

# APPENDIX H.

## Success of Businesses in the Portland Professional Services Industries

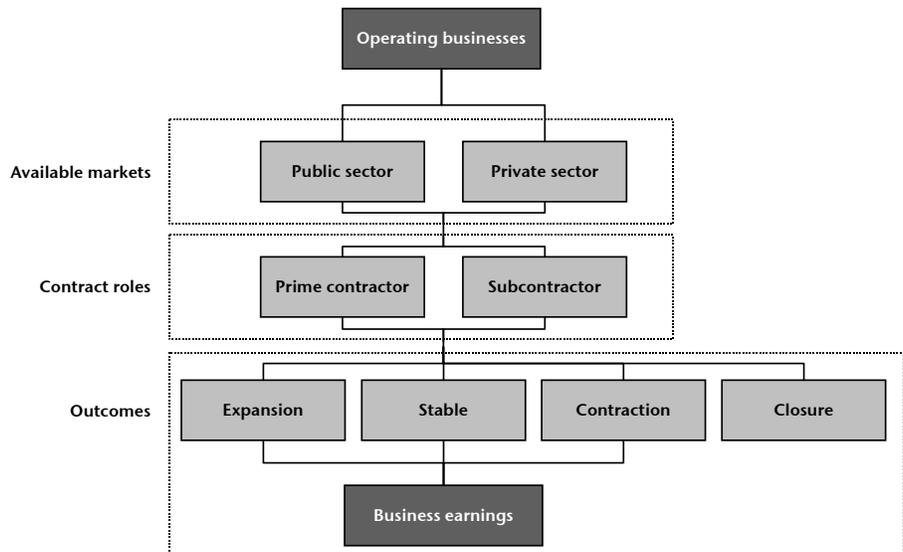
BBC examined the success of minority and women-owned firms (MBE/WBEs), assessing whether business outcomes for those firms differ from those of majority-owned firms (i.e., firms not owned by minorities or women) in the construction and the professional services industries. BBC researched outcomes for MBE/WBEs and majority-owned businesses in terms of:

- Participation in public versus private sector markets;
- Participation as prime contractors and subcontracts;
- Sizes of contracts bid on and performed;
- Businesses discontinuing operations;
- Businesses expanding or contracting;
- Business receipts and earnings; and
- Size distribution of gross revenue.

Figure H-1 provides a framework for the analysis, the components of which will be examined in this appendix.

**Figure H-1.**  
**Business success**

Source:  
BBC Research & Consulting.



The study team begins this section by examining data collected from interviews with Portland area businesses as part of BBC's availability analysis. Those data included information about firms' involvement on public and/or private sector work, including:

- Whether firms had bid on and won contracts in study industries and the size of those projects; and
- Whether firms had worked as prime contractors, subcontractors or both.

After examining data from the availability analysis, the study team then turns to federal data for the Portland Metropolitan Statistical Area (MSA), Oregon and the nation concerning business closures, expansion and contraction.<sup>1</sup> Using those data and information collected from availability interviews, BBC concludes this appendix with an analysis of business earnings.

### **Markets and Contract Roles**

As part of the disparity study, the study team performed telephone availability interviews with construction and professional services firms in the Portland MSA. The study team conducted interviews with local businesses in late 2009 and early 2010. Results provide information on public and private sector work, prime and subcontracts, and past bidding success. The study team also examined data on the largest contract that each firm was awarded. Firm owners and managers were also asked about potential difficulties in the marketplace. Appendix D describes the interview methodology in detail.

Results that the study team examined from the availability interviews pertain to businesses with Portland locations that reported working within the local construction industry.

- Because of the relatively small number of firms representing specific minority groups, BBC reports results from the availability interviews in aggregate for MBEs ("MBE," regardless of whether they are certified as such).
- Responses for white women-owned firms are shown as "WBE." Results for minority women-owned firms are reported under MBE.
- "Majority-owned firms" are all firms not owned or controlled by minorities or women.

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<sup>1</sup> In the marketplace appendices, the Portland MSA comprises the following 7 counties (unless otherwise noted): Clackamas, Clark, Multnomah, Washington, Skamania, Yamhill and Polk. Collectively these counties are referred to as the Portland MSA, or simply Portland.

**Public sector versus private sector work.** BBC examined whether minority- and women-owned firms involved in construction and professional services work were less likely to work in the private sector than the public sector.

The study team separately examined responses for firms in construction and professional services (including engineering firms) subindustries. Results indicate whether a firm had pursued public or private sector work.<sup>2,3</sup>

**Construction firms.** The pie charts in Figure H-2 present the distribution of majority-, minority- and women-owned firms competing for government and private sector prime contracts and subcontracts, based on responses from availability interviews.

