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THE MARKETING PERIOD OF PRIVATE SALE TRANSACTIONS Updated for Sales through 2010

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The business valuation concept of marketability deals with the liquidity of the ownership interest.² How quickly and certainly an owner can convert an investment to cash represent two very different variables. The “quickly” variable represents the period of time it will take the seller to liquidate an investment. This period of time can vary greatly depending on the standard of value in play. For example, liquidation sales can occur quickly and generally reflect lower prices, while orderly sales usually take longer to explore the marketplace of reasonable buyers and generally reflect greater than liquidation prices. In every instance, however, the “quickly” variable commences with a decision by the seller to initiate the sales process. The “certainty” variable represents the probability that the seller will realize the estimated sale price (value) of the investment. Therefore, the “certainty” variable represents the price volatility of the investment during the period of time that it is being offered for sale. If market prices for similar investments fall dramatically while the marketplace is being explored, then the seller will have lost the opportunity to lock in the higher price that existed at the time the sell decision was made. Conversely, if the sale price is fixed for some reason (e.g., a listing agreement) and market prices for similar investments rise dramatically during the marketing period, the seller will have lost the opportunity to realize the increased value.

The “quickly” and “certainty” variables work together when determining the value of an investment. Relative to immediately marketable investments, the value of illiquid investments (regardless of the level of value) must be discounted to reflect the uncertainty of the time and price of sale. This uncertainty is reflected in business valuations by what is commonly known as the “discount for lack of marketability” (“DLOM”).

Logically, the economic costs of time and price uncertainty can be reduced to the price risk faced by an investor during the particular period of time that an illiquid investment is being

¹ Mr. Vianello thanks Paul Murray, CPA, for his assistance writing this article. Mr. Murray is a consultant with Vianello Forensic Consulting, LLC.

² Shannon P. Pratt and Alina V. Niculita, *Valuing a Business, 5th Edition: The Analysis and Appraisal of Closely Held Companies*. (McGraw-Hill, 2007), page 417.

offered for sale. In the market for publicly traded stocks, the volatility of stock prices represents risk. Investments with no price volatility have no DLOM, because they can be arbitrated to negate the risk of a period of restricted marketing. Conversely, volatile investments that are immediately marketable can be sold at the current price to avoid the risk of future volatility. The illiquidity experienced by the seller of a non-public business interest during the marketing period therefore represents an economic cost reflective of the risk associated with the inability to realize gains and to avoid losses during the period of illiquidity.³ The longer that time period, the more the value of the business is exposed to adverse events in the marketplace and adverse changes in the operations of the business, and the greater the DLOM that is required to equate the investment to an immediately liquid counterpart.

The economic cost associated with a period of illiquidity can be estimated using the VFC Longstaff Methodology.⁴ This method is based on a formula developed by Francis A. Longstaff, Ph.D. in 2002,⁵ which relies on estimates of price volatility (i.e., the *certainty* variable) and marketing time (i.e., the *quickly* variable). This paper addresses only the *quickly* variable: that is, the period of time it might reasonably take to sell an interest in a privately held business.⁶ In considering this issue, we assumed that the marketable value of the investment has been reasonably estimated. We then hypothesized that any consistency of the marketing time period of illiquid investments may be influenced by the industry, price, and marketing dates of the investment.

To test our hypotheses, we obtained a database of 8,184 private company sale transactions from BV Resources.⁷ The population of transactions occurred from February 1992 through the end of 2010, and reported an associated Standard Industrial Classification (“SIC”) code; sale initiation date; sale closing date; market value of invested capital (“MVIC”); and asking price. The average time that elapsed from the initial offering date to the closing date of these transactions is 200 days. The standard deviation of the reported time periods is 97.7%, or 195 days. Graph 1 shows the distribution of the amount of time it took to consummate the sale transactions in the database. Since the marketing time period cannot be less than zero days, the

³ Id.

