FACTORS AFFECTING THE SELLING PRICES OF SMALL FIRMS

by

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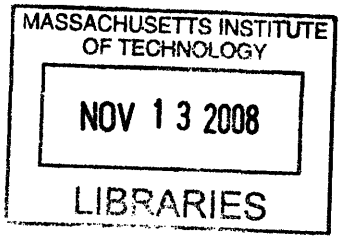

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ABSTRACT

58 percent of the jobs in the United Stated are created by firms with fewer than 500 employees (Davis, *et al.* [1998]). Yet, there is only limited research done on the industry trends and conditions affecting small company sale transactions. The small business industry has very different dynamics compared to the large public companies. Based on my findings, small businesses have significantly lower price-to-earning ratios compared to large companies. In this paper, I study the economic conditions affecting small firms and variables that affect the selling prices of these companies. I show that there exists a strong informational asymmetry between the buyers and sellers of small companies that lower the transaction prices. I also show that market illiquidity and contingent contracts can impact the selling prices of small companies.

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I. Introduction

58 percent of the jobs in the United States are created by small businesses, firms with fewer than 500 employees (Davis, *et al.* [1998]). Furthermore, more than 78 percent of all businesses in the United States have annual gross profits of less than $1,000,000 (West [2000]). However, there is only limited information available on small companies. They are primarily privately held businesses and it is challenging to get accurate and reliable information on the state of these enterprises.

The small business industry has very different dynamics compared to large, publicly traded companies. The long-term average price-to-earnings (P/E) ratio of S&P 500 companies is 15 (Bodie, Kane, and Marcus [2005]), while the average P/E ratio for small companies with market value of less than $20 million is only 2 (Sanders [2003]).

Economic theory suggests that the existence of asymmetric information could drive down the selling price of the business and thus lower the P/E ratio for small companies (Perloff [1999]). The entrepreneur selling the firm has more private information about the business than the buyer given the lack of public documents about the firm. This additional risk can result in a lower price offered by the acquirer. Another suggested factor to drive down the selling price of small businesses is the lower marketability and lack of liquidity in the small business market (De Franco *et al.* [2007] and Ang, Kohers [2001]). The concept of contingent contract is the third potential factor to affect the transaction price looked at in this paper. Contingent contract relates to the microeconomic concept called contract theory which studies how a buyer can reduce risk

and the information gap by choosing a right type of contract. A contingent contract is a type of contract in which the payoff to each person depends on future outcome of events (Perloff [1999]).

Given that there is only limited accurate and reliable information on the state of small businesses, I focus on looking at the sales transaction databases of small firms. These databases list sold companies and transaction details evaluated by another party giving an accurate assessment of the value of the business. I look at two databases: Bizcomps and Pratt's Stats. I use several different variables to understand how each of them affects the P/E ratio of the small company.

I analyze the data in three phases contributing to the three different microeconomic theories mentioned above: asymmetric information, market illiquidity, and contingent contracts. In the first phase, I study the impact of asymmetric information such as variables describing characteristics of the company. In particular, I look at four variables. These variables are the size of the company measured as total assets, the total leverage of the company, the number of days the business was on the market before being sold, and the level of homestead exemption.

I find that the larger the firm is, as measured as total assets, the higher the P/E ratio of the firm is. As such, the size can be understood as a screening variable to the buyer as more assets make the company more trustworthy.

The number of days in market can also be treated as a screening variable. The longer a firm stays in the market, i.e. no one is willing to buy the firm, the less reluctant a potential buyer might be to show interest in the company. I show that the P/E ratio of the firm decreases significantly the longer the firm stays on the market for sale. However, I also look at the number of days in the market itself as a dependent variable and find that more profitable firms stay for sale for shorter periods of time while it takes longer to sell a company the larger it is.

The amount of leverage works as a screening variable. While one could expect that the more leverage the company has, the lower the selling price would be, the results show the opposite. Interestingly enough, I show that the more leverage a small firm has, the higher the P/E ratio of the company is. This is consistent with the results by De Franco, *et al.* [2007]. As suggested by that paper, the explanation for the positive impact of leverage might come from the fact that high financial leverage causes the creditors to demand more accurate and conservative financial information. This in turn reduces the information asymmetry between the owner and the buyer as there is more trust in the financial numbers.

A homestead exemption level is state-specific law that protects the entrepreneur's residence up to a certain amount of value from confiscation by a judgment creditor or loss in a personal bankruptcy (Hynes, *et al.* [2003]). Although high homestead exemption levels have been set to encourage entrepreneurship, I show that firms operating in states with high homestead exemption levels have a lower P/E ratio. This result is in line with

findings by White [2005] that suggest that small firms in high homestead exemption states might have more difficult time securing bank loans as the creditors adjust to the fact that it will be harder for them to claim their money back and this makes borrowing more difficult. As such, the homestead exemption level functions as a screening variable to the small business buyer.

In the second phase of the data analysis, I look at the impact of market illiquidity. Since lack of liquidity in the small business market might be one of the driving factors for lower P/E ratios, I look at different liquidity shocks such as interest rate changes and the time period during the Long-Term Capital Management (LTCM) crisis. High interest rates might make the market less liquid since there are less big buyers interested in buying companies. I also look at population levels of the cities where the firms operate to find out if small companies in smaller cities have lower P/E ratios than companies operating in larger cities. Small cities might have less potential buyers which makes it more difficult for a small business to be sold.

Periods of high interest rates mean tighter credit conditions as the cost of the loan is higher. However, I show that the P/E ratios of small firms are higher when the interest rates are up. One possible explanation might be that high interest rates also indicate a strong economy and firms could be more likely to be sold during these boom periods. Looking at another form of liquidity shock, I look at the two-month time period in 1998 known as the LTCM crisis (Bodie, Kane, and Marcus [2005]). The aftermath of the crisis where Russia defaulted on its government bond resulted in a credit squeeze where it was

difficult to find any willing lenders. I show that the P/E ratios of firms that were acquired during the LTCM crisis are much lower than the P/E ratios before or after the crisis. A deeper look at the transactions during the LTCM crisis also reveals that all the transactions that occurred during the LTCM crisis had a significantly higher Property, Plant and Equipment (PP&E) ratio. This could indicate that mainly firms with tangible assets were sold as the buyers needed collateral for the bank loans they took out to buy the businesses. In turn, the types of businesses with high PP&E ratio tend to have a lower P/E ratio in general (Sanders [2003]).

I also look at the population levels of the cities where small firms operate and find contradicting results. I show that using the Pratt's Stats database the P/E ratio of small companies is higher in large cities. This result is intuitive in a sense that it is easier to find buyers in larger cities. However, I also show that using the Bizcomps database the P/E ratio is lower for small companies in highly populated cities. While this is a contradicting result and need to be further explored, one explanation could be that a firm in a small city needs to outperform the firms in larger cities in order to be sold at all, and the less stellar companies in small cities rarely get sold. This in turn skews the sample of companies included in the transaction database.

