

IMPACTS OF CONSTRUCTION MARKETS ON FIRM PERFORMANCE AND BEHAVIORS IN THE SECONDARY WOODWORKING INDUSTRY, 2010-2013

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Abstract.—Despite the severe downturn in the housing market that began in 2007, construction-related uses collectively remain the largest source of demand for appearance-grade hardwood lumber in the United States. Therefore, industry practitioners and researchers alike maintain an interest in housing and construction trends. This study investigated market conditions from the perspective of secondary woodworkers via 4 years of data from subscribers to "Wood & Wood Products" (now named "Wood Products") magazine. The series began in February 2010 (for the year 2009) and surveys were conducted in February/March 2011, 2012, and 2013. Year-over-year sales volume consistently improved for responding companies, with 58 percent of companies reporting an increase in sales from 2011 to 2012. However, this trend corresponded with a decline in the overall number of companies in operation. The residential remodeling market became more important to secondary manufacturers after 2009 as production associated with new construction declined. Overall economic conditions and development of new products were rated as factors that had helped companies increase sales during the period. The housing market, remodeling expenditures, offshore competition, and entry of domestic competitors all were rated as causes of sales declines during the period. As most companies pursued both cost reduction and revenue-seeking strategies to weather the housing downturn, referrals and following up on leads were rated by respondents as the most frequently used types of marketing communications; referrals were especially important for smaller firms.

INTRODUCTION

Given the importance of construction-based markets to demand for hardwood products, uncertainty regarding housing and related building activity remains an important issue for the industry (Bumgardner et al. 2011). Understanding the performance trends and behaviors of secondary woodworking manufacturers is important to researchers and practitioners alike when developing outreach and operating strategies to address current business conditions. For example, considering the prevalence of small firms in the secondary woodworking industry, it might be expected that actions aimed at finding new revenue sources to generate cash flow have been especially important to survive the downturn (Latham 2009). Buehlmann et al. (2013) recently found that marketing activities were rated as more important to business success by small woodworking firms than by large ones, even though small firms have been shown in other studies to face difficulties in carrying out many traditional marketing activities (Gilmore et al. 1999, Huang and Brown 1999). This paper presents analysis and discussion of 4 years of data collected from subscribers to a major trade publication involved in secondary wood products manufacturing to shed light on the actions firms have taken to remain profitable.

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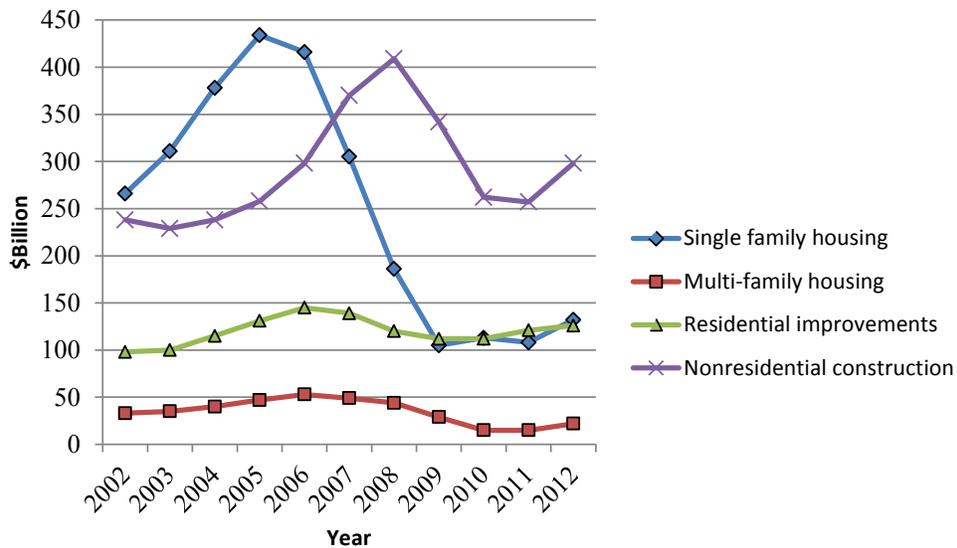


Figure 1.—Value of private U.S. construction put in place, 2002-2012 (U.S. Census Bureau 2013a).