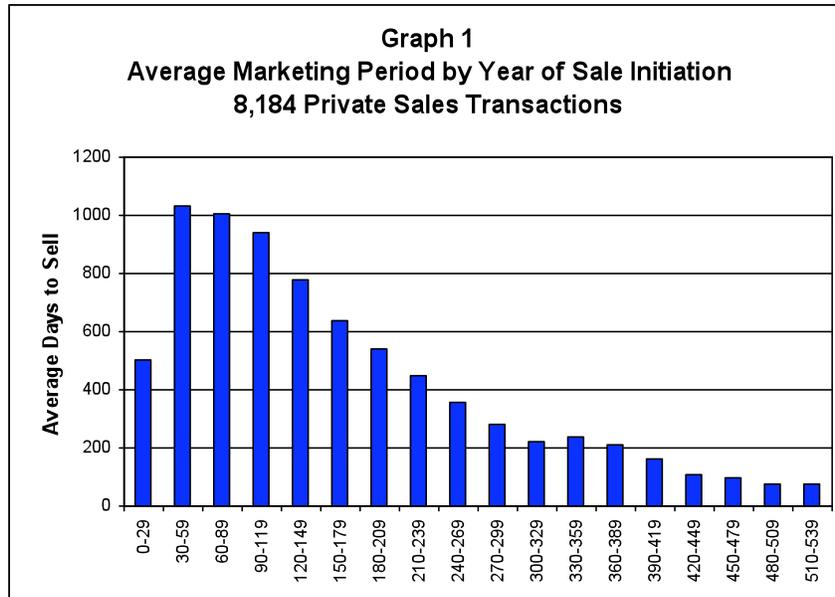
⁴ For an in-depth discussion of the VFC Longstaff Methodology see our article entitled, “Calculating DLOM using the VFC Longstaff Methodology.”

⁵ Francis A. Longstaff, “How Much Can Marketability Affect Security Values?”, The Journal of Finance, Volume I, No. 5, December 1995.

⁶ For a discussion of methods of estimating price volatility for a privately held business interest, please refer to our paper entitled, “Estimating Private Company Price Volatility.”

⁷ Pratt’s Stats® is the BV Resources database where the transactions were obtained. We did not investigate the accuracy with which transactions are reported in the database.

distribution of the database obviously skews to the right. The data is split into 30-day increments for presentation and analytical purposes.



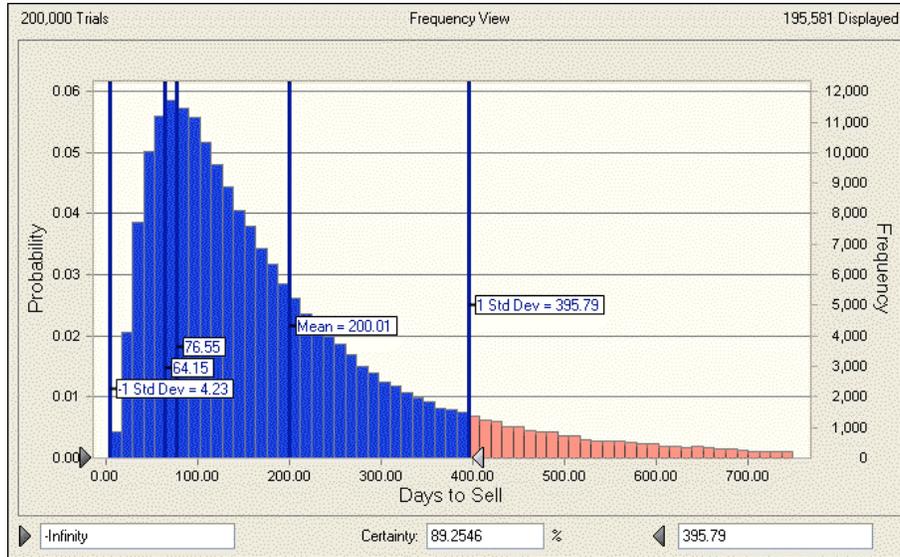
Graph 1 shows that the population of sale transactions follows a logarithmic distribution. The peak of the graph is 1,032 sale transactions that occurred from 30 to 59 days to sell, which is 12.6% of the database.⁸ The database analysis indicates that one standard deviation to the right of the mean encompasses marketing periods of up to 395 days, which is 88% of the database population.

Graph 1 was then compared to a distribution created using the population's mean and standard deviation and Oracle's *Crystal Ball* software. Graph 2 shows the *Crystal Ball* output using a log-normal distribution⁹:

⁸ When the sales are presented on single-day time periods, spikes in the frequency of sales transactions occur about 30 days apart. This could be the result of faulty information supplied by brokers, or a tendency of sales to occur at the end of listing agreements. We used 30-day periods to eliminate the distortion of the spikes.