Finally, I look at the impact of contingent contracts on the small business sale prices. In the context of small businesses, a practice similar to a contingent contract is known as seller financing. The amount of seller financing is a measure of how much of the selling price of the business is based on realization of future projections, i.e. earn-

outs. As one would expect, seller financing can work as a contingent contract that both gives the seller an incentive to work towards the post-sale success of the firm and it reduces the risk to the buyer as more of the transaction price is tied to the future performance of the company. I show that transactions with higher portion of seller financing have a higher P/E ratio. I also look at seller financing itself as a dependent variable and find that more profitable firms and smaller firms have a higher portion of seller financing.

All these results suggest that there exists a strong information asymmetry between the buyers and sellers of small firms. This asymmetry results in lower acquisition prices. However, a small business owner can improve the selling price by decreasing the information gap. This can be done by including seller financing as part of the deal. As other papers have shown, another way to improve the selling price is to use a top tier accounting firm to prepare the financial documents which also decreases the information gap (De Franco *et al.* [2007]). This relates to the accounting issues with small firms where small businesses potentially overstate their profits before the sale in order to improve their financial numbers (Interviews [2004]). The results also show that economic conditions affect the P/E ratios of firms and economic policies do not always work as planned as is the case with the homestead exemption levels.

However, when looking at the results, it is important to notice that the tests might be affected by endogeneity and unobserved variable bias. Variables such as firm size, leverage, and days on market for sale are not randomly assigned to the firms. They could

be an outcome of some underlying and potentially unobservable characteristics of the firms. Thus, larger firms could be fundamentally better firms and thus have higher P/E ratios. On the other hand, it could also be the case that larger firms are just easier to evaluate due to better financial reporting. In that case, the P/E ratios would be higher for larger firms although they are not fundamentally better.

Overall, the tests in this paper do not prove causality of the results. For example, high leverage does not have to imply high P/E ratio, since the causality could run the other way round. For example, firms with high P/E ratios might be better companies that have easier access to debt. Alternatively, a third factor could drive both variables. The issue of endogeneity is less severe for the changes in the macroeconomic conditions such as interest rates, city population, and homestead exemption levels, since the firms cannot directly affect these conditions. However, there could still be a third potentially unobservable variable that drives the P/E ratio and these variables.

In addition to the data analysis, I have also conducted a series of interviews with industry experts to find more qualitative reasons that might affect the selling prices. Examples of factors driving down the selling price include the role of business brokers with misaligned incentives, the experience of the buyers in the selling process versus the inexperience of the firm owners, and the owner caring more about the legacy and social responsibility of the post-sale business than getting the maximum selling price. There are also ways to increase the selling price by including non-competes for employees and

other ways to ensure that the key workers stay in the firm since a significant amount of the value of the firm lies in the human capital (Interviews [2004]).

The plan of this paper is as follows. Section II discusses the related literature and theoretical motivation for the data analysis. Section III describes the datasets and the construction of the variables. Section IV covers the data analysis and the results. The final section concludes the paper and discusses the meaningfulness of the results.

II. Related Literature and Hypotheses

While there is a substantial amount of literature related to the small business industry, most of the papers focus on looking at the industry from a different perspective than the focus of this paper.

The factors discussed in this paper that are potentially driving the transaction prices touch upon three underlying microeconomic theories: asymmetric information, market illiquidity, and contingent contracts. There is limited research done in this field on how the microeconomic theories above directly affect the transaction prices of small firms. However, there is more research done on related topics that are relevant while they do not exactly examine the impact on the selling price of a small firm.

Asymmetric information refers to a microeconomic concept where one party to a transaction knows a material fact that the other party does not (Perloff [1999]). In the framework of the small business industry, this information gap could drive down the selling price of the business and thus lower the P/E ratio for small firms. Given the limited information about the firm, the entrepreneur selling the firm is likely to have more private information about the business than the party interested in buying the business. This additional risk can then result in a lower price offered by the acquirer of the firm.

Michelle White [2004] finds that business owners have more incentive to file for bankruptcy in high homestead exemption states. This results in the companies being more

likely to be denied credit and they receive smaller loans with higher interest rates. White and Fan [2003] also find that high homestead exemptions result in lower entrepreneurial activity in the state, although the high levels are intended to encourage entrepreneurship. While White and Fan do not directly address the impact on small business selling prices, their paper gives motivation to study the effect of homestead exemption levels on the deal multiples of small businesses.

Another way to study information asymmetry is through firm leverage. De Franco, *et al.* [2007] find that high financial leverage has positive impact on transaction multiples as the firms' creditors demand more accurate and conservative financial information. This gives the buyer more confidence on the financial numbers and reduces the information asymmetry between the owner and the buyer.

One factor that can potentially affect the transaction prices of small businesses is the accuracy of their financial numbers. Small businesses could try to overstate or understate their profits and earnings. A small business owner may try to understate earnings to avoid tax payments or overstate profits prior to the sale in order to increase the transaction price (Interviews [2004]). The accounting requirements for small businesses are different than for large public companies. Ball and Shivakumar [2005] show that in the U.K. the financial reporting is lower for private firms than public firms due to different market demand. Given that there is suspicion regarding the accuracy of small firms' financial statements, the potential buyer is likely to take this fact into account when evaluating the business. An understatement of the earnings would increase

the P/E ratio of the company while overstating the earnings would naturally decrease the P/E ratio of a small firm. In fact, De Franco, *et al.* [2007] find that information asymmetry in the form of earnings quality indeed affects the valuation multiples. Private firms using Big 4 auditors have valuations that are 19 percent to 25 percent higher than firms without a well known auditor. One explanation is that larger auditors provide more accurate audits in order to protect their reputation under a potential litigation and there is less space for the business owner to adjust the financial numbers.

Market liquidity refers to the concept of how easily an asset can be converted by buying or selling it without causing a significant shift in the underlying value of the asset (Bodie, Kane, and Marcus [2005]). Brunnermeier and Pedersen [2007] look at tradable asset classes and show that market shocks such as the LTCM crisis reduce a trader's ability to obtain funding which leads to an illiquid market. Along the same lines, Mitchell, *et al.* [2007] find significant divergence of prices from fundamentals in the convertible bond markets after capital shocks to the main liquidity providers, hedge funds, reduce market liquidity.

Ang and Kohers [2001] show positive return for public bidders of private targets immediately following the acquisition in the U.S between 1994 and 1995. This is explained by market illiquidity. Chang [1998] and Draper and Pandyal [2006] find similar results for different time frames both in the U.S. and in the U.K. Officer [2007] shows existence of a discount for private firms and explains it by the sellers' need to liquidate their investment speaking on behalf of lack of marketability.