Although construction markets in many areas remain challenging, national data showed improvements in 2012 (U.S. Census Bureau 2013a). Figure 1 displays the value of private construction in the United States, which increased in all major categories from 2011 to 2012, ranging from a 4-percent increase in residential improvements (or remodeling) to a 48-percent increase in multi-family housing. Despite the large proportional increase, multi-family remained by far the smallest market based on value. Single family construction and nonresidential construction also increased by 22 percent and 16 percent, respectively. For the fourth straight year, spending on remodeling was very similar to spending on single family housing construction. This result likely reflects, in part, an aging U.S. housing stock (Bumgardner et al. 2011) and plans by many homeowners to remain in their current homes for a longer time (or choosing not to move at all). Remodeling expenditures remained relatively stable throughout the past 10 years, including during the highest and lowest points of the housing market.

The trend also shows continued softness in the single family market compared to the early 2000s, when single family value surpassed that of the nonresidential construction market. Single family housing starts have seemingly stabilized since the precipitous fall that started after the peak in 2005; starts increased from about 431,000 in 2011 to about 535,000 starts in 2012 (U.S. Census Bureau 2013b), representing a 24-percent increase and the highest level in 4 years. Still, single family starts in 2012 were only about a third of the nearly 1.7 million starts in 2005 (Fig. 2). Correspondingly, total employment in both the wood kitchen cabinets and countertops (NAICS² 33711) and millwork (NAICS 32191) industries each declined by 46 percent from 2006 (a peak employment year for both industries) to 2012 (U.S. Bureau of Labor Statistics 2013).

Against this backdrop, the objective of this paper was to describe and analyze, from the perspective of active secondary woodworkers, what changed over the past 4 years in terms of market conditions, performance trends, and the actions taken to remain profitable.

² NAICS stands for the North American Industry Classification System.

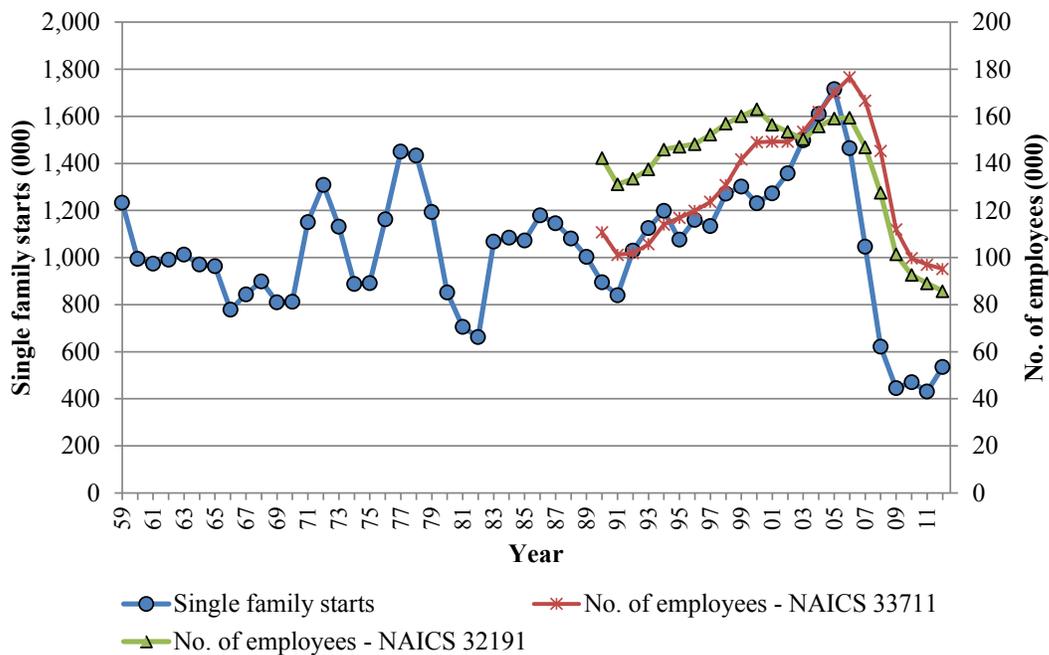


Figure 2.—Single family housing starts from 1959 to 2012 (U.S. Census Bureau 2013b), and number of employees in the wood kitchen cabinets and countertops industry (NAICS 33711) and millwork industry (NAICS 32191) from 1990 to 2012 (U.S. Bureau of Labor Statistics 2013).