⁹ A log-normal distribution is positively skewed, with most values near the lower limit and is based on natural logarithms.

Graph 2



Graph 2 shows that the peak frequency of sale events is 5.9%, which occurs from the range of approximately 64.2 to 76.6 days. But Graph 2 is based on 12-day, not 30-day, intervals. Adjusted ratably to a 12-day interval, the peak probability of Graph 1 is 5.0%. And as with the actual database, the *Crystal Ball* analysis indicates that one standard deviation to the right of the mean encompasses marketing periods of up to 396 days, representing 89% of the database population.¹⁰ Therefore, the database population follows the log-normal distribution of *Crystal Ball*, which we use for the remainder of this article.

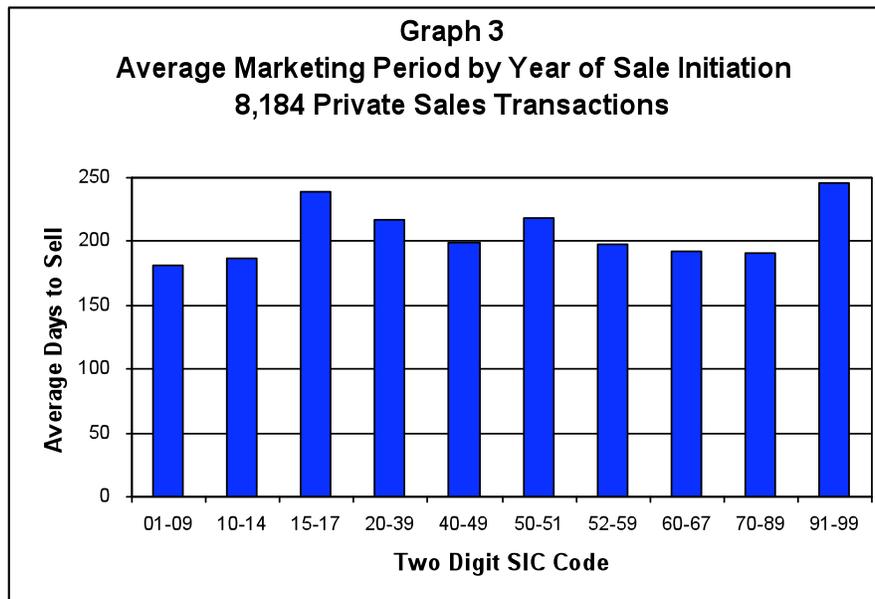
Marketing Periods Based on Industry

Now let's see what happens when we dig deeper. We separated the sale transactions into the ten two-digit SIC code divisions corresponding to the broad industry groupings shown in Table 1 and Graph 3. The group description, number of private sale transactions, and average days to sell are listed for each industry group. The standard deviations of these industries range from 143 days to 257 days.

¹⁰ The 89.2546 "certainty" shown in Graph 2 is not a probability certainty. Instead it is an absolute measure of the percentage of the population represented by one standard deviation to the right of the mean. See *Crystal Ball User Manual* at p.100.

Table 1

SIC Code	SIC Group	Number of Sale Transactions	Average Selling Time in Days
01-09	Agriculture, forestry, and fishing	269	182
10-14	Mining	7	187
15-17	Construction	379	239
20-39	Manufacturing	927	216
40-49	Transportation, communications, electric, gas, and sanitary services	248	199
50-51	Wholesale trade	510	219
52-59	Retail trade	2,949	197
60-67	Finance, insurance, and real estate	152	193
70-89	Services	2,741	191
91-99	Public administration	<u>2</u>	<u>246</u>
All industries		8,184	200



The three industry groups of construction, wholesale trade, and manufacturing had the longest marketing periods, with averages of 239, 219, and 216, respectively.¹¹ Businesses reported in the agriculture, forestry, and fishing industries sold quickly in an average of 182 days. On average, businesses in the transportation, communications, electric, gas, and sanitary

¹¹ We are ignoring the public administration industry group since it represents the sale of just two businesses.

services industry group sold within 199 days; businesses in the retail industry group sold within 197 days; businesses in the financial, insurance, and real estate industry group sold within 193 days; businesses in the services industry group sold within 191 days; and businesses in the mining industry group sold within 187 days. The standard deviations of the marketing periods of the industries also varied greatly.