The concept of contingent contract relates to microeconomic concept called contract theory which studies how contracts can be made in the presence of asymmetric information. Known as the principal-agent problem, the contract theory analyzes how the contract between an uninformed principal and an informed agent determines whether moral hazards (informed person taking advantage of a less informed person) occur and how risks are shared (Perloff [1999]). By choosing a right type of contract, the principal may obtain enough information to reduce moral hazards. A contingent contract is a specific type of contract in which the payoff to each person depends on the state of nature, which may not be known to either party at the time they write the contract (Perloff [1999]). In the context of small businesses, a practice similar to a contingent contract is known as seller financing. In seller financing, only a portion of the transaction price is paid upfront and the rest of the selling price depends on the future performance of the firm. In theory, this should reduce the risk to the acquirer as more of the transaction price is tied to the future results of the company. The setup also gives the seller an incentive to work towards the post-sale success of the firm in the case the seller stays involved with the firm which is very common (Interviews [2004]).

In addition, there are a few papers that help understand the dynamics of the small business industry and the potential drivers of the transaction price although they are not directly linked to the theories above. Koeplin *et al.* [2000] find a discount when comparing private and public companies. Ang and Kohers [2001] find similar premium when using book value of equity as the measure of firm value.

I also conducted a series of interviews with intermediaries involved in the buying and selling of small businesses. These people included business brokers, investment bankers, valuation experts, and small business owners. While these interviews did not give any quantitative findings, they resulted in several interesting qualitative hypotheses on what factors might affect the transaction prices. One such example is the role of business brokers with misaligned incentives. Similarly to real estate agents, a business broker receives most of the commission if a deal happens and only small incremental bonus if the deal price is higher (Interviews [2004]). This could result in the business broker trying to get the deal done with a lower transaction price if the completion of the deal is in jeopardy. Lewitt and Syverson [2005] found a similar result when studying the Chicago housing market. They found that when a real estate agent was selling her own home instead of a client home, the agent kept the home on the market an average of ten days longer and sold it for an extra 3-plus percent after controlling for a number of variables.

Another factor mentioned in the interviews included the experience of the buyers in the selling process versus the inexperience of the firm owners. Very often, the seller of a small private firm is an entrepreneur who has only had experience running the company in a special niche market. However, the entrepreneur has not had any experience in selling a business. On the other hand, if the buyer of the firm is either a large company or a person specializing in buying small businesses, the buyer party could have a significant

knowledge advantage in the sale negotiations and this can drive down the selling price (Interviews [2004]).

The incentives of the seller might also lower the transaction price. In an event where the owner is retiring and already fairly wealthy, it might be more relevant to the seller to find a buyer who cares about the legacy and social responsibility of the post-sale business than necessarily getting the maximum selling price (Interviews [2004])

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There are also ways to increase the selling price by including non-competes for employees and other ways to ensure that the key workers stay in the firm since a significant amount of the value of the firm lies in the human capital (Interviews [2004]). Thus, if the seller can convince the buyer that most of the human capital stays in the firm, the seller might be willing to pay a higher price for the company.

III. Data and Construction of Variables

I use two business sale transaction databases for my study: Pratt's Stats published by Business Valuation Resources and Bizcomps collected by Jack Sanders.

Pratt's Stats includes firm identity data, financial statement and sale transaction details of privately-held companies sold between 1979 and 2003. The database is commonly used by intermediaries involved in the process of selling a business including accounting firms, investment banks, and business brokers (Interviews [2004]). The data is collected from two separate sources: the same intermediaries who use the data also submit details of completed transactions; and, regulatory SEC filings such as 8-Ks in which public firms acquiring private firms disclose information about these transactions (Business Valuation Resources [2003]).

Pratt's Stats includes the following data: the firm's identity (e.g., firm name, SIC industry classification); financial data from the firm's most recent financial statements (e.g., net sales, net income, total assets, total liabilities); and, sale transaction details (e.g., sale date, sale terms, selling price). Given that I am only interested in the smaller firms, I restrict my sample to firms with selling price less than $20 million. Also, the database mainly includes transaction data for companies sold between 1994 and 2003 with one transaction in 1979. Thus, I exclude the one transaction in 1979 from my sample.

The other database used in this study is Bizcomps. Bizcomps database is similar to Pratt's Stats although Bizcomps includes smaller deal transactions. This database also

includes firm identity data, financial statement and sale transaction details of privately-held companies sold between 1990 and 2003. Like Pratt's Stats, the database is frequently used by intermediaries involved in the business selling process including accounting firms, and business brokers (Interviews [2004]). Unlike the Pratt's Stats data, Bizcomps data is only collected from the completed transactions submitted by the intermediaries who are also using the data (Sanders [2003]).

Bizcomps database includes the following, slightly different set of data: the firm's identity (e.g., SIC industry classification, firm area location); financial data from the firm's most recent financial statements (e.g., net sales, net income, Furniture, Fixtures, and Equipment (FF&E)); and, sale transaction details (e.g., sale date, sale terms, selling price, amount of seller financing, number of days business was on market). Again, given that I am only interested in the smaller firms, I restrict my sample to firms with selling price less than $20 million.

Although both databases provide a rich set of information about sale transactions, additional data is needed for this study. In order to test the impact of potential liquidity shocks and additional screening variables on the sale price, information on market interest rates, LTCM crisis, city population, and homestead exemption levels also need to be included in the data set.

Periods of high interest rates mean tighter credit conditions as borrowing becomes more expensive. In order to look at the possible effect of high interest rates on selling

prices of small firms, I have collected data on the monthly one-year LIBOR rates for the time period when transactions have occurred. LIBOR stands for London Inter Bank Offer Rate. It is the rate of interest at which banks offer to lend money to one another in the wholesale money markets in London (Yahoo Finance [2007]). It is a standard financial index used in the U.S. capital markets.

Another form of liquidity shock is the two-month time period in 1998 known as the LTCM crisis (Bodie, Kane, and Marcus [2005]). The aftermath of the crisis where Russia defaulted on its government bond resulted in a worldwide credit squeeze where it was difficult to find any willing lenders. In order to study the impact of the LTCM crisis, I have created a dummy variable that takes a value of 1 if the deal transaction occurred during the two-month LTCM crisis from August 1998 to September 1998.

The population level of the city where the firm operates might impact the selling price and likelihood of a company being sold. Small cities might have less potential buyers which could make it more difficult for a small business to be sold. In order to study the impact of city population levels, I have collected city population data from the U.S. Census Bureau for all transactions that list the city where the firm operates (U.S. Census Bureau [2007]).

Homestead exemption specifies the dollar amount of home equity that the debtor is allowed to protect in a personal bankruptcy (White [2005]). Firms operating in states with high homestead exemption levels might have more difficult time securing bank

loans as the creditors adjust to the fact that it will be harder for them to claim their money back. This might hinder the firm's operations which in turn could be seen as a negative factor by the potential buyer thus lowering the selling price. There have been very few changes over years in the homestead exemption levels. For the purpose of this study, I have collected the 2005 levels for each state (Elias, *et al.* [2005]). Some states have unlimited homestead exemptions. In order to take this into account, I have recorded the homestead exemption level as $100M for states with unlimited exemptions for the purposes of this study.

