# The Reason for Regional Variations in SP/SDE Transaction Ratios

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An analysis of the 2010 BIZCOMPS database reveals that the harmonic mean value of the Selling Price divided by Seller's Discretionary Earnings (SP/SDE) ratios differ based on the region of the country where the transactions occurred. This difference is illustrated in Figure 1.

Figure 1

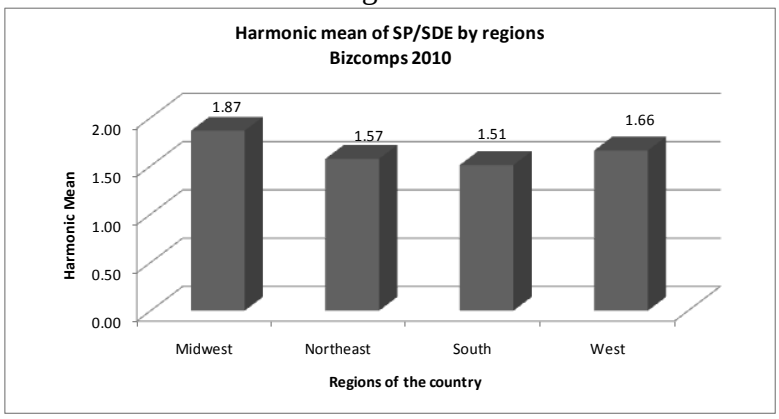
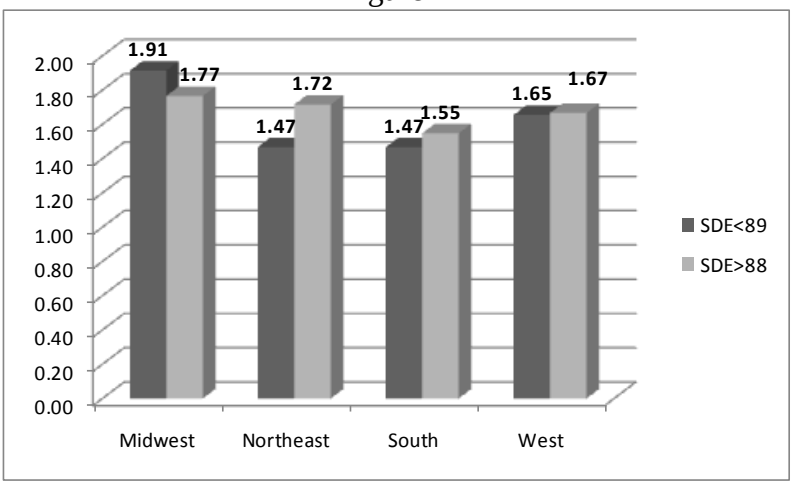



Figure 1 is based on 11,348 records. For the purpose of this analysis all records where reported Seller's Discretionary Earnings was zero or less were eliminated as were all records for Canadian transactions.

Figure 2 presents a follow up analysis of this data where the transactions were sorted into two groups based on the size of reported Seller's Discretionary Earnings. The median SDE in this study is 88. So the first group of records consists of SDE from 1 to 88 and the second group consists of records where SDE is greater than 88. The first group is comprised of 5,700 records and the second group is comprised of 5,648 records.

Figure 2



Based on Figure 2, it is evident that there is less variation in the SP/SDE ratios among the different regions of the country for the group with the higher discretionary earnings. Next, I calculated the Coefficient of Variation for each group—that is the standard deviation of the array divided by the harmonic mean value of the array. The coefficient of variation is a measurement of relative degree variation in a data array; the lower this coefficient, the less the variation in the array. The coefficient of variation for the group with SDE less than 89, is .132. The coefficient of variation for the array with SDE greater than 88 is .056. Clearly, the differences in the SP/SDE ratios in different regions of the country become less pronounced as SDE increases. Or, put another way, the SP/SDE ratios in different regions of the country tend to converge on an identical SP/SDE ratio as SDE increases.

The questions needing to be answered are 1) Why are there regional variations in the SP/SDE ratios and, 2) why do these variations become less pronounced as the size of the seller's discretionary earnings increase?

To answer these questions, we need to view Seller's Discretionary Earnings apportioned into three categories: The portion that must provide the buyer with a fair market value salary, the portion that must cover capital expenditures (capX) and the portion that must provide a fair market value return on the buyer's upfront cash investment.