METHODS

Beginning in February 2010 (assessing data for 2009), an annual online survey has been conducted by "Wood & Wood Products" (now named "Wood Products") magazine of its secondary woodworking subscribers in February/March to assess performance, behaviors, and perceptions of market conditions in housing and related construction markets. The number of responses from 2010 through 2013 is shown in Table 1, and ranged from 359 in 2010 to 244 in 2013. The number of invitations sent each year ranged from about 9,000 to 13,000, except for 2010, when it was 786 (Bumgardner et al. 2011). Most respondents each year were either company owners or in positions of corporate/operating management (ranging from 67 to 72 percent), and each year respondents represented firms in at least 41 states. More than 80 percent of responses each year were received from firms with only one manufacturing facility.

Statistical analyses were carried out by using SAS Enterprise Guide 4.3 (SAS Institute Inc., Cary, NC). An alpha level of 0.10 was used for all tests. For comparisons across study years for interval-level (i.e., scaled) responses, one-way analysis of variance (ANOVA) was used to determine if there were differences among means. Homogeneity of variance (HOV) was tested by using Levene's test and the Brown-Forsythe test, two common HOV tests available in SAS Enterprise Guide. When the null hypothesis of equal variances was rejected by at least one of the HOV tests, Welch's ANOVA was used. Each year was treated as an independent sample because the number of repeat respondents was somewhat low year-over-year (22 percent for 2011-2010, 19 percent for 2012-2011, and 16 percent for 2013-2012). Additionally, as shown in Table 1, the groups were generally similar in composition each year in terms of the main products produced, firm size, wood materials used, and price-points of primary products.

For frequency count data, chi-square tests were used. For two-group comparisons of interval-level data (i.e., comparing small and large firms on scaled responses), two-tailed *t* tests were used. When there was a difference in variances between the groups (*F* test), the Satterthwaite method was used.

Table 1.—Comparison of firm characteristics for respondents by study year (N=359 in 2010, 325 in 2011, 307 in 2012, and 244 in 2013)

Firm characteristics	2010	2011	2012	2013
Main products produced:		Percent		
Kitchen/bath cabinets	36	44	41	42
Household furniture	8	7	13	14
Architectural fixtures	8	7	10	8
Molding/millwork	13	11	11	11
Dimension or components	5	3	4	6
Office/hospitality/contract furniture	7	6	7	7
Other	23 ^a	21	14	12
Total sales:				
Less than \$1 million	45	52	56	56
\$1 to \$10 million	33	24	27	21
\$11 million or more	23	24	17	23
Wood material used:				
Mostly solid wood	29	26	28	36
Mostly wood composite or engineered products	12	9	12	8
A combination of solid and composites	57	62	59	54
Other	2	3	1	2
Price-point of primary product:				
Low to medium	8	11	10	6
Medium	28	24	20	25
Medium to high	54	54	56	56
High	10	11	16	11

^a Yearly totals may not sum to 100 percent due to rounding

RESULTS AND DISCUSSION

Changes in Sales Performance

Analysis of year-over-year sales performance across the 4 years of the study revealed improvement in terms of those firms reporting positive changes. In 2009, a full 60 percent of respondents indicated that their sales volume was “off by 20% or more” from 2008, and 80 percent indicated that sales volume had declined overall. For 2012, the number in the “off by 20% or more” category had decreased to just 15 percent (Fig. 3). Most respondents were in a category on the positive side of the ledger in 2012. Twenty-five percent of respondents realized somewhat better sales (“up by 10%”) from 2011 to 2012. Overall, 58 percent of respondents reported an increase in sales volume from 2011 to 2012, which corresponds with the mild improvements witnessed in construction at the national level (Fig. 1). Although these trends are generally positive, 31 percent of respondents still reported losing sales volume from 2011 to 2012, with 2011 having already been a challenging year for many manufacturers.