After applying all the restrictions to the databases, the datasets consist of 4412 and 6787 samples for Pratt's Stats and Bizcomps, respectively. All of the analysis uses a smaller sample (2573 and 6723 samples for Pratt's Stats and Bizcomps, respectively) since only companies with positive net income are included in order to calculate the P/E ratio. Table I contains descriptive statistics of both Pratt's Stats and Bizcomps database. Median sale price for Pratt's Stats (Bizcomps) is $0.8 ($0.12), median total assets is $0.6 ($0.04), median total sales is $1.2 ($0.35), and median net income is $0.05 ($0.07) million.

IV. Data Analysis and Results

The following subsections include the data analysis of each of the factors potentially affecting the selling price. I analyze the data in order, categorized by the three different underlying theories covered above: information asymmetry (firm size, number of days business was for sale, leverage, and homestead exemption); illiquid market (interest rates, LTCM crisis, and city population); and contingent contracts (seller financing).

Each econometric analysis follows similar structure. Each variable in question to potentially affect the transaction price is treated as a dependant variable one at a time. I control for various variables including the size of the firm as measured in log of total assets, the date of the transaction, the SIC industry classification, the firm location (only for Bizcomps given the availability of the data), and the profitability of the firm as measured as the ratio of net income to total revenue. Given the high number of outliers in the profitability variable, profitability values are smoothened on both tails at the 5 percent level.

I also repeat the regressions for smaller subsets of the data for different deal sizes as measured in selling prices. For each of the following subsections, I first present the data analysis performed and then discuss the results.

IV.A Firm Size

Given that there is a substantial difference between the P/E ratio of small private firms and large private companies, I look at the impact of size on the P/E ratio. I want to

find out if the size works as a screening variable even within the small business market. Table II shows the regression results. Panel A shows the results for Pratt's Stats and Panel B shows the results for Bizcomps data.

The results show that there is a significant positive relationship between the size and the P/E ratio when looking at the Bizcomps data. The results are mixed using the Pratt's Stats data. Since the firms used in Bizcomps samples are generally much smaller than the ones in Pratt's Stats, there seems to be strong evidence that size itself gives confidence to the buyer in the case of very small firms with selling price less than $1 million.

IV.B Number of Days on Market for Sale

The number of days in market is an indicator of how long it takes for the business to be sold. The number of days could indicate to the potential buyer directly how attractive the business is. In this case, the variable would work as a screening variable and it would have a negative impact on the P/E ratio as firms that have stayed long in the market could indicate that there is something wrong with the company. The number of days in the market could also indicate how much time the seller had time to sell the business. Levitt and Syverson show that in Chicago housing market the selling price increases the longer the house is kept on the market for sale.

Panel A of Table III summarizes the regression results. There seems to be some positive correlation between the days on market and the P/E ratio of the firm. This

indicates that the longer the seller is willing to wait for the best offer, the better the transaction price is.

In order to look at the number of days closer, I treat the variable itself as a dependent variable. Panel B of Table III shows the regression results. Based on the results it seems that the number of days on market really is a dependent variable itself and strongly impacted by the size and profitability of the firm. It takes longer for larger firms to be sold and the more profitable a company is the easier and quicker it is to sell it. This speaks for the fact that companies in good financial condition are more attractive targets while larger companies might find it harder to find interested buyers due to their size.

IV.C Leverage

Leverage measures how much debt the firm has relative to its total assets. While it might seem intuitive that high leverage indicates concerns towards the firm, a paper by De Franco, *et al.* [2007] suggests that high leverage results in a higher P/E ratio for a small private company. As suggested by that paper, the explanation for the positive impact of leverage might come from the fact that high financial leverage causes the creditors to demand more accurate and conservative financial information. This in turn reduces the information asymmetry between the owner and the buyer as there is more trust in the financial numbers.

Table IV summarizes the regression results. Indeed, there is strong positive relationship between the leverage level and the P/E ratio of the firm. This is consistent with the results by De Franco, *et al.* [2007]. The results suggest that information

asymmetry in the small business market is so big that any ways to gain more trust on the financial numbers of the small firm far outweigh potential concerns on the financial condition of the firm such as high leverage. However, it is customary that the lenders impose strict covenants on companies with high leverage which makes their operations more predictable (Bodie, Kane, Marcus [2005]).

IV.D Homestead Exemption Levels

A homestead exemption level is state-specific law that protects the entrepreneur's residence up to a certain amount of value from confiscation by a judgment creditor or loss in a personal bankruptcy (Hynes, *et al.* [2003]). While high homestead exemption levels have been set to encourage entrepreneurship, White [2005] suggests that small firms in high homestead exemption states might have more difficult time securing bank loans as the creditors adjust to the fact that it will be harder for them to claim their money back and that makes borrowing more difficult. I look at the impact of homestead exemption levels on the P/E ratio of small firms.

Table V summarizes the regression results. There is significant negative correlation between the P/E ratio and the homestead exemption levels. This seems to indicate that the buyers indeed take into account the fact that the firms have had harder time borrowing money which might influence their operations. As such, the homestead exemption level functions as a screening variable to the small business buyer. The results are in line with the paper by White [2005] and seem to indicate the homestead exemption policy does not work as intended to encourage and help the entrepreneurs.

IV.E LIBOR Rates

Periods of high interest rates mean tighter credit conditions as the price of the loan is higher. High interest rates could result in market illiquidity since funding is more expensive and there are less big buyers interested in buying companies. I look at the impact of the LIBOR rate on the transaction prices to study the effect of interest rates.

Table VI summarizes the regression results. While one would expect that the transaction prices are lower during times of high interest rates, the results show the opposite. The P/E ratios of small firms are higher when the interest rates are up. One possible explanation might be that high interest rates also indicate a strong economy and firms could be more likely to be sold during these boom periods. It could also indicate that when funding conditions are tougher only the best companies get sold. In this situation the firms that would lower the average P/E ratio simply do not get bought at all.

IV.F LTCM Crisis

LTCM crisis marks the aftermath of the 1998 crisis where Russia defaulted on its government bond which resulted in a credit squeeze where it was difficult to find any willing lenders. I compare the time period during the crisis to other time periods to measure the impact of the credit squeeze on the transaction prices.

Table VII summarizes the results. Looking at the Bizcomps data, the results show that the P/E ratios of firms that were acquired during the LTCM crisis are lower while some Pratt's Stats results indicate a positive correlation. Given that the firms included in the Bizcomps data are significantly smaller than the ones in Pratt's Stats, the results could indicate that it is very difficult for a small firm to be sold during a credit squeeze.

However, as is the case with some Pratt's Stats firms, some larger firms actually have a higher P/E ratio. This might mean that only the strongest companies get sold during times of financial distress when looking at slightly larger companies.

A deeper look at the transactions during the LTCM crisis also reveals that all the transactions that occurred during the LTCM crisis had a significantly higher Property, Plant & Equipment (PP&E) ratio, the ratio of PP&E to the selling price. While only Bizcomps contains data on the PP&E ratio, the following statistics are interesting. All deals that occurred during the 2-month LTCM crisis have a median (mean) PP&E ratio of 0.37 (0.45) while the deals that occurred outside this crisis have a median (mean) PP&E ratio of 0.30 (0.40). These differences are significant at the 5 percent confidence level. This could indicate that mainly small firms with heavy tangible assets were sold during the crisis as the buyers needed collateral for the bank loans they took out to buy the businesses. In general, the types of businesses with high PP&E tend to have a lower P/E ratio (Sanders [2003]).