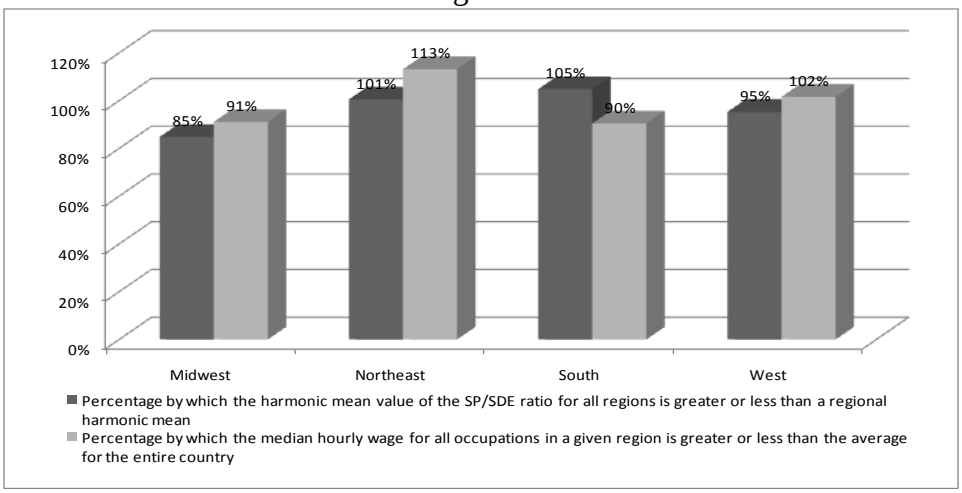
Given this view of the cash flow, it is my opinion that the wild card is the portion of SDE that the buyer allocates to a fair market value salary. I believe that wages and therewith fair market value salaries tend to be different in different parts of the country, with the lowest wages occurring in the Midwest. To support this assumption, Figures 3 presents the average median hourly wages for the four regions of the country as defined by BIZCOMPS. The average of the median hourly wage from four states selected from each region represents proxies for the Northeast, South, Midwest and Western regions of the country.

Figure 3

| State | Median hourly wage |
|---|---|
| California | $17.92 |
| Arizona | $15.49 |
| Nevada | $15.26 |
| Oregon | $16.16 |
| **Western Average** | **$16.21** |
| | |
| New York | $18.49 |
| Pennsylvania | $15.87 |
| New Jersey | $18.56 |
| Connecticut | $19.29 |
| **Northeastern Average** | **$18.05** |
| | |
| Missouri | $14.70 |
| Nebraska | $14.39 |
| Iowa | $14.40 |
| Kansas | $14.64 |
| **Midwest Average** | **$14.53** |
| | |
| Georgia | $15.04 |
| South Carolina | $14.14 |
| Alabama | $13.95 |
| Florida | $14.58 |
| **South Average** | **$14.43** |

Because wages are lower in the Midwest, more of the total SDE is available to allocate to the portion of the cash flow that represents the buyer's return on investment. This fact, in turn, tends to drive up selling prices above the other three regions. In other words, there is an inverse relationship between the central tendency in regional wages and the central tendency in SP/SDE ratios.

Figure 4




To illustrate this concept, in Figure 4 the percentage by which the harmonic mean value of the SP/SDE ratio for all regions combined is greater or less than a regional harmonic mean is juxtaposed to the percentage by which the median hourly wage for all occupations in a given region is greater or less than the average for all regions. For example, the harmonic mean value of the SP/SDE ratio for all 11,348 transactions is 1.58 while that value for Midwestern transactions is 1.87. Thus 1.58 is 85% of 1.87. Similarly the average median hourly wage throughout the country is $15.95 while the Midwestern median value is $14.50. Thus $14.50 is 91% of $15.95. The point of Figure 4 is to illustrate that there tends to be an approximate equivalency between these two ratios for each region of the country which in turn, tends to support the proposition that these two ratios rise and fall approximately equally as the central tendency in median wages within a give region rises and falls. However, the caveat to this proposition is that as the absolute value of seller's discretionary earnings increases, regional variations in the SP/SDE ratio tend to dissipate.