Another dynamic at work is a decline in the number of establishments in the overall secondary woodworking industry since the housing downturn began. For example, the number of establishments in the wood kitchen cabinets and countertops (NAICS 33711) and millwork (NAICS 32191) industries declined by 22 and 19 percent, respectively, from 2008 to 2012 (U.S. Bureau of

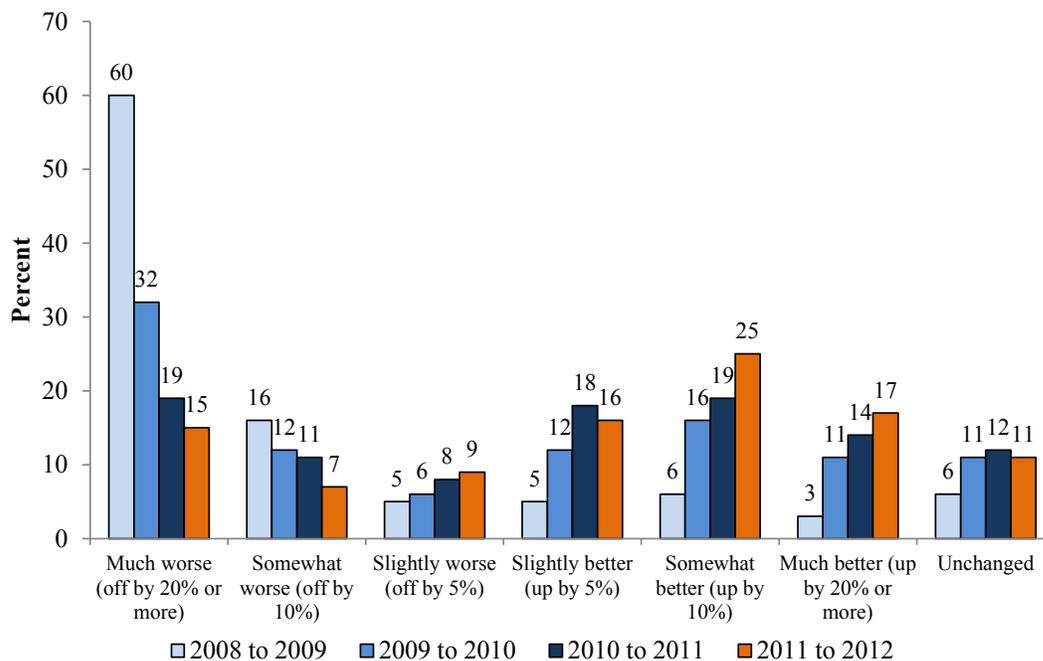


Figure 3.—Responses to the question, “Compared to the previous year, last year’s sales volume was . . .” by year (p -value < 0.01 for chi-square test of associated frequency counts).

Labor Statistics 2013). Having fewer competitors helps surviving firms increase their sales, even in a down market.

Changes in Markets Served

Respondents were asked to indicate the proportion of their production volume associated with several construction markets. Results are shown in Figures 4, 5, and 6. Although it appeared there was some movement back into single family residential construction in 2012 (as the relative number of companies in the “0%” category declined to near 2009 levels), the results were not significant (Fig. 4). For 2012, 26 percent of respondents indicated that “61-100%” of their production volume was directly associated with the new single family residential construction market. At the same time, the residential repair and remodeling market also maintained an important share in the “61-100%” production volume category in 2012, staying nearly level with 2011 at 27 percent (Fig. 5). Although the general trend was not significant for residential repair and remodeling across all four categories, the results became significant when combining categories to isolate the “61-100%” category, which was higher after 2010. This outcome is likely a reflection, in part, of some movement out of single family construction. As an indication of the importance of remodeling markets, only small percentages of respondents indicated no production dedicated to repair and remodeling, in contrast with single family construction, where nearly a quarter of respondents consistently reported having no production activity.