IV.G City Population

I also study the impact of city size on the deal price. Table VIII shows the regression results for the city populations. I show that using Pratt's Stats database the P/E ratio of small companies is higher in large cities. However, I also show that using Bizcomps database the P/E ratio is lower for small companies in highly populated cities. While the results seem contradicting at first, it is important to note that the firms included in the Bizcomps data are significantly smaller than the firms in the Pratt's Stats data. The results for Pratt's Stats seem intuitive as it could be easier to find potential buyers in

larger cities. However, given that the firms are much smaller in the Bizcomps data, it might be harder for a very small firm to be sold in a large city due to a greater supply of companies. In this case, the slightly larger firms might be favored and the small firms face less demand. Another explanation could be that a small firm in a small city needs to outperform the firms in larger cities in order to be sold at all, and companies anything less than stellar in small cities do not get sold at all. This in turn would skew the sample of companies included in the Bizcomps database.

IV.H Seller Financing

Seller financing is a measure of how much of the selling price of the business is based on realization of future projections, i.e. earn-outs. Seller financing can work as a contingent contract that both gives the seller an incentive to work towards the post-sale success of the firm and it reduces the risk to the buyer as more of the transaction price is tied to the future performance of the company. As such, seller financing should increase the selling price as it reduces the risk to the buyer. I look at the impact of seller financing on the transaction prices of small firms.

Panel A of Table IX summarizes the regression results. The results show that seller financing increases the P/E ratio of the firm significantly as expected. The results seem to indicate that seller financing is a powerful way for the entrepreneur to convey that her company is solid and she is willing to stand behind her word about the future financial projections of the company.

In order to take a deeper look at seller financing, I also look at seller financing itself as a dependent variable. Panel B of Table IX summarizes the regression results. The results show that more profitable firms and smaller firms have a higher portion of seller financing. This could imply that owners of profitable firms are more willing to risk the price they get for selling their business by tying more of the selling price to the earn-out as they are more confident about their firm. In the case of smaller firms, it might be the buyers who are forcing the earn-out as they feel that there is too much risk involved in buying the business if the firm is very small.

IV.I Correlation of All Variables

So far I have analyzed each of the potential factors affecting the selling price in isolation. In order to understand the relationships between the different variables, I look at the correlation between each of the variables previously looked at as independent variables. Table X summarizes the correlation table. The results show that there is no significant correlation between any of the potential factors affecting the selling price.

IV.H Cross-Sectional Regressions of All Independent Variables

In all of the previous regressions, the variables affecting the P/E ratios of small firms have been analyzed separately. While Table X shows that there is no significant correlation between any of the right hand side variables, it is important to regress all of the variables together in order to see which variables stay significant when controlling for all of the other variables including the previous control variables for size, area, profitability, year, and the SIC industry code.

Panel XI summarizes the regression results. The results show that most of the previously found results stay significant. Only the variable measuring the days on market for sale loses its significance. However, that variable is the most likely to lose its significance as the earlier results in Table III show that when the days on market for sale is treated as a dependent variable, it is strongly correlated with profitability and size. Overall, these regression results are very promising. Most of the variables that were significant when regressed alone against the P/E ratio stay significant even when controlling for all of the other variables.

V. Conclusion

In this paper, I study the impact of asymmetric information, market illiquidity, and contingent contracts on the transaction prices of small firms. I show that there exists strong information asymmetry between the buyer and seller of a small private firm. I find several significant results: the size of the firm has a positive impact on the transaction ratios; the number of days business was on market increases the selling price; high leverage helps increase the transaction price; high homestead exemption levels work against the entrepreneur and lower the P/E ratios; periods of high interest rates show an increase in P/E ratio indicating that it is easier to sell a firm during an economic boom; periods of illiquid markets such as the LTCM crisis lower the transaction prices of small firms; high city populations favor larger private firms but make it more difficult for small firms to be sold; and, the amount of seller financing significantly increases the P/E ratio by reducing the risk to the buyer.

The findings in this paper should be of interest to entrepreneurs selling a business and intermediaries involved in the selling process. If the entrepreneur knows which factors are likely to affect the selling price, she can try to take advantage of that information to gain an edge on the sale negotiations.

There are several interesting questions that remain to be studied. More research is needed to determine the true impact of city population. Based on the interviews I found that the lack of experience of the seller versus the experience of the buyer in the selling process plays a significant role in the sale negotiations. It would be interesting to

categorize both buyers and sellers based on their experience and background to test this hypothesis. Also, one area of study is to analyze how the reason for sale affects the selling price as sometimes the seller might be in a hurry to sell while at other times there is more time to find the right buyer. Overall, the field of small private firms remains an area with plenty of room for further studies and this makes the topic so fascinating.

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TABLE I
Descriptive Statistics on Sample Firms

This table shows the descriptive statistics for 4412 Pratt's Stats and 6787 Bizcomps firms. Panel A of Table I presents the statistics for Pratt's Stats data and Panel B of Table I presents the statistics for Bizcomps data.

Panel A: Pratt's Stats Statistics

Variable	No. of Obs.	Mean	Median	Std. Dev.	Min	Max
Assets	4056	3.76	0.60	28.4	-0.01	173
SalePrice	4412	3.49	0.85	4.93	0	20.0
NetIncome	4223	-0.21	0.05	5.27	-115	253
TotalRevenue	4409	6.10	1.20	16.5	0	572
PE	2573	16.2	5.51	48.0	0.06	822
ProfitabilityRaw	4190	-0.84	0.05	25.8	-1600	45.5
Profitability	4190	0.02	0.05	0.29	-1.09	0.41
Leverage	1999	1.22	0.75	2.82	-0.02	60.2
LIBOR	4364	4.38	5.29	2.00	1.17	7.75
Homestead	3758	19.6	0.08	39.6	0	100
Population	2776	0.44	0.11	0.98	0	7.32

Panel B: Bizcomps Statistics

Variable	No. of Obs.	Mean	Median	Std. Dev.	Min	Max
Assets	6787	0.06	0.04	0.1	0	1.8
SalePrice	6787	0.27	0.12	0.66	0	16.7
NetIncome	6787	0.11	0.07	0.18	0	4.0
TotalRevenue	6787	0.69	0.34	1.35	0	30.0
PE	6787	1.95	1.77	0.98	0.56	4.37
ProfitabilityRaw	6787	0.24	0.21	0.16	0	3.78
Profitability	6787	0.23	0.21	0.13	0.03	0.53
SellerFinancing	6787	0.62	0.58	0.32	0	1.0
DaysOnMarket	4325	184	145	156	0	999
LIBOR	6787	5.14	5.67	1.66	1.45	9.38
Homestead	3327	16.1	0.08	36.6	0	100
Population	3201	0.47	0.23	0.58	0	7.32

Variable Definitions

All values are in millions with the exception of any ratios. *Assets* is total assets for Pratt's and FF&E for Bizcomps. *SalePrice* is the total transaction price. *NetIncome* is annual net income. *TotalRevenue* is total sales. *PE* is *SalePrice / NetIncome* and Bizcomps values are smoothened at 5 percent level. *ProfitabilityRaw* is *NetIncome / TotalRevenue*. *Profitability* is *ProfitabilityRaw* where both ends have been smoothened at 5 percent level. *Leverage* is the ratio of total liabilities to total assets. *SellerFinancing* is the amount of down payment as a percentage of the deal price. *DaysOnMarket* is actual number of days business was on market. *LIBOR* is the London Inter Bank Offer Rate at the time of the transaction. *Homestead* is the homestead exemption level in the state where the firm operates. *Population* is the population of the city where the firm operates.