The 57-day spread between the 239-day average selling period of construction businesses and the 182-day average selling period of agriculture, forestry, and fishing businesses demonstrates that industry makes a material difference in how long it is likely to take to close the sale of a business. Adding widely varying standard deviations of marketing periods to the various mean marketing periods of different industries highlights the very different marketing period risks faced by owners of businesses engaged in different industries.

Marketing Periods Based on Sale Year

The next factor explored is the effect on the marketing period of the calendar year in which the businesses were listed for sale. The BV Resources database reports sale transactions commencing in 1991 and extending through 2010. The years 1991 to 1995 were not used in the calendar year analysis since there were very few listings from these years. Excluding 1991 through 1995 reduced the database population from 8,184 to 8,103. Calendar years 2009 and 2010 were also not used in the calendar year analysis because the closing dates of these listings are not yet known. Excluding 2009 and 2010 reduced the database population from 8,103 to 6,940.

Table 2 shows the average marketing period and number of transactions by year for sales listed from 1996 through 2008:

Table 2

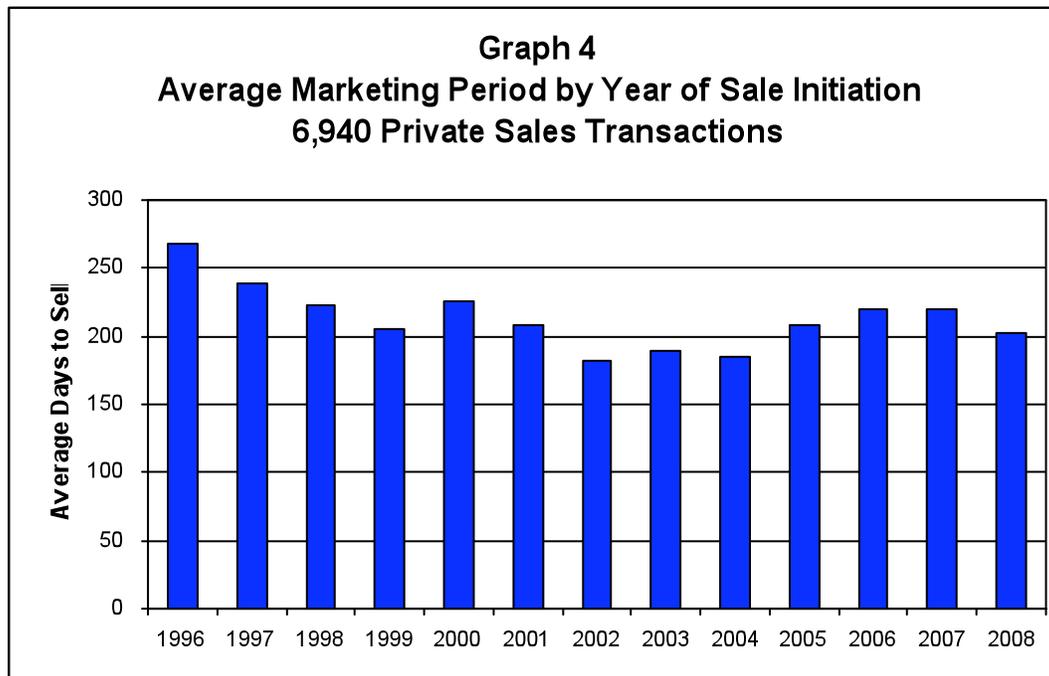
<u>If Listed In</u>	<u>2007 Study</u>	<u>2008 Study</u>	
	<u>Average Selling Time in Days</u>	<u>Average Selling Time in Days</u>	<u>Number of Transactions</u>
1996	265	267	71
1997	240	239	133
1998	211	223	250
1999	204	206	270
2000	218	226	372
2001	200	209	440
2002	172	182	519
2003	178	189	521
2004	175	185	737
2005	189	208	748
2006	195	220	819
2007	<u>166</u>	220	1,112
2008		<u>202</u>	948

Average

201

214

Graph 4 shows the declining trend of average selling periods over time. The average number of days it took to sell the privately held businesses in the study decreased from 267 days in 1996 to 182 days in 2002, before increasing to 220 days in 2007 and falling to 202 days in 2008.