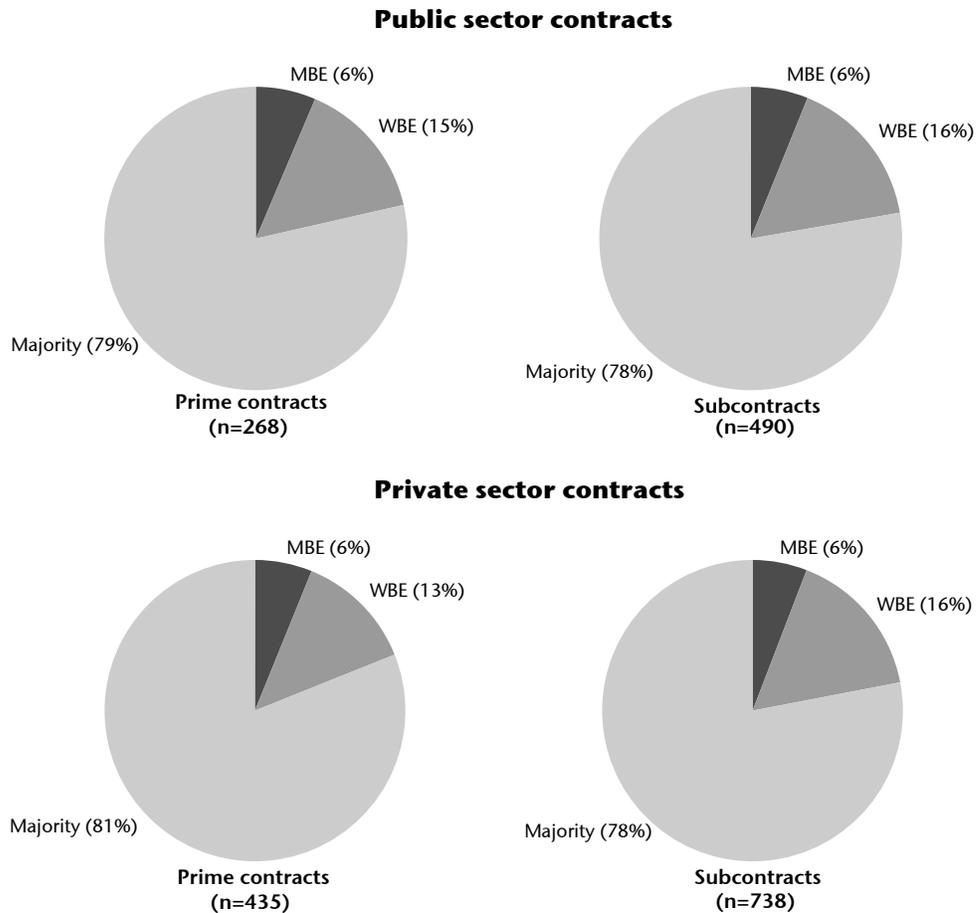
- Of the 268 construction industry firms that reported bidding on public sector prime contracts in the past five years, 79 percent were majority-owned, 6 percent were MBEs and 15 percent were WBEs. The share of firms bidding as primes that were MBE/WBEs was about the same for private sector work.
- Among the 490 firms that reported competing for public sector subcontracts, nearly 80 percent of the firms were majority-owned, 6 percent were MBEs and 16 percent were WBEs. The share of MBE/WBE firms bidding on subcontract work was the same for private sector contracts.

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<sup>2</sup> A firm was deemed to have performed or bid on public sector work if it answered “yes” to either of the following questions: (a) “Next, I have a few questions about your company’s role in construction [professional services] work. During the past five years, has your company submitted a bid or a price quote to any part of a government project in the Portland area?”; or (b) “During the past five years, has your company received an award for work as a prime contractor [consultant] or as a subcontractor [subconsultant] to any part of a government project in the Portland area?”

<sup>3</sup> A firm was deemed to have performed or bid on private sector work if it answered “yes” to either of the following questions: (a) “During the past five years, has your company submitted a bid or a price quote [proposal or qualifications] for any part of a private sector contract in the Portland area?”; or (b) “During the past five years, has your company received an award for work as a prime contractor [consultant] or as a subcontractor [subconsultant] for any part of a private sector contract in the Portland area?”

**Figure H-2.**  
**Share of construction industry firms bidding on public sector and private sector of work in Portland in the past five years**



Note: "WBE" is white women-owned firms.  
 Total may not add to 100 percent due to rounding.

Source: BBC Research & Consulting from 2009 and 2010 Availability Interviews.

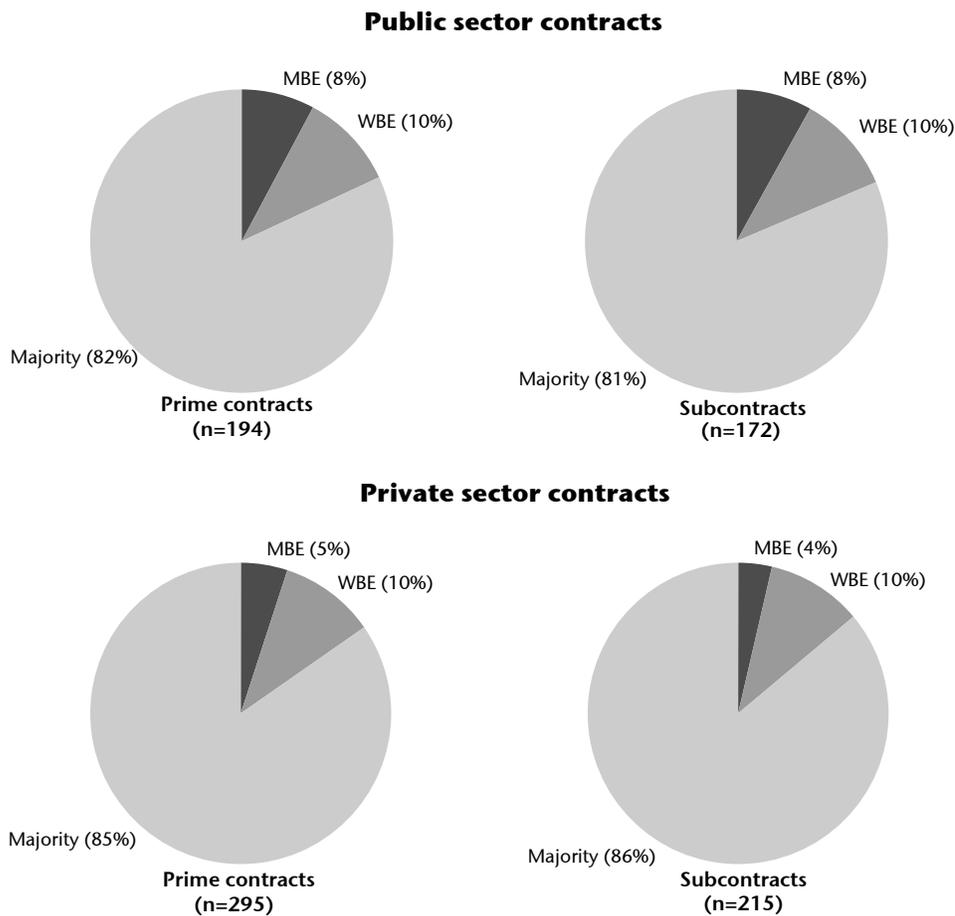
Firms competing for public sector work in Portland were also asked if they had been awarded any public sector contracts (including both prime contracts and subcontracts). When asked to consider the past five years, 77 percent of MBE and 80 percent of WBE construction firms bidding on public sector work reported that they had been successful in obtaining some work. That percentage was about the same for majority-owned construction firms bidding in the public sector (81%).

