will help prevent disproportionately large increases in commissions. Hence, we conclude that the percentage increase in commission growth for those activities is capped at the rate of increase in the overall economy (which is 21.7 when compounded over the five year period).

27 The one thing that could increase this figure is an upsurge in corporate dispositions. If corporations decided that owning real estate was an unwise use of scarce corporate capital, there would be a one-time surge in such dispositions. However, that issue is well beyond the scope of this paper.

28 This translates into a 12.5 percent shortfall if commission growth is 3.5 percent per annum while the overall economy grows at 4 percent per annum (i.e., 0.5/4.0=0.125 or 12.5 percent).

29 This figure is arrived at as follows. A 3.5 percent growth rate in commissions leads to 18.7 percent growth when compounded over five years. Using the $9.1 billion base estimate for tenant rep/project leasing from our Phase I research implies that commissions will grow to $10.8 billion after five years. However, absent any cost pressures associated with the rise of new information technologies, commissions would have reached $11.1 billion if they had grown commensurately with the broader economy. The $300 million figure simply is the difference between $11.1

lag general economic growth even more severely.

One final note of caution is that, even if the relative economic size of the tenant rep/project leasing sector shrinks as we believe it will, the income of all its brokers need not fall or even fall on average. This is because new labor force arrangements and new technologies almost certainly will lead to individual brokers doing more deals in this area.[30] Thus, the brokers that remain could receive even greater compensation on average. This is more likely if they are able to spend a higher fraction of their time on the higher value-added parts (to them) of the brokerage process. Additionally, broker compensation should become more stable as retainer and fee-based payments partially substitute for commission-based payments.

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billion and $10.8 billion.

30 To be more specific, we are not predicting that the absolute number of brokers will decline, as more will be needed as the stock of buildings increases with the size of the economy. Our conclusion does imply that the growth in brokers doing tenant rep and project leasing work will not grow as fast as does the industry overall.

Appendix I: Analysis of the Profit Model for a Discount Brokerage Firm

Overview. This document looks at the so-called "lone wolf" model in which each broker works alone (which is fast becoming rare), the traditional team model whereby a senior broker builds a team – usually totaling 2 or 3 individuals – who can split up the work, and finally, a discount model focused on smaller transactions.

The numbers for the discount model assume an in-place traditional team model, and the discount revenues and staffing required are incremental to the base business. We suspect the number would work on a stand-alone basis, although some modification clearly would be needed in order to incorporate a senior broker into the staffing.

Hypothetical Pro Forma (Traditional/Team Model):

Revenues	$4,800,000
Expenses	
Payroll	$2,000,000
G&A	$2,000,000
Acctg, IT, mkg	$200,000
	($4,200,000)
Profit Before Taxes	$600,000 (12.5% margin)

Key Assumptions:

- Revenues for 3 teams (each covers a separate major submarket/product/service):
  - Assume each senior broker can do $700,000 gross in old lone wolf world, net comp = $350,000.
  - Assume each junior broker (senior associate) can do $200,000 gross, net comp = $100,000.
  - Assume each analyst can do $70,000.
  - Total = $1.0 million in lone wolf world.
  - With leverage in the new team world, these 3 can generate $1.6 million as a team. Assuming, on average $25 rents and commission rates of 4% for the first 5 years and 2% for the second five years, commissions are as follows:
    - One – 100,000 SF, 10 year lease. Commission = $750,000.
    - One – 50,000 SF, 10 year lease. Commission = $375,000
    - One – 25,000 SF, 10 year lease. Commission = $185,000
    - Four – 10,000 SF, 5 year leases. Commission = $200,000
    - Four – 5,000 SF, 5 year leases. Commission = $100,000.

        - Eleven deals totaling $1.6 million.
- Total Payroll (assumes brokers are paid with salary/bonus):
    - 3 transaction teams led by 3 senior brokers ($400,000 each) = $1.2 million
    - Each team has a Senior Associate (5 years experience - $150,000) = $450,000
    - Each team has 3 analysts ($70,000 each) = $210,000
    - One graphics support person = $50,000
    - Reception/office manager = $40,000
    - Administrative support = $30,000
    - Total = $2.0 million
- Accounting, Additional IT, Marketing - $200,000 (this could vary substantially by firm and situation)
- Note that other overhead costs such as rent, telephone, and the like are captured by a 2.0x payroll factor

In this team-based model, each member of the team makes more money as a teammate than he/she would as a 'lone wolf' broker. [The "house" could be a firm owned by the senior brokers or by someone else.]

Compensation Table	Lone Wolf	Team	Team w/ Profit Sharing*
Senior Broker	$350,000	$400,000	$600,000
Senior Associate/Junior Broker	$100,000	$150,000	$150,000
Analyst	$70,000	$70,000	$70,000

* Assumes 3 senior brokers own the firm and split profits equally.

Discount Model. Starting point for the discount firm is the team model described above with these changes:

- Processes are automated, human interaction reduced for discount clients.
    - Clients fill out space questionnaire, which creates search screen for listing database.
    - Search finds all spaces that fit client requirements per questionnaire.
    - Space list is automatically e-mailed to client. Client drives by buildings and e-mails broker all buildings that appear suitable.
    - Questionnaire also fills out standard RFP, which is sent to top 10 buildings.
    - Landlord responses are automatically compiled on spreadsheet and criteria matrix. Top 5 choices receive e-mail requesting showing.
    - Project management tool shows suitable dates and times for showing – junior broker will accompany client to each space.
    - Conference call with team and client post showings to discuss alternatives and strategies.
    - Top 3 landlords are sent 'best and final' request.
    - Responses are automatically compiled.
    - Conference call with team and client to discuss responses and prioritize choices.
    - Top 2 choices are sent standard lease form.
    - Legal negotiations, tenant work letter are likely to be semi-automated but will require significant analyst time (follow up) and some junior/senior broker time especially as issues arise.
- Teams are expanded to include 1 junior broker each at cost of $150,000 each plus 1 additional analyst and 1 additional administrative person each at cost of [$150,000 + $70,000 + $40,000] x 3 = $780,000.
- Deal volume that each expanded teams can handle in addition to those described above assuming same general rent and rate parameters on 5 year terms:
    - 5 – 10,000 SF. Undiscounted Commission = $250,000.
    - 10 – 5,000 SF. Commission = $250,000.
    - 40 – 2,000 SF. Commission = $400,000.
    - Assumes then that 3 people with technology can process 50 deals with gross undiscounted commissions = $900,000.

Hypothetical Discount Brokerage Pro Forma

		Traditional/Team Model	Incremental Discount Model Revenues
Revenues		$4,800,000	$2,700,000
Less Discount	@ 30%		($900,000)
Net Revenues		$4,800,000	$1,800,000
Expenses			
Payroll		$2,000,000	$780,000
G&A		$2,000,000	$780,000
Acctng, add IT, mkg		$200,000	$0
		($4,200,000)	($1,560,000)
Profit Before Taxes		$600,000	$240,000
Profit Margin		12.5%	9.0%
	Desired 20% Incremental Margin		$540,000

Key Unknowns and Unresolved Issues

- Can a senior broker doing his/her own deals with a team, also lend spot expertise to the junior broker who is leading a 3 person team doing 55 deals per year, even given significant technology and limited service?
- Will a 30% discount be sufficient to create marketing momentum?
- Can expenses be reduced to allow incremental discount revenues to generate a 20% margin? This would require expense reduction of $300,000 or an incremental overhead load of 1.6x payroll costs (versus 2.0x).