Last, nonresidential construction remained important for some woodworkers, but a majority continued to indicate this market accounted for no more than 20 percent of their production volume (Fig. 6). Still, for 2012, 77 percent of respondents reported at least some activity in nonresidential construction, which represents an alternative to residential construction. However, there was no discernible trend evident for 2012 in this market. A decline in the “1-20%” category was offset by small increases in the other categories, and the changes were not significant overall.

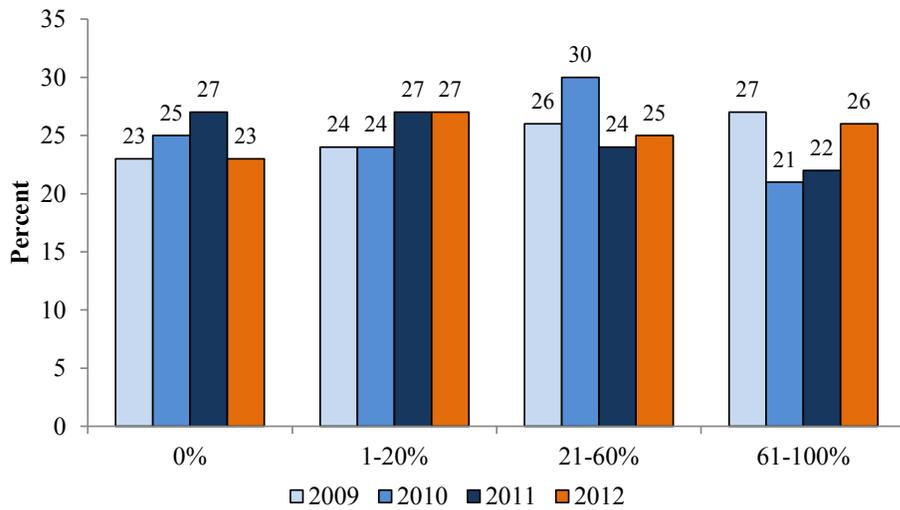


Figure 4.—Proportion of production volume associated with the new single family residential construction market (p -value = 0.519 for chi-square test of associated frequency counts).

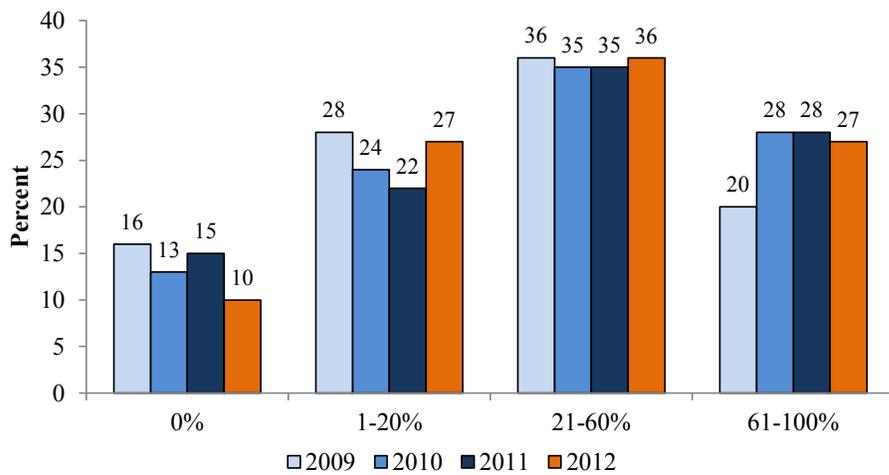


Figure 5.—Proportion of production volume associated with the residential repair and remodeling market (p -value = 0.141 for chi-square test of associated frequency counts; p -value = 0.036 for chi-square test when combining “0%-60%” into one category).