About 93 percent of MBEs and 91 percent of WBEs bidding on private sector work indicated that they had received such work. About the same share of majority-owned firms (91%) had received private sector construction prime contracts or subcontracts.

**Professional services firms.** As with construction firms, the study team analyzed the distribution of majority-, minority- and women-owned professional services firms competing for government and private sector prime contracts and subcontracts, based on responses from availability interviews.

- As shown in Figure H-3, MBE/WBEs comprise a slightly smaller share of professional services firms competing for public sector prime contracting work than for private sector prime contracting work (18% for the public sector versus 15% for the private sector).
- MBE/WBEs also comprised 18 percent of firms pursuing government professional services subcontracts, more than the MBE/WBE representation among firms seeking subcontracts in the private sector (14%).

**Figure H-3.**  
Share of professional services industry firms bidding on public sector and private sector work in Portland in the past five years



Note: "WBE" is white women-owned firms.  
Total may not add to 100 percent due to rounding.  
Source: BBC Research & Consulting from 2009 and 2010 Availability Interviews.

As with construction firms, professional services firms competing for public sector and private sector work were asked if they had received any such work in the past five years. About 57 percent of WBEs and 61 percent of MBEs indicated that they had received some public sector work. More than three-quarters (78%) of majority-owned firms said that they had received public work.

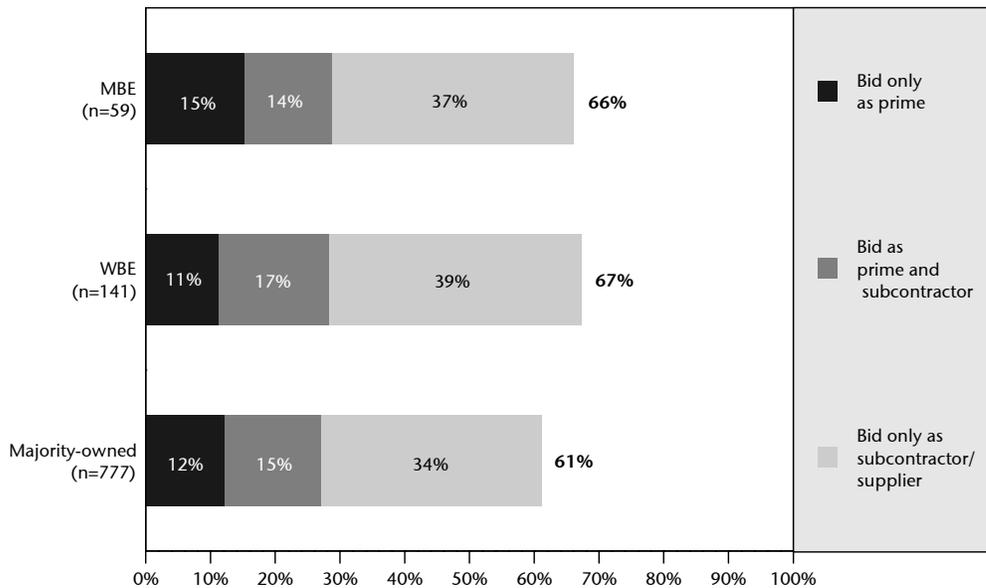
About 94 percent of MBEs and 97 percent of WBEs reported receiving at least some private sector work. A similar share of majority-owned firms (94%) reported receiving private sector work.

**Bidding as prime contractors and subcontractors/suppliers.** Figures H-4 through H-7 present the share of majority-, minority- and women-owned firms that bid on public sector or private sector work within the past five years. For the construction and professional services subindustries, the figures indicate what percentage of firms bid as a prime contractor, a subcontractor or as both. Results are reported separately for each subindustry. The following analysis draws from availability interview data.

**Construction firms.** Figure H-4 examines the share of majority-, minority and women-owned Portland construction firms that reported bidding on public sector work as a prime contractor, a subcontractor or as both.