TABLE II
Firm Size

The dependent variable is *PE*. The independent variable is Ln*(Assets)*, the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Pratt's Stats Regressions

Variable	All samples			*SalePrice*<$5M			*SalePrice*<$1M		
Ln(*Assets*)	0.53***	-0.26	-0.94***	0.61***	0.01	-0.77***	0.67**	0.58	-0.53
	[3.38]	[-1.14]	[-4.36]	[2.79]	[0.04]	[-2.93]	[2.12]	[1.37]	[-1.44]
Year	N	Y	Y	N	Y	Y	N	Y	Y
SIC	N	Y	Y	N	Y	Y	N	Y	Y
Profitability	N	N	Y	N	N	Y	N	N	Y
No. of Obs.	2423	2397	2397	1717	1698	1698	1128	1124	1124
Adjusted R^2	0.01	0.06	0.25	0.01	0.05	0.28	0.01	0.00	0.24

Panel B: Bizcomps Regressions

Variable	All samples			*SalePrice*<$0.5M			*SalePrice*<$0.1M		
Ln(*Assets*)	0.23***	0.22***	0.18***	0.22***	0.22***	0.18***	0.13***	0.11***	0.08***
	[22.28]	[18.39]	[15.92]	[18.91]	[16.63]	[14.17]	[7.52]	[5.51]	[3.91]
Area	N	Y	Y	N	Y	Y	N	Y	Y
Year	N	Y	Y	N	Y	Y	N	Y	Y
SIC	N	Y	Y	N	Y	Y	N	Y	Y
Profitability	N	N	Y	N	N	Y	N	N	Y
No. of Obs.	5966	5963	5963	5399	5398	5398	2558	2558	2558
Adjusted R^2	0.08	0.15	0.20	0.06	0.12	0.17	0.02	0.07	0.14

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE III

Number of Days on Market for Sale

The dependent variable in Panel A of Table III is *PE*. The independent variable is *DaysOnMarket*. This variable is only available for Bizcomps samples. The dependent variable in Panel B of Table III is *DaysOnMarket* and the independent variables are *Profitability* and Ln*(Assets)*. Ln*(Assets)* is the natural logarithm of FF&E. *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Bizcomps Regressions

Variable	All samples				*SalePrice*<$0.5M				*SalePrice*<$0.1M			
DaysOnMarket	0.00***	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[2.61]	[1.52]	[1.02]	[0.68]	[1.27]	[0.72]	[1.19]	[1.06]	[-1.12]	[-1.31]	[0.10]	[0.19]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Area	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	4325	3776	3774	3774	3808	3334	3333	3333	1625	1427	1427	1427
Adjusted R^2	0.00	0.07	0.14	0.20	0.00	0.06	0.11	0.18	0.00	0.02	0.05	0.14

Panel B: Bizcomps Regressions on DaysOnMarket

Variable	All samples		Variable	All samples	
Ln(*Assets*)	-0.02***	-0.02***	*Profitability*	0.10***	0.09**
	[-4.84]	[-4.75]		[3.45]	[2.41]
Ln(*Assets*)	-	-		Y	Y
Area	N	Y		N	Y
Year	N	Y		N	Y
SIC	N	Y		N	Y
Profitability	N	Y		-	-
No. of Obs.	5966	5963		6787	5963
Adjusted R^2	0.00	0.04		0.00	0.04

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE IV
Leverage

The dependent variable is *PE*. The independent variable is *Leverage*. This variable is only available for Pratt's Stats samples. Ln*(Assets)* is the natural logarithm of the total assets. *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Pratt's Stats Regressions

Variable	All samples				*SalePrice*<$5M				*SalePrice*<$1M			
Leverage	4.62***	5.01***	4.63***	0.73	5.38***	6.05***	6.03***	1.72	-0.15	0.05	0.65	0.68
	[5.85]	[6.47]	[4.92]	[0.80]	[4.45]	[5.05]	[3.89]	[1.17]	[-0.07]	[0.03]	[0.19]	[0.23]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	1178	1178	1171	1171	525	525	523	523	156	156	156	156
Adjusted R^2	0.03	0.07	0.07	0.23	0.03	0.07	0.03	0.22	0.00	0.00	0.20	0.34

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE V
Homestead Exemption Level

The dependent variable is *PE*. The independent variable is Ln(*Homestead*), natural logarithm of the homestead exemption level of the state where the firm operates. Ln*(Assets)* is the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Pratt's Stats Regressions

Variable	All samples				*SalePrice*<$5M				*SalePrice*<$1M			
Ln(*Homestead*)	-0.14	-0.12	0.06	0.11	-0.20**	-0.19*	0.00	0.13	-0.22*	-0.18	-0.13	0.05
	[-1.48]	[-1.25]	[0.58]	[1.13]	[-2.08]	[-1.80]	[0.03]	[1.14]	[-1.95]	[-1.47]	[-0.90]	[0.38]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	2026	1893	1881	1881	1542	1409	1402	1402	1090	969	968	968
Adjusted R^2	0.00	0.00	0.08	0.27	0.00	0.00	0.04	0.28	0.00	0.00	0.01	0.24

Panel B: Bizcomps Regressions

Variable	All samples				*SalePrice*<$0.5M				*SalePrice*<$0.1M			
Ln(*Homestead*)	-0.03***	-0.04***	-0.03***	-0.03***	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***
	[-5.83]	[-6.40]	[-5.43]	[-4.73]	[-6.55]	[-7.16]	[-6.25]	[-5.56]	[-3.99]	[-4.62]	[-4.26]	[-3.73]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Area	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	3292	2741	2741	2741	3059	2565	2565	2565	1507	1281	1281	1282
Adjusted R^2	0.01	0.10	0.15	0.19	0.01	0.09	0.14	0.18	0.01	0.04	0.07	0.12

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE VI
LIBOR rates

The dependent variable is *PE*. The independent variable is *LIBOR*. Ln*(Assets)* is the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Pratt's Stats Regressions