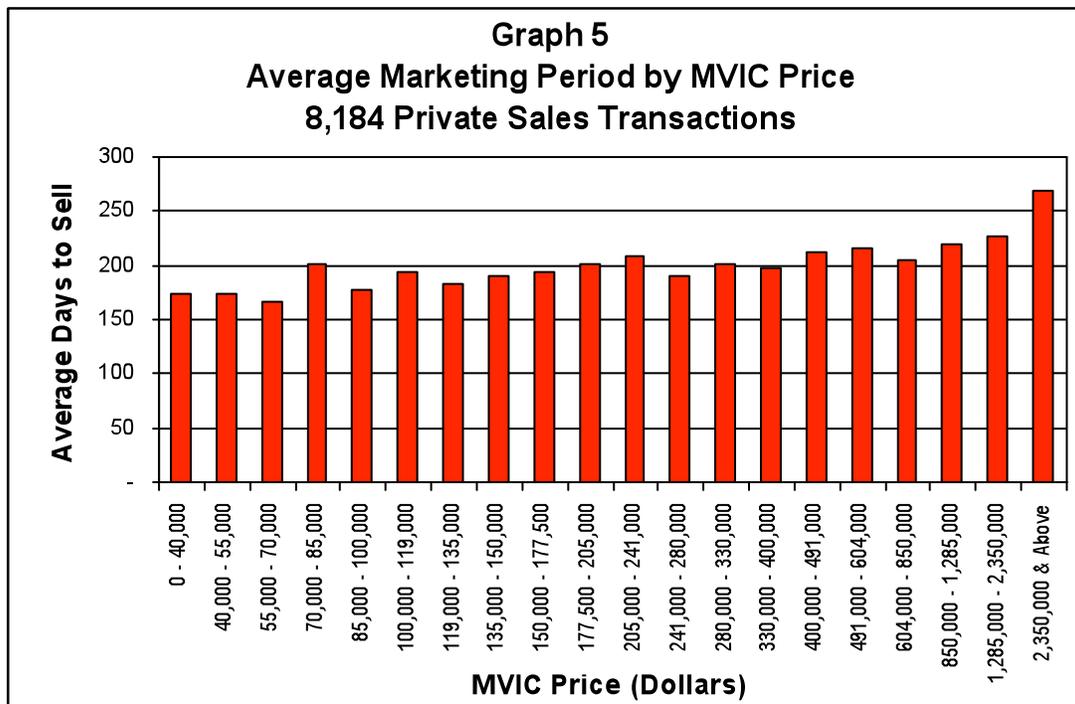
Our earlier study postulated that GDP, inflation, money supply, and demographics could explain the declining trend of the marketing periods. Correlation analysis of selling time against these factors yielded low R-squares, suggesting that annual fluctuations in inflation, real GDP, nominal GDP, money supply, and demographics provide little explanation of the declining trend of private business marketing periods. The earlier study was confirmed by the present study.

During the period of the analyzed database, there was a recession from March to November in 2001. This possibly explains the longer selling times for those sales that were listed in 2000 and closed in 2001, but the explanation is seemingly contradicted by the decline in the average number of days to sell businesses listed in 2001. Despite the recession, the average business sold faster during 2001 than in 2000. A major recession also started in December 2007. This possibly explains the longer selling times for those sales that were listed in 2006 and 2007, which were both 5.8% longer than sales listed in 2005. One might expect these listings to take longer to close if they were initiated but not completed by the start of the recession.

Marketing Periods Based on Price

The BV Resources database of transactions also provided the MVIC and asking price of each transaction. MVIC is the market value of invested capital comprised of all stock classes and interest-bearing debt. The MVIC and asking price factors were used to separately analyze the database.