- Approximately 61 percent of majority-owned construction firms that reported being qualified and interested in future construction work bid on public sector work as a prime contractor or a subcontractor in the past five years (including submitting price quotes). About 12 percent had bid only as a prime contractor and 34 percent had bid only as a subcontractor.
- Just over two-thirds (67%) of WBEs reported bidding on past public sector work, as shown in Figure H-6. About 11 percent had bid only as a prime contractor, and 39 percent of WBEs had bid only as a subcontractor on public sector construction work in the past five years.
- Compared to WBEs, a similar share of MBEs reported bidding on public sector work as a prime contractor or a subcontractor in the past five years. Nearly 40 percent of MBEs bid only as a subcontractor, and 15 percent bid only as a prime contractor.

**Figure H-4.**  
**Percent of construction firms that reported submitting a bid for any part of a public sector project in the past five years**



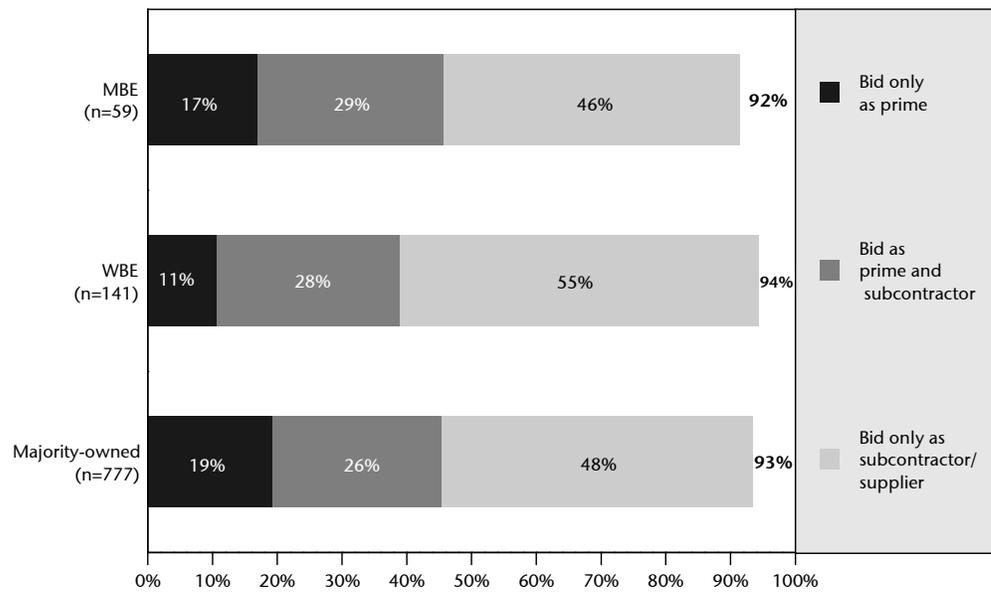
Note: "WBE" is white women-owned firms.

Source: BBC Research & Consulting from the 2009 and 2010 Availability Interviews.

The study team also asked firm owners and managers if the firm had bid on a private sector construction project in the past five years. The proportion of construction firms that bid as prime contractors or as subcontractors on private sector work in the past five years was similar for majority-owned firms, MBEs and WBEs (see Figure H-5).

- Approximately 93 percent of majority-owned firms, 92 percent of MBEs and 94 percent of WBEs reported submitting bid or price quotes for private sector work in the past five years.
- The share of majority-owned construction firms (45%) and MBEs (46%) that bid on prime contracts was similar. The proportion of WBEs that bid on prime contracts was slightly lower (39%).

**Figure H-5.**  
**Percent of construction firms that reported submitting a bid for any part of a private sector project in the past five years**



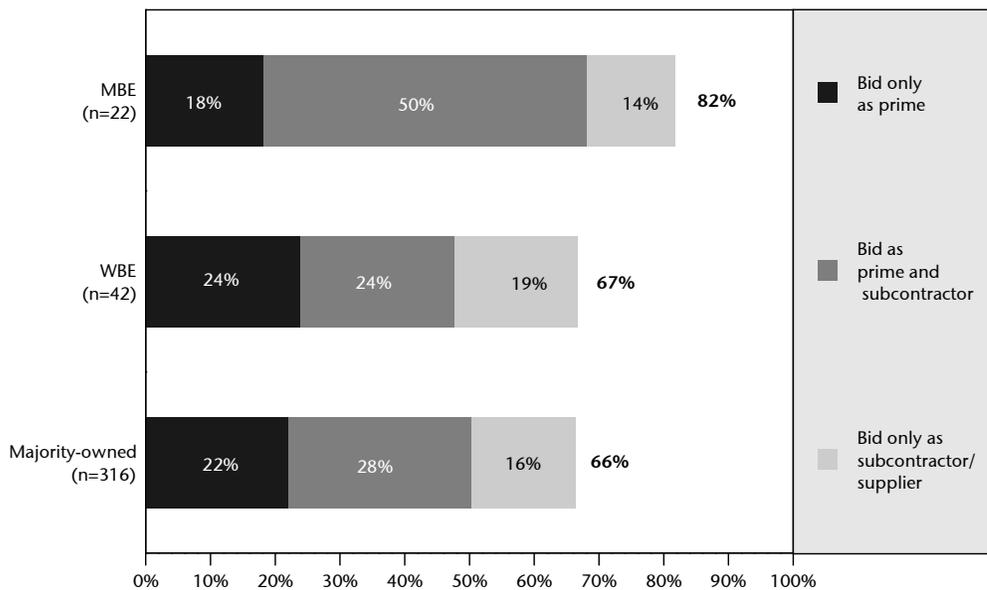
Note: "WBE" is white women-owned firms.