Variable	All samples				*SalePrice*<$5M				*SalePrice*<$1M			
LIBOR	1.16***	1.09***	-0.43	-0.98	0.87***	0.81***	0.22	-0.66	0.38**	0.36*	0.06	-0.66
	[7.77]	[6.38]	[-0.63]	[-1.59]	[5.58]	[4.66]	[0.29]	[-1.03]	[2.29]	[1.96]	[0.08]	[-0.94]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	2541	2396	2396	2396	1841	1697	1697	1697	1257	1124	1124	1124
Adjusted R^2	0.02	0.02	0.06	0.25	0.02	0.02	0.05	0.28	0.00	0.01	0.00	0.24

Panel B: Bizcomps Regressions

Variable	All samples				*SalePrice*<$0.5M				*SalePrice*<$0.1M			
LIBOR	0.01	0.01	0.00	0.01	0.01	0.13*	0.02	0.02	0.01	0.01	-0.02	-0.01
	[1.21]	[1.57]	[0.17]	[0.54]	[1.07]	[1.67]	[0.90]	[1.08]	[0.67]	[1.06]	[-0.58]	[-0.40]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Area	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	6787	5988	5963	5963	6126	5399	5398	5398	2879	2558	2558	2558
Adjusted R^2	0.00	0.08	0.15	0.20	0.00	0.06	0.12	0.17	0.00	0.02	0.07	0.14

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE VII
LTCM Crisis

The dependent variable is *PE*. The independent variable is *LTCM* dummy variable that takes a value of 1 if the deal transaction occurred Aug-Sep 1998. Ln*(Assets)* is the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Pratt's Stats Regressions

Variable	All samples				*SalePrice*<$5M				*SalePrice*<$1M			
LTCM	-0.28	-1.46	-0.43	0.71	0.20	-1.00	-2.39	-0.98	0.38**	0.36*	0.07	-0.66
	[-0.16]	[-0.81]	[-0.19]	[0.35]	[0.08]	[-0.38]	[-0.74]	[-0.35]	[2.29]	[1.96]	[0.08]	[-0.94]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	2573	2423	2397	2397	1865	1717	1698	1698	1257	1124	1124	1124
Adjusted R^2	0.00	0.00	0.06	0.25	0.00	0.00	0.05	0.28	0.00	0.01	0.00	0.24

Panel B: Bizcomps Regressions

Variable	All samples				*SalePrice*<$0.5M				*SalePrice*<$0.1M			
LTCM	-0.20**	-0.19**	-0.14	-0.11	-0.16*	-0.14	-0.09	-0.07	-0.05	-0.03	-0.02	-0.02
	[-2.17]	[-1.96]	[-1.35]	[-1.10]	[-1.74]	[-1.44]	[-0.90]	[-0.66]	[-0.40]	[-0.27]	[-0.13]	[0.18]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Area	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	6787	5966	5963	5963	6126	5399	5398	5398	2879	2558	2558	2558
Adjusted R^2	0.00	0.08	0.15	0.20	0.00	0.06	0.12	0.17	0.00	0.02	0.07	0.14

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE VIII
City Population

The dependent variable is *PE*. The independent variable is Ln(*Population*), natural logarithm of the city population where the firm operates. Ln*(Assets)* is the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Pratt's Stats Regressions

Variable	All samples				*SalePrice*<$5M				*SalePrice*<$1M			
Ln(*Population*)	0.36**	0.05*	0.28	0.17	0.31*	0.27	0.35	0.22	0.19	0.16	0.21	0.08
	[1.97]	[1.65]	[1.19]	[0.83]	[1.67]	[1.34]	[1.33]	[0.95]	[0.94]	[0.71]	[0.75]	[0.32]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	1575	1456	1448	1448	1235	1117	1112	1112	914	803	802	802
Adjusted R^2	0.00	0.01	0.05	0.23	0.00	0.01	0.00	0.20	0.00	0.00	0.00	0.18

Panel B: Bizcomps Regressions

Variable	All samples				*SalePrice*<$0.5M				*SalePrice*<$0.1M			
Ln(*Population*)	-0.01	-0.02*	-0.03**	-0.03**	-0.02	-0.02*	-0.03**	-0.04***	-0.01	-0.02	-0.05***	-0.05**
	[-1.22]	[-1.87]	[-2.29]	[-2.46]	[-1.47]	[-1.87]	[-2.56]	[-2.69]	[-0.89]	[-1.17]	[-2.69]	[-2.52]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Area	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	3201	2689	2689	2689	2991	2529	2529	2529	1515	1308	1308	1308
Adjusted R^2	0.00	0.09	0.15	0.19	0.00	0.08	0.13	0.18	0.00	0.03	0.06	0.12

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE IX
Seller Financing

The dependent variable in Panel A of Table IX is *PE*. The independent variable is *SellerFinancing*, the ratio of deal price paid upfront. This variable is only available for Bizcomps samples. The dependent variable in Panel B of Table IX is *SellerFinancing* and the independent variables are *Profitability* and Ln*(Assets)*. Ln*(Assets)* is the natural logarithm of FF&E. *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Bizcomps Regressions

Variable	All samples				*SalePrice*<$0.5M				*SalePrice*<$0.1M			
SellerFinancing	-0.36***	-0.32***	-0.30***	-0.07***	-0.37***	-0.34***	-0.32***	-0.29***	-0.31***	-0.26***	-0.25***	-0.23***
	[-9.83]	[-8.53]	[-7.79]	[-7.42]	[-10.1]	[-9.12]	[-8.17]	[-7.80]	[-6.33]	[-5.19]	[-4.72]	[-4.47]
Ln(*Assets*)	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
Area	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Year	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
SIC	N	N	Y	Y	N	N	Y	Y	N	N	Y	Y
Profitability	N	N	N	Y	N	N	N	Y	N	N	N	Y
No. of Obs.	6787	5966	5963	5963	6126	5399	5398	5398	2879	2558	2558	2558
Adjusted R^2	0.01	0.09	0.16	0.21	0.02	0.08	0.13	0.18	0.01	0.03	0.07	0.15

Panel B: Bizcomps Regressions on SellerFinancing

Variable	All samples		Variable	All samples	
Ln(*Assets*)	12.64***	10.70***	*Profitability*	-86.65***	-59.30***
	[5.88]	[4.35]		[-4.91]	[-2.78]
Ln(*Assets*)	-	-		Y	Y
Area	N	Y		N	Y
Year	N	Y		N	Y
SIC	N	Y		N	Y
Profitability	N	Y		-	-
No. of Obs.	3776	3774		4325	4323
Adjusted R^2	0.01	0.06		0.01	0.06

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE X
Correlation Table of All Independent Variables

The correlated variables are: Ln(*Assets*), the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps); *DaysOnMarket*, only available for Bizcomps samples; *Leverage*, only available for Pratt's Stats samples; Ln(*HomeStead*), the natural logarithm of the homestead exemption level of the state where the firm operates; *LIBOR*; *LTCM* dummy variable that takes a value of 1 if the deal transaction occurred Aug-Sep 1998; Ln(*Population*), the natural logarithm of the city population where the firm operates; and, *SellerFinancing*, the ratio of deal price paid upfront (only available for Bizcomps samples).