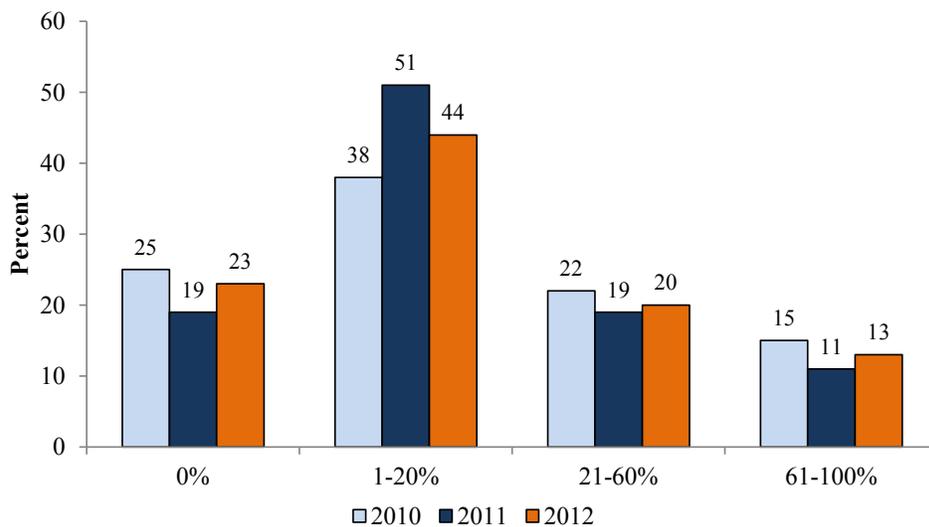


Figure 6.—Proportion of production volume associated with the nonresidential/business construction market (p -value = 0.137 for chi-square test of associated frequency counts).

Perceived Reasons for Sales Volume Increases or Declines

Each year, respondents were asked about the perceived reasons for their increased sales volume (for those firms indicating an increase; see Figure 3). Generally, respondents did not rate highly any of the possible reasons offered in the studies (Fig. 7). One of the highest rated reasons, especially in 2012, was that companies simply grew in proportion with the overall economy. This item was significantly different across years, suggesting some perceived improvement in economic conditions for 2012. Most of the actions or behaviors for increasing sale volume at the individual firm level (i.e., offering new services, entering new markets, developing new products, and productivity improvements) were rated similarly to slightly lower than in previous years, but only development of new products was significant across years. New product development was rated relatively high in 2011 but declined in 2012, perhaps as a response to improving demand conditions for surviving companies.

Generally, respondents had stronger views regarding causes for sales volume declines (for those firms indicating a decline; see Figure 3). Downturns in the housing market and in remodeling expenditures consistently were rated as the most substantial reasons for sales volume declines, and both were significant across years (Fig. 8). A declining trend was evident more recently, suggesting