Source: BBC Research & Consulting from 2009 and 2010 Availability Interviews.

**Professional services.** Figures H-6 and H-7 examine prime contract versus subcontract bidding on professional services contracts, based on data from the availability interviews.

- Figure H-6 shows that WBEs were about as likely as majority-owned firms to bid on public sector professional services contracts as prime contractors. Half of majority-owned firms and 48 percent of WBEs had bid as a prime contractor on public sector work in the past five years.
- Relative to WBEs and majority-owned firms, MBEs (68%) were more likely to bid as a prime contractor on public sector work in the past five years. Overall, a larger share of MBEs reported bidding on public sector professional services contracts within the past five years.

**Figure H-6.**  
**Percent of professional services industry firms that reported**  
**Submitting a bid for any part of a public sector project in the past five years**



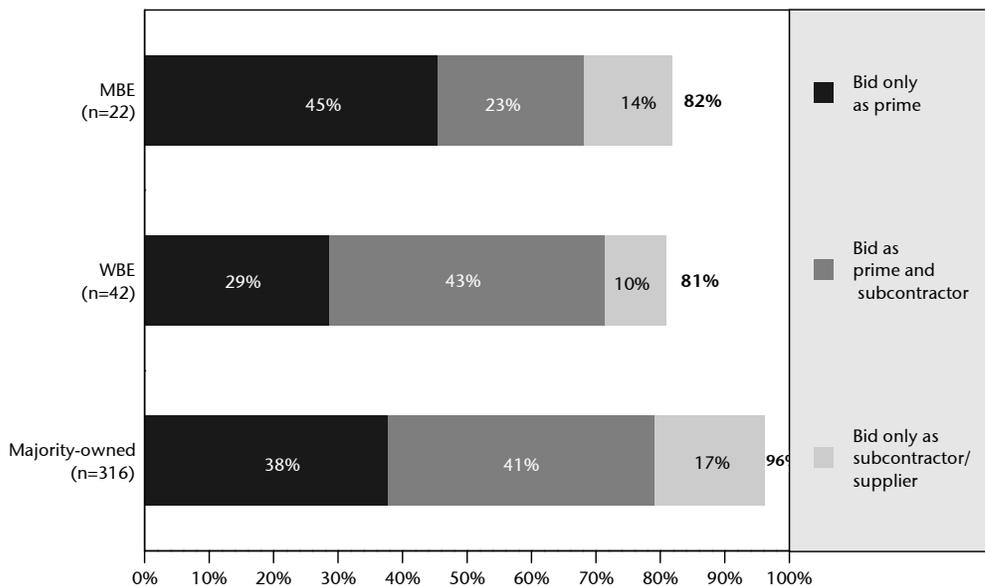
Note: "WBE" is white women-owned firms.

Source: BBC Research & Consulting from the 2009 and 2010 Availability Interviews.

Figure H-7 presents results for professional services firms bidding on private sector work in the past five years.

- Approximately 96 percent of majority-owned firms had bid on private sector professional services work in the past five years. Figure H-7 shows that a smaller share of both MBEs (82%) and WBEs (81%) had bid on private sector contracts within the past five years.
- Majority-owned professional services firms were also more likely to bid on private sector prime contracts. About 80 percent of majority-owned firms had submitted a bid or price quote as prime contractors in the past five years. About two-thirds of MBEs and 72 percent of WBEs had bid on such prime work in the past five years.

**Figure H-7.**  
**Percent of professional services industry firms that reported**  
**Submitting a bid for any part of a private sector project in the past five years**



Note: "WBE" is white women-owned firms.

Source: BBC Research & Consulting from the 2009 and 2010 Availability Interviews.

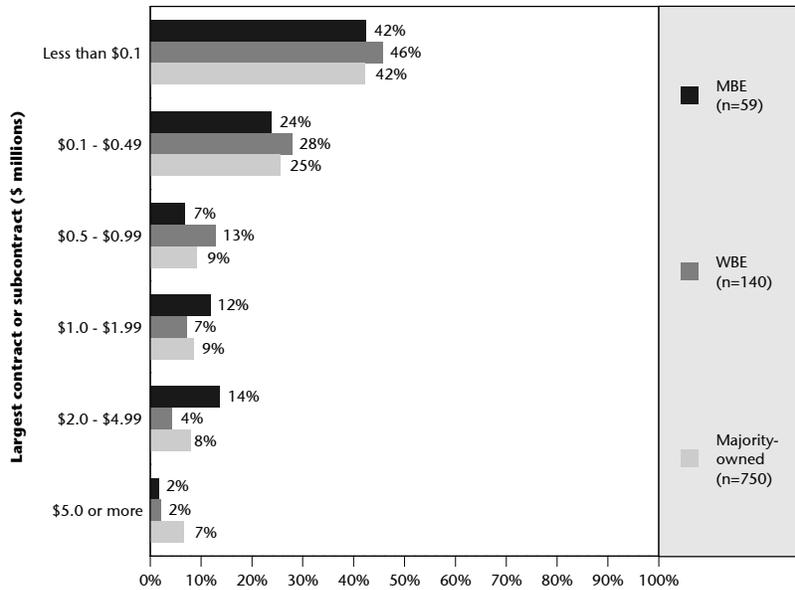
**Largest contract.** As part of the availability interviews, the study team asked firms to identify the largest contract each firm was awarded in Portland in the past five years.