Assuming this proposition to be true, then as the portion of total SDE that is allocated to a fair market value salary becomes a smaller fraction of total cash flow, its significance in affecting selling prices diminishes. Thus, as total SDE increases, the percentage of total SDE allocated to a buyer's fair market value salary becomes smaller and therewith regional differences in the prices paid for a given SDE would tend to converge. Following is a demonstration of this theory using exaggerated values to improve clarity of the concept and leaving out consideration for capital expenditures because that value would be a constant.

## Assumptions

The Widget industry

The subject companies are
Gigantic Widget, Inc.,
Central Widget, Inc., and
The Little Widget Company.

The regions of the country and the respective FMV wage for owner/managers of widget companies are
Midwest, FMV salary = $40,000 per year
South, FMV salary = $60,000 per year

The buyer's required return on upfront cash invested is 33%

| Company | Region |
|---|---|
| The Little Widget Company | Midwest |
| sde | $100,000 |
| fmv wage = | $40,000 |
| Buyer's ROI = | 33% |
| cash availabe for ROI (i.e., Total SDE minus FMV wage) | $60,000 |
| Purchase price (ROI cash divided by 33% | $181,818 |
| SP/SDE = | 1.82 |

| Company | Region |
|---|---|
| The Little Widget Company | South |
| sde | $100,000 |
| fmv wage = | $60,000 |
| Buyer's ROI = | 33% |
| cash availabe for ROI (i.e., Total SDE minus FMV wage) | $40,000 |
| Purchase price (ROI cash divided by 33% | $121,212 |
| SP/SDE = | 1.21 |

| Company | Region |
|---|---|
| Central Widget, Inc | Midwest |
| sde | $300,000 |
| fmv wage = | $40,000 |
| Buyer's ROI = | 33% |
| cash availabe for ROI (i.e., Total SDE minus FMV wage) | $260,000 |
| Purchase price (ROI cash divided by 33% | $787,879 |
| SP/SDE = | 2.63 |

| Company | Region |
|---|---|
| Central Widget, Inc | South |
| sde | $300,000 |
| fmv wage = | $60,000 |
| Buyer's ROI = | 33% |
| cash availabe for ROI (i.e., Total SDE minus FMV wage) | $240,000 |
| Purchase price (ROI cash divided by 33% | $727,273 |
| SP/SDE = | 2.42 |

| Company | Region |
|---|---|
| Gigantic Widgets, Inc | Midwest |
| sde | $1,000,000 |
| fmv wage = | $40,000 |
| Buyer's ROI = | 33% |
| cash availabe for ROI (i.e., Total SDE minus FMV wage) | $960,000 |
| Purchase price (ROI cash divided by 33% | $2,909,091 |
| SP/SDE = | 2.91 |

| Company | Region |
|---|---|
| Gigantic Widgets, Inc | South |
| sde | $1,000,000 |
| fmv wage = | $60,000 |
| Buyer's ROI = | 33% |
| cash availabe for ROI (i.e., Total SDE minus FMV wage) | $940,000 |
| Purchase price (ROI cash divided by 33% | $2,848,485 |
| SP/SDE = | 2.85 |

The percentage spreads of the SP/SDE ratios between the Midwest and the South for the different size companies are

Small = The Midwest SP/SDE is 50% greater than the South
Medium = The Midwest SP/SDE is 8.7% greater than the South
Large = The Midwest SP/SDE is 2% greater than the South

The conclusion from this presentation is that when valuing a company via the market approach based on the IBA data or BIZCOMPS, one should strive to select the comparable transactions from the same area of the country. With BIZCOMPS that would be Northeast, South, Midwest and West. If this is not possible, then the analyst may want to consider making a regional adjustment to the selling price or SP/SDE ratio for comparables selected from an area different from the subject company such that the adjusted comparable value would represent an "as though from the same area" value.

Toby Tatum, MBA, CBA is the owner of Alliance Business Appraisal in Reno, Nevada. He is both a practicing business appraiser and business broker. He is the author of *Anatomy of A Business Purchase Offer: Step-by-Step Procedures for Preparing a Successful Offer, 2nd Edition; Transaction Patterns: Obtaining Maximum Knowledge from the BIZCOMPS Database;* and *Pricing A Small Business For Sale: A Practical Guide for Business Owners, Business Brokers, Buyers and Their Advisors.*