Panel A: Pratt's Stats Correlation Table

	Ln(*Assets*)	*Leverage*	Ln(*HomeStead*)	*LIBOR*	*LTCM*	Ln(*Population*)
Ln(*Assets*)	1.0000					
Leverage	-0.1683	1.0000				
Ln(*HomeStead*)	-0.0384	0.0238	1.0000			
LIBOR	0.0140	0.0473	0.0494	1.0000		
LTCM	0.3472	0.0763	0.0204	0.1227	1.0000	
Ln(*Population*)	0.0639	-0.0154	-0.0469	0.0383	0.0292	1.0000

Panel B: Bizcomps Correlation Table

	Ln(*Assets*)	*DaysOnMarket*	Ln(*HomeStead*)	*LIBOR*	*LTCM*	Ln(*Population*)	*SellerFinancing*
Ln(*Assets*)	1.0000						
DaysOnMarket	0.1154	1.0000					
Ln(*HomeStead*)	-0.0007	0.0458	1.0000				
LIBOR	-0.0405	-0.0666	0.0167	1.0000			
LTCM	0.0430	0.0218	0.0585	0.0856	1.0000		
Ln(*Population*)	-0.0010	-0.0017	0.1639	0.0171	-0.0054	1.0000	
SellerFinancing	-0.0809	-0.0436	0.0137	0.1235	0.0039	-0.0226	1.0000

TABLE XI
Cross-Sectional Multiple Regressions

The dependent variable is *PE*. The independent variables are: Ln(*Assets*), the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps); *DaysOnMarket*, only available for Bizcomps samples; *Leverage*, only available for Pratt's Stats samples; Ln(*HomeStead*), the natural logarithm of the homestead exemption level of the state where the firm operates; *LIBOR*; *LTCM* dummy variable that takes a value of 1 if the deal transaction occurred Aug-Sep 1998; Ln(*Population*), the natural logarithm of the city population where the firm operates; and, *SellerFinancing*, the ratio of deal price paid upfront (only available for Bizcomps samples). Ln*(Assets)* is the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel A: Pratt's Stats Regressions

Variable	All samples			*SalePrice*<$5M		
Ln(*Assets*)	-1.97***	-1.46***	-3.15***	-1.49**	-1.79	-3.46***
	[-4.57	[-3.13]	[-4.61]	[-2.19]	[-1.40]	[-2.91]
Leverage	5.70***	6.86***	1.70	3.68**	6.56**	2.34
	[4.95]	[4.60]	[1.14]	[2.25]	[2.57]	[0.97]
Ln(*Homestead*)	0.01	0.40	0.16	0.06	0.49	0.36
	[0.05]	[1.74]	[0.75]	[0.25]	[1.37]	[1.10]
LIBOR	1.84***	-2.56	-1.94	1.36***	1.07	1.15
	[4.39]	[-1.11]	[-0.92]	[2.85]	[0.23]	[0.28]
LTCM	-3.38	-4.98	-3.30	-6.63	-10.69	-7.92
	[-1.08]	[-0.94]	[-0.68]	[-1.17]	[-1.14]	[-0.94]
Ln(*Population*)	0.42	0.60	0.44	1.11**	1.52*	1.49**
	[1.26]	[1.24]	[1.02]	[2.36]	[1.90]	[2.07]
Year	N	Y	Y	N	Y	Y
SIC	N	Y	Y	N	Y	Y
Profitability	N	N	Y	N	N	Y
No. of Obs.	562	562	562	281	281	281
Adjusted R^2	0.09	0.07	0.23	0.06	0.06	0.14

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.

TABLE XI (Continued)
Cross-Sectional Multiple Regressions

The dependent variable is *PE*. The independent variables are: Ln(*Assets*), the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps); *DaysOnMarket*, only available for Bizcomps samples; *Leverage*, only available for Pratt's Stats samples; Ln(*HomeStead*), the natural logarithm of the homestead exemption level of the state where the firm operates; *LIBOR*; *LTCM* dummy variable that takes a value of 1 if the deal transaction occurred Aug-Sep 1998; Ln(*Population*), the natural logarithm of the city population where the firm operates; and, *SellerFinancing*, the ratio of deal price paid upfront (only available for Bizcomps samples). Ln*(Assets)* is the natural logarithm of the total assets (FF&E) for Pratt's Stats (Bizcomps). *PE* and *Profitability* values are smoothened on both tails at 5 percent level. *Area* is divided into 7 regions (E, MW, NW, S, SE, SW, W). *SIC* represents the 4-digit industry code. *Year* represents the deal year. All regressions employ ordinary least squares specifications.

Panel B: Bizcomps Regressions

Variable	All samples			*SalePrice*<$0.5M			*SalePrice*<$0.1M		
Ln(*Assets*)	0.25***	0.19***	0.15***	0.23***	0.19***	0.15***	0.18***	0.20***	0.16***
	[10.65]	[6.72]	[5.46]	[9.34]	[6.20]	[4.86]	[4.70]	[3.87]	[3.05]
DaysOnMarket	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[0.29]	[0.77]	[0.47]	[-0.39]	[0.90]	[0.72]	[-1.64]	[-0.49]	[-0.27]
Ln(*Homestead*)	-0.03***	-0.03***	-0.03***	-0.04***	-0.04***	-0.04***	-0.04***	-0.04**	-0.04**
	[-3.22]	[-2.73]	[-2.67]	[-4.15]	[-3.44]	[-3.36]	[-3.18]	[-2.52]	[-2.25]
LIBOR	0.01	0.07	0.05	0.01	0.09	0.07	0.00	0.11	0.08
	[0.67]	[1.21]	[0.89]	[0.33]	[1.56]	[1.27]	[0.05]	[1.37]	[1.08]
LTCM	-0.31**	-0.12	-0.07	-0.25*	-0.06	-0.02	-0.02	0.24	0.28
	[-2.33]	[-0.75]	[-0.45]	[-1.93]	[-0.41]	[-0.13]	[-0.13]	[1.14]	[1.38]
Ln(*Population*)	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02
	[0.04]	[-0.04]	[-0.04]	[-0.26]	[-0.24]	[-0.59]	[-0.13]	[-0.58]	[-0.60]
SellerFinancing	-0.10	-0.16*	-0.21***	-0.11	-0.17*	-0.22***	-0.02	-0.05	0.25
	[-1.33]	[-1.79]	[-2.57]	[-1.38]	[-1.90]	[-2.65]	[-0.58]	[0.36]	[-0.44]
Area	N	Y	Y	N	Y	Y	N	Y	Y
Year	N	Y	Y	N	Y	Y	N	Y	Y
SIC	N	Y	Y	N	Y	Y	N	Y	Y
Profitability	N	N	Y	N	N	Y	N	N	Y
No. of Obs.	1233	1233	1233	1134	1134	1134	541	541	541
Adjusted R^2	0.10	0.12	0.20	0.09	0.10	0.19	0.05	0.05	0.13

*=Significant at the 10% level; **=significant at the 5% level; ***=significant at the 1% level.