**Construction firms.** Among construction firms in the availability interviews, 24 percent of majority-owned firms reported that the largest contract they received was worth \$1 million or more. A slightly larger share of MBEs (28%) reported that they had received a contract of this size, while only 13 percent of WBEs won work worth \$1 million or more. Only 2 percent of MBE/WBEs received work worth \$5 million or more, whereas 7 percent of majority-owned firms were awarded contracts of that size or larger.

**Figure H-8.**  
**Largest contract or subcontract that the company received in Portland in the past five years, construction firms**

Note:  
 "WBE" is white women-owned firms.

Source:  
 BBC Research & Consulting from 2009 and 2010 Availability Interviews.

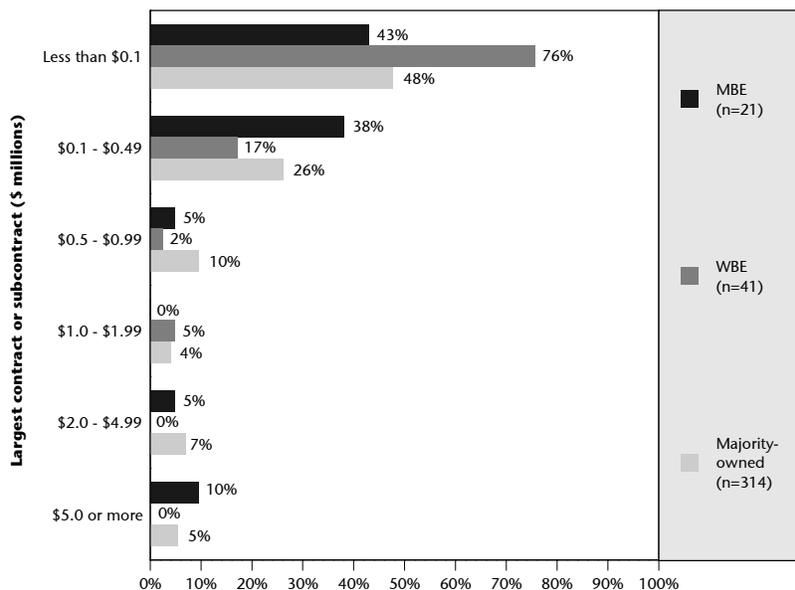


**Professional services firms.** Among professional services firms, a larger share of MBEs (10%) than majority-owned firms (5%) reported that the largest contract that they received was worth \$5 million or more. No WBEs reported receiving any work worth \$2 million or more. Over three-quarters of WBEs reported that the largest professional services contract that they won in the past five years was less than \$100,000. Only five percent of WBEs indicated that they had been awarded a contract worth \$1 million or more. Compared to majority-owned firms (74%), a larger share of MBEs (81%) reported that the largest contract they had been awarded in the past five years was worth less than \$500,000.

**Figure H-9.**  
**Largest contract or subcontract that the company received in Portland in the past five years, professional services firms**

Note:  
 "WBE" is white women-owned firms.

Source:  
 BBC Research & Consulting from 2009 and 2010 Availability Interviews.



**Summary of public versus private sector and prime versus subcontracting analyses.**

The availability interviews revealed some similarities and some differences between MBE/WBEs and majority-owned firms related to public versus private sector work:

- The telephone interview results for firms in the transportation construction industry found no indication that MBE/WBEs are less likely to have pursued work in the private sector than the public sector. MBE/WBEs that had bid on public and private sector work were also about as successful in obtaining work as majority-owned firms.
- More MBE professional services firms reported pursuing prime contracts in the public sector than majority-owned professional services firms. Majority-owned firms were more likely to have bid or proposed on private sector professional services prime contracts than MBE/WBEs. There is some evidence that MBE/WBE professional services firms bidding on public sector prime contracts or subcontracts were not as successful in obtaining at least some public sector work as majority-owned firms.

BBC identified some differences in bidding as primes versus subcontractors/suppliers between WBE and majority-owned construction and professional services firms:

- For both public and private sector work, WBE construction firms were more likely than majority-owned firms to have only bid as subcontractors or supplier. WBEs were less likely than majority-owned firms to have bid as primes on private sector construction work.
- Among professional services firms, WBEs were less likely to bid as prime contractors on both public and private sector work than majority-owned firms.

Among available construction firms, more majority-owned firms than MBE/WBEs had received contracts or subcontracts of at least \$0.5 million in size. However, relative to majority-owned firms, a larger share of MBE professional services firms received contracts or subcontracts of at least \$0.5 million in size. No WBE professional services firms indicated that they had received work worth \$0.5 million or more.

**Bid capacity.** Some recent legal cases regarding race- and gender-conscious contracting programs have considered the issue of the “relative capacity” of firms included in an availability analysis.<sup>4</sup> One approach to accounting for differing capacity between types of firms is to examine relatively small contracts, a technique noted in *Rothe*. In addition to examining small contracts, BBC directly measured bid capacity in its availability analysis.

**Measurement of bid capacity.** “Bid capacity” for a firm is measured as the largest contract or subcontract the firm bid on or performed in Portland within the five years preceding when BBC interviewed the firm. BBC uses bid capacity as one factor in determining whether a firm would be available to bid on specific prime contracts and subcontracts.

**Assessment of possible disparities in bid capacity of MBE/WBEs and majority-owned firms.** The availability analysis produced a database of 1,536 firms potentially available for City of Portland work.<sup>5,6</sup> The following analysis of bid capacity relies on the results of availability interviews.