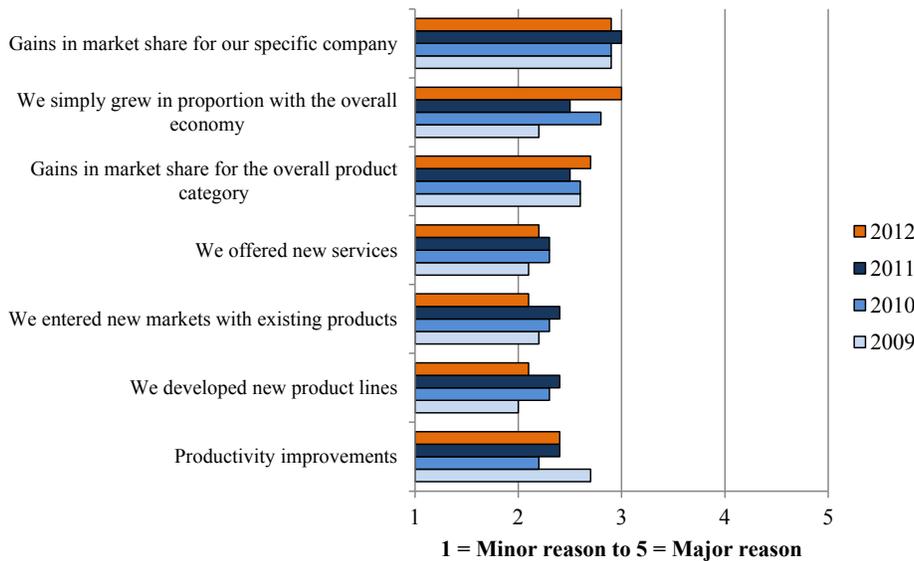


Figure 7.—Perceived reasons for sales volume increases (for those firms indicating an increase in sales, by year). The following were significant at $\alpha = 0.10$ based on a one-way ANOVA across years: “We simply grew in proportion with the overall economy”; and “We developed new product lines.”

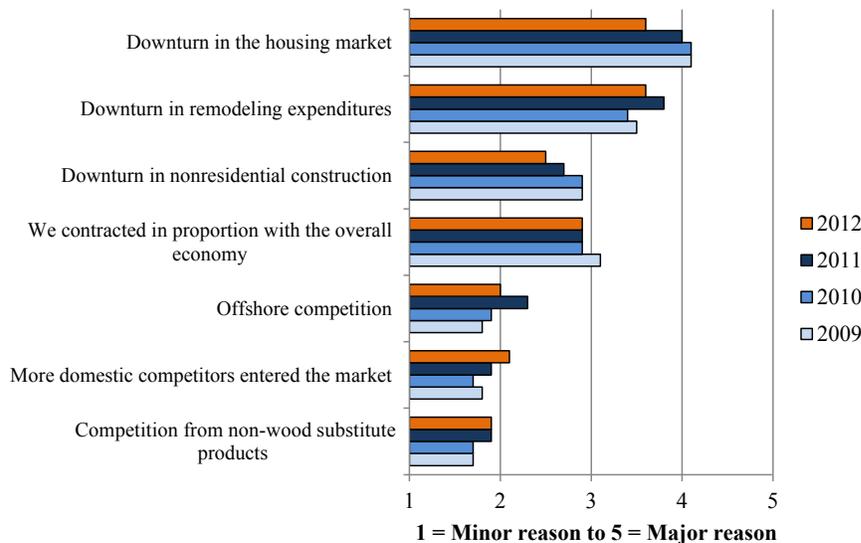


Figure 8.—Perceived reasons for sales volume declines (for those firms indicating a decrease in sales, by year). The following were significant at $\alpha = 0.10$ based on a one-way ANOVA across years: “Downturn in the housing market”; “Downturn in remodeling expenditures”; “Offshore competition”; and “More domestic competitors entered the market.”

Table 2.—Mean responses to question: “How frequently did your company use each of the following types of marketing communications (over the last three years)?” for small firms (n=136) and large firms (n=68), and t-test results

Type of marketing communication	Small firms (mean) ^a	Small firms (sd)	Large firms (mean)	Large firms (sd)	t	p
Referrals	4.2 ^b	(1.0)	3.7	(1.0)	3.11	0.002^c
Contacting initial leads to follow up	3.3	(1.3)	3.3	(1.1)	-0.25 ^d	0.801
Calling past customers	2.6	(1.3)	3.5	(1.2)	-4.88	<0.001
Visiting potential or past customers	2.5	(1.2)	3.6	(1.2)	-6.37	<0.001
Social networking	2.4	(1.4)	2.7	(1.2)	-1.52	0.130
Updates/postings to company Web site	2.4	(1.5)	3.5	(1.2)	-5.69 ^d	<0.001
Emails sent to past customers	2.1	(1.3)	2.9	(1.3)	-4.27	<0.001
Print advertising	2.0	(1.2)	2.1	(1.1)	-0.76	0.449
Emails sent to potential new customers	2.0	(1.2)	2.9	(1.2)	-5.19	<0.001
Cold-calling potential new customers	1.8	(1.2)	2.8	(1.3)	-5.76	<0.001
Mailings sent to potential new customers	1.5	(0.9)	2.3	(1.2)	-4.59 ^d	<0.001
Trade show exhibits	1.5	(0.9)	2.5	(1.4)	-5.52 ^d	<0.001
Mailings sent to past customers	1.5	(1.0)	2.5	(1.4)	-5.06 ^d	<0.001

^a Means are ordered from the most to least frequently used by small firms.