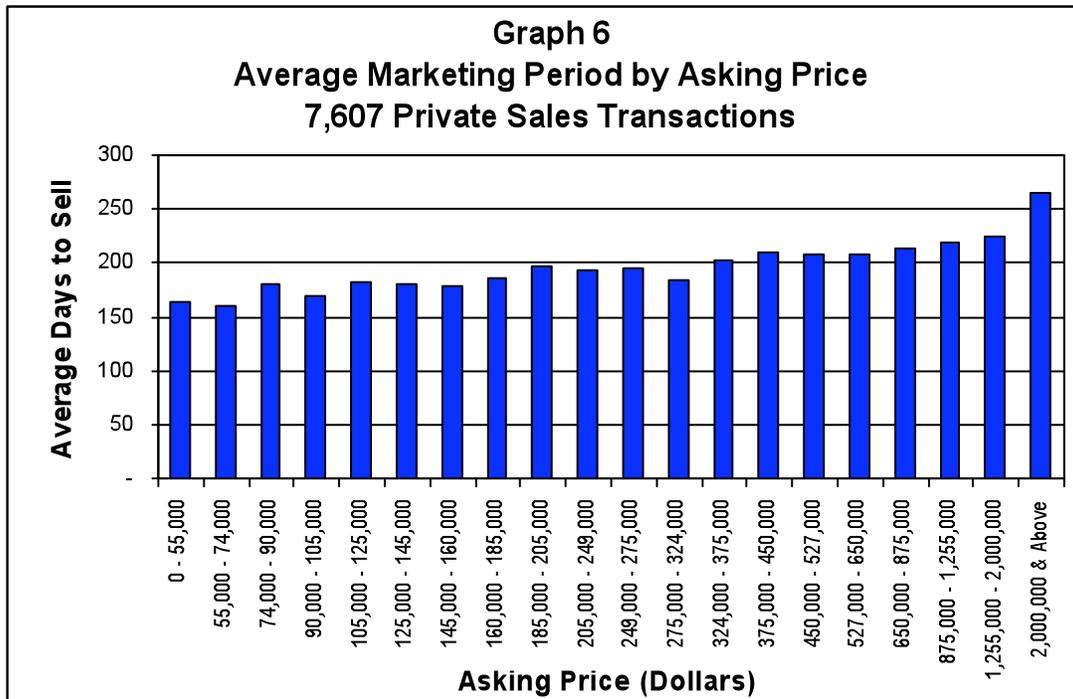
The range of MVIC was \$1,000 to \$314,000,000. The mean and median MVIC of the population was \$783,067 and \$205,000, respectively. The sale transactions were split into 20 groups based on MVIC. The MVIC range of the group intervals becomes larger as MVIC increases. Each size group contains 409 sale transactions except the largest group, which contains 413. Graph 5 shows the average days to sell for each MVIC group.



Generally, the average days to sell increases with the rise in MVIC. When the MVIC is under \$40,000, the average days to sell is 173 days. The length of marketing periods gradually increases until the MVIC price is greater than \$2,350,000, when the average days to sell is 269 days.

Exponential regression of the average marketing periods of the MVIC groups yielded a fairly strong R-square of 73%. The regression formula shows that the average days to sell increases by 1.6% as MVIC progresses from group to group. The trend line predicts 171 days to complete a sale transaction when the MVIC is below \$40,000. When the MVIC is above \$2,350,000, the trend predicts at 231 days to sell, but the actual marketing time of this group is much higher as the graph shows.

Some of the transactions did not report asking prices. Those sale transactions were removed from this analysis, which reduced the database population for the asking price analysis from 8,184 to 7,607. The mean of the 7,607 sale transactions is 196 days to sell. The range of asking prices of the resulting population of sale transactions was from \$3,456 to \$70,000,000. The mean and median asking prices of the population were \$608,018 and \$249,000, respectively. Each size group contains 380 sale transactions except the largest group, which contains 387. Graph 6 shows the average days to sell for each asking price group.



The fluctuations in the asking price graph are generally similar to those of the MVIC graph. When the asking price is under \$55,000, the average days to sell is 164 days. The length of the marketing period gradually increases until the average days to sell is 265 days when the asking price is greater than \$2,000,000.

Exponential regression of the average asking price of each group, resulted in a strong 86% R-square. The regression formula shows that the average days to sell increases by 1.9%, as asking price progresses from group to group. The regression predicts that it takes 163 days to complete a sale transaction when the asking price is below \$55,000. When the asking price is above \$2,000,000, the regression predicts that it takes 232 days to close a sale. However, note that the 265-day average marketing period for businesses priced higher than \$2 million is significantly above the trend number.