One factor that affects bid capacity is the industry specializations of firms. Some industry segments, such as construction of water, sewer and utility lines, involve larger projects. Other segments, such as landscape architecture and surveying, involve smaller-scale assignments. One way of controlling for variation in bid capacities in different subindustries is to assess whether a firm has a bid capacity above or below the median level of firms in a particular subindustry. BBC can then test whether minority- and women-owned firms bid on larger or smaller contracts or subcontracts compared with other firms in the same subindustry.

Figure H-10 indicates the median bid capacity among Portland-based firms in each of the 26 industry segments within the construction and professional services subindustries included in the disparity study. Note that the survey questions regarding the largest project that firms had bid on or been awarded captured data in dollar ranges rather than in specific dollar amounts.

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<sup>4</sup> See, for example, the decision of the United States Court of appeals for the Federal Circuit in *Rothe Development Corp. v. U.S. Department of Defense*, 545 F.3d 1023 (Fed. Cir. 2008).

<sup>5</sup> One hundred and seventy-nine of these firms were not included in the availability marketplace analysis reported in this section, because they did not supply answers to survey question D2 or D4 on the Availability Survey.

<sup>6</sup> See Appendix D for further description of the survey sample and process.

**Figure H-10.**  
**Median bid capacity by subindustry**

Subindustry	Median Bid Capacity
Architecture	\$200,000 to \$500,000
Bridge construction and repair	No observations
Building construction	\$1 million to \$2.5 million
Concrete supply	\$200,000 to \$500,000
Concrete work	\$200,000 to \$500,000
Construction equipment rental	\$200,000
Construction management	\$2.5 million
Consulting services - environmental, transportation and planning	\$200,000 to \$500,000
Electrical work	\$200,000 to \$500,000
Engineering	\$200,000 to \$500,000
Excavation	\$500,000
Highway and street construction	\$1 million to \$2.5 million
Landscape architects	Less than \$200,000
Landscaping	Less than \$200,000
Other construction materials	\$200,000 to \$500,000
Other professional services	\$200,000 to \$500,000
Painting	\$200,000 to \$500,000
Plumbing and HVAC	Less than \$200,000
Roofing	\$200,000 to \$500,000
Specialty trades and other construction	\$200,000 to \$500,000
Structural steel supply	\$500,000 to \$1 million
Surveying	Less than \$200,000
Trucking	Less than \$200,000
Water, sewer and utility line construction	\$200,000 to \$500,000
Water, sewer and utility lines	Less than \$200,000
Wrecking and demolition	\$1 million to \$2.5 million

Source: BBC Research & Consulting from 2009 and 2010 Availability Interviews.

Firms with bid capacities above the median for their industry segments are counted as available for larger projects than most of the firms in their line of business (as well as being counted as available for smaller assignments). Thus, these firms figure more prominently in the availability analysis than firms with smaller bid capacities. An initial question is whether minority and women-owned firms are as likely as majority-owned firms to have above-median bid capacity for their industry segment. Figure H-11 compares the proportions of firms with above-median bid capacity by ownership.

**Figure H-11.**  
**Proportion of firms with above-median bid capacity by ownership**

Firm ownership	Proportion with above-median bid capacity	
	Construction	Construction-related professional services
African American	77.7 %	60.3 %
Asian-Pacific American	44.4	14.3
Subcontinent Asian American	66.7	0.0
Hispanic American	36.0	0.0
Native American	50.0	100.0
Female	34.3	12.8
Majority-owned	<u>37.2</u>	<u>30.3</u>
<b>All firms</b>	<b>37.2 %</b>	<b>28.0 %</b>

Source: BBC Research & Consulting from 2009 and 2010 Availability Interviews.

**Construction.** The results shown in Figure H-11 indicate that, in aggregate, the proportion of MBEs that have an above-median bid capacity (44%) is higher than the share of majority-owned firms with above-median bid capacity (37%). Over three-quarters of African American-owned firms have an above-median bid capacity. Hispanic-owned firms had the lowest share of MBEs with an above-median bid capacity (36%). In aggregate, WBEs had the lowest share of firms with above-median bid capacity in the construction subindustry (34%).

**Professional services.** Figure H-11 shows that about 30 percent of majority-owned firms have an above-median bid capacity. In aggregate, 24 percent of professional services MBEs had an above-median bid capacity, a figure lower than MBEs in construction subindustries. No Subcontinent Asian American- or Hispanic American-owned firms had an above-median bid capacity. Figure H-11 shows that all Native American-owned firms had an above-median bid capacity, but this figure is based on two observations. As with construction WBEs, professional services WBEs had the lowest share of above-median bid capacity when compared to MBEs and majority-owned firms. About 13 percent of WBEs had an above-median bid capacity.

BBC then considered whether neutral factors account for differences among groups in the probability of having above-median bid capacity and if there are statistically significant disparities in bid capacity after accounting for neutral factors.

There are a number of variables from the availability interviews that may be correlated with bid capacity — for example, annual revenues, number of employees and, potentially, whether a firm has multiple establishments in Portland. However, the direction of causation for these variables is unclear. Do firms have greater bid capacity because they have more employees, or do they have more employees because they bid on and win larger projects?

After considering the array of variables from the availability interviews, the study team determined that the age of firms was the neutral factor that might best explain differences in bid capacity (within a subindustry) while being truly external to that capacity. Theoretically, the longer firms are in business, the larger the contracts or subcontracts they might pursue.