^b Scale ranged from 1 = Never to 5 = Frequently.

^c Boldface values indicate significant differences in responses between small firms and large firms.

^d Based on the Satterthwaite method (for unequal variances)

some perceived improvement in residential markets (especially the housing market) in 2012. There also was a decrease in “downturn in nonresidential construction” as a reason for declining sales, but the difference across years was not significant. Interesting, too, was the significant uptick in answers suggesting that the presence of more domestic and offshore competition were causes of respondents’ sales declines. These factors were rated relatively low overall, but the trend could indicate that woodworking markets are being viewed by more firms as potentially profitable.

Marketing Communications

It was noted through qualitative analysis in the early years of the study (Bumgardner et al. 2011) that revenue-generating actions seemingly were being taken more frequently than cost-reduction activities in the height of the downturn to help firms maintain or grow their sales volume. To investigate this observation further, a line of questions in the 2012 study asked about the types of marketing communications secondary woodworkers had used over the last 3 years. Furthermore, we were interested in comparing smaller firms (1-19 employees) with larger firms (20 or more employees) to discern any possible differences, given the importance of revenue generation/cash flow to smaller firms during economic downturns (Latham 2009). Results are shown in Table 2. Across nearly all items, large firms engaged in marketing communications significantly more often than small firms. Among the highest rated communication types, large firms were especially more likely than small firms to visit potential or past customers, call past customers, and post new information to their respective Web sites. In addition, large firms tended to use email more often than small firms.

Conversely, referrals and contacting initial leads (e.g., walk-ins, calls received) to follow up were especially important to small firms. Referrals were the only item rated significantly higher by small firms than large firms. Overall, past customers appeared to be especially important to woodworkers in

the current business environment, whether being called or visited directly (especially by larger firms) or more indirectly as a source of referrals.

A related question asked respondents to indicate whether their respective firms were relying more on cost reductions or the seeking out of new revenue sources as the “primary” strategy to weather the housing downturn. The results indicated that most believed they were pursuing both equally (57 percent), whereas 18 percent were primarily seeking cost reductions and 12 percent were primarily seeking new revenue sources. The remaining 13 percent of firms indicated they were doing neither. No differences were detected across these categories between smaller and larger firms (as defined above) based on a chi-square test (p -value = 0.254).

SUMMARY AND CONCLUSIONS

Sales volume performance improved over the last 3 years for the secondary woodworking manufacturers that survived the housing downturn. Relatedly, conditions in housing and remodeling markets, as well as the overall economy, were perceived to have improved from previous years. Still, a substantial proportion of firms (about a third) reported losing sales volume in 2012 compared to 2011, suggesting that improvements were uneven and that challenges remain. For example, secondary data suggest that the number of U.S. cabinet and millwork establishments in operation has declined by nearly a quarter since 2006. Companies reported adapting to lower demand from housing markets by developing new products and remaining in close contact with past and potential new customers. Nearly all respondents reported that at least some of their production volume each year was geared toward remodeling markets, more so than for single family housing or nonresidential construction.

Referrals, following up on leads, and keeping in contact with past customers appeared to be especially important modes of marketing communication for secondary woodworkers in the current business environment. Keeping a current Web site also was relatively important for larger firms. Overall, small firms used most types of marketing communications less frequently than did larger firms, consistent with the notion that smaller firms face unique challenges in carrying out many marketing activities (Huang and Brown 1999). Thus, even though marketing activities are perceived to be especially important to success by small firms (Buehlmann et al. 2013), it seems that such firms often are relying on a limited set of basic marketing activities, i.e., referrals and following up on leads, to help generate sales and cash flow. Staying close to customers is an important advantage for smaller firms, and such focus is seen as a way to help them garner referrals to other potential customers (Gilmore et al. 1999). Cost reductions also were important to all secondary manufacturers as a means for surviving the downturn.

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