As mentioned, the asking price regression yields a stronger R-square of 86%¹² while the MVIC regression yields a weaker R-square of 73%. The higher R-square value associated with asking price may be due to reporting inaccuracies that we did not investigate. But it may also reflect that asking price is determinative in drawing potential buyers to the sale opportunity. Assuming no database adjustments are warranted, the asking price is the better statistical predictor.

Marketing Periods Based on Seasonality

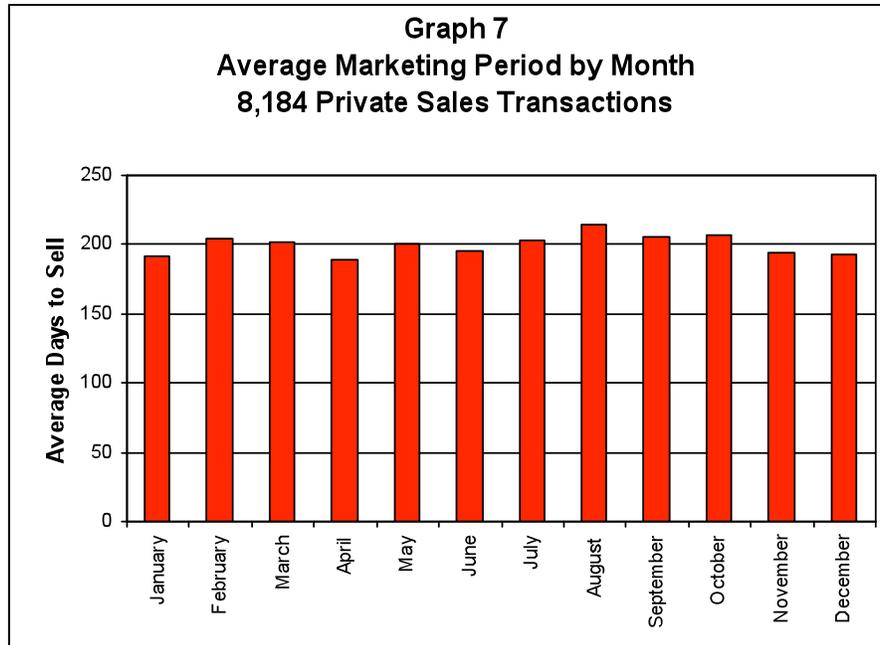
We also considered whether the time of year a sale transaction is initiated makes a difference in the length of marketing periods. To analyze this factor, the sale transactions were grouped based on the month the company was listed to sell. Table 3 reports the mean number of days to sell that elapsed from the listing date based on a distribution of the sale transactions according to the calendar month the businesses were listed for sale:

Table 3

<u>If Listed In</u>	<u>Number of Sale Transactions</u>	<u>Average Days to Sell</u>
January	774	192
February	682	204
March	740	201
April	697	190
May	686	200
June	697	195
July	694	203
August	678	214
September	642	206
October	689	207
November	611	194
December	594	<u>193</u>
Average		<u>200</u>

Graph 7 depicts the variation in the calendar month averages from Table 3:

¹² A linear regression resulted in an R-square value of 83%. The slope was 3.7, meaning for each increase from one asking price group to another, the average days to sell increases by 3.7 days.



On average, sale transactions originally listed in August took the longest time to sell, with a mean of 214 days. March listings had the highest volatility of time to sell. Sale transactions originally listed in October also were lengthy, averaging 207 days to sell. The months with the shortest marketing periods were April, January, December, and November averaging 190, 192, 193, and 194 days, respectively. Possible explanations for these phenomenons are proximity to yearend numbers for November, December, and January listings, and proximity to completion of tax filings for April listings. Such proximity tends to offer buyers enhanced transparency through more timely financial reporting.

Conclusion

While the time needed to market and sell a privately held business has been trending downward, there is no doubt that many factors contribute independently to the length of the period. Industry, price, and month of listing appear to be key contributing factors that need to be explored to arrive at an appropriate opinion regarding marketing period. Broader economic and demographic factors do not generally appear to be determinative of the marketing time period. But recessions, such as the mild one in 2001 and the current major economic dislocation that started in late 2007, increase the marketing period of sales initiated but not completed prior to the economic downturn.