To test this hypothesis, the study team conducted separate logistic regression analyses for the construction and professional services industries to determine whether bid capacity could be at least

partly explained by the age of the firm and whether minority- and women-owned firms differ from majority-owned firms of similar ages (after controlling for subindustry).

**Bid capacity results for Portland construction industry.** The results for the Portland construction industry are shown in Figure H-12. The results of the logistic regression indicated the following:

- The age of the firm was a significant predictor of having above-median bid capacity. The older a firm, the more likely it is to have an above-median bid capacity;
- Minority or female ownership did not have a statistically significant effect on having above-average bid capacity for firms in the construction industry.

**Figure H-12.**  
**Portland available**  
**construction industry bid**  
**capacity model**

Note:  
 \*\* Denotes statistical significance at the 95% confidence level.

Variable	Coefficient	Z-Statistic
Constant	-1.11	-8.98 **
Age of firm	0.02	6.14 **
Minority	0.51	1.85
Female	-0.13	-0.61

Source:  
 BBC Research & Consulting from 2009 and 2010 Availability Interviews.

**Bid capacity results for Portland professional services industry.** The results for the Portland professional services industry are shown in Figure H-13. The logistic regression model for the industry indicated:

- The age of the firm was a significant predictor of having above-average bid capacity for professional services firms. The older a firm, the more likely it is to have an above-median bid capacity; and
- Neither MBE nor WBE ownership had a statistically significant effect on having above-median bid capacity for firms in the professional services industry.

**Figure H-13.**  
Portland available professional services industry bid capacity model

Variable	Coefficient	Z-Statistic
Constant	-1.67	-7.31 **
Age of firm	0.04	4.66 **
Minority	-0.10	-0.18
Female	-0.88	-1.71

Note:

\*\* Denotes statistical significance at the 95% confidence level.

Source:

BBC Research & Consulting from 2009 and 2010 Availability Interviews.

## Businesses Closures, Expansions and Contractions

Having examined different markets for work, Appendix H now turns to an examination of different businesses outcomes, including closure, expansion and contraction. BBC used U.S. Small Business Administration (SBA) analyses to examine outcomes for minority- and women-owned firms in Oregon and the nation. The SBA analyses pertain to MBEs, by demographic group, in comparison with all firms.

**Business closure.** High rates of business failures may reflect adverse business conditions faced by minority business owners.

**Rates of business closures in Oregon.** BBC explored possible data sources that might indicate whether MBEs were more likely to close than other firms. Using data on firms first surveyed in the 1997 Survey of Minority- and Women-Owned Business Enterprises, conducted by the U.S. Census Bureau, the SBA reported on employer firm survival rates for MBEs between 1997 and 2001 across sectors of the economy (“employer firms” are firms with paid employees other than the business owner and family members).<sup>7,8</sup> The SBA report examined patterns in each state but not individual MSAs.

Figure H-14 shows that 56 percent of African American-owned firms operating in Oregon in 1997 had closed by 2001, a higher rate compared to that of other groups. Hispanic American- and Native American-owned firms also had above-average closure rates during this time period, while the closure rate for Asian American-owned firms was similar to the average for all firms. Disparities in closure

<sup>7</sup> Lowrey, Ying. 2005. “Dynamics of Minority-Owned Employer Establishments, 1997-2001.” U.S. Small Business Administration Office of Advocacy. Washington D.C.

<sup>8</sup> Results from the 2007 SBO will be available by the end of 2010.

rates for African American- and Native American-owned firms, compared to all firms, appear to have been somewhat higher in Oregon than in the United States during the same time period.

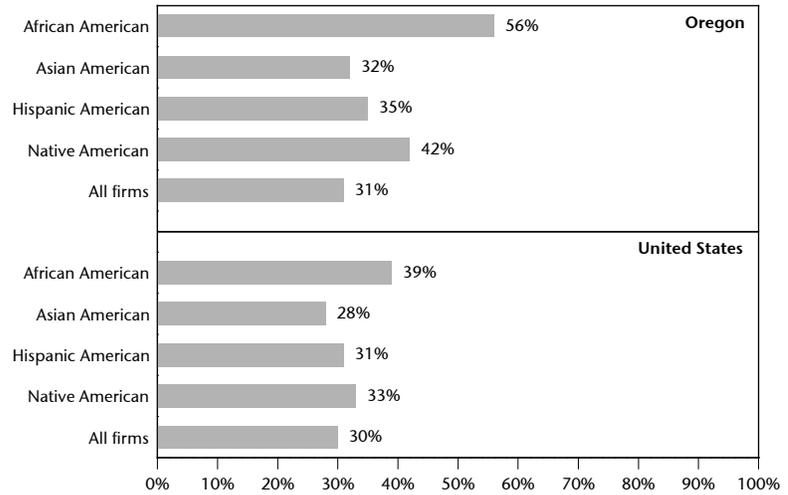
**Figure H-14.**  
**Rates of firm closure, 1997-2001, Oregon and the U.S.**

**Note:**

Data refer only to employer firms. As sample sizes are not reported, statistical significance of these results cannot be determined; however, statistics are consistent with SBA data quality guidelines.

**Source:**

Lowrey, Ying. 2005. "Dynamics of Minority-Owned Employer Establishments, 1997-2001." U.S. Small Business Administration Office of Advocacy. Washington, D.C.



**Rates of business closures by industry.** The SBA analysis examined national firm closure rates by race/ethnicity for ten industry sectors. Figure H-15 compares national rates of firm closure for two of these industry sectors: construction and services (which includes professional services). Closure rates for all industries by race/ethnicity are also shown for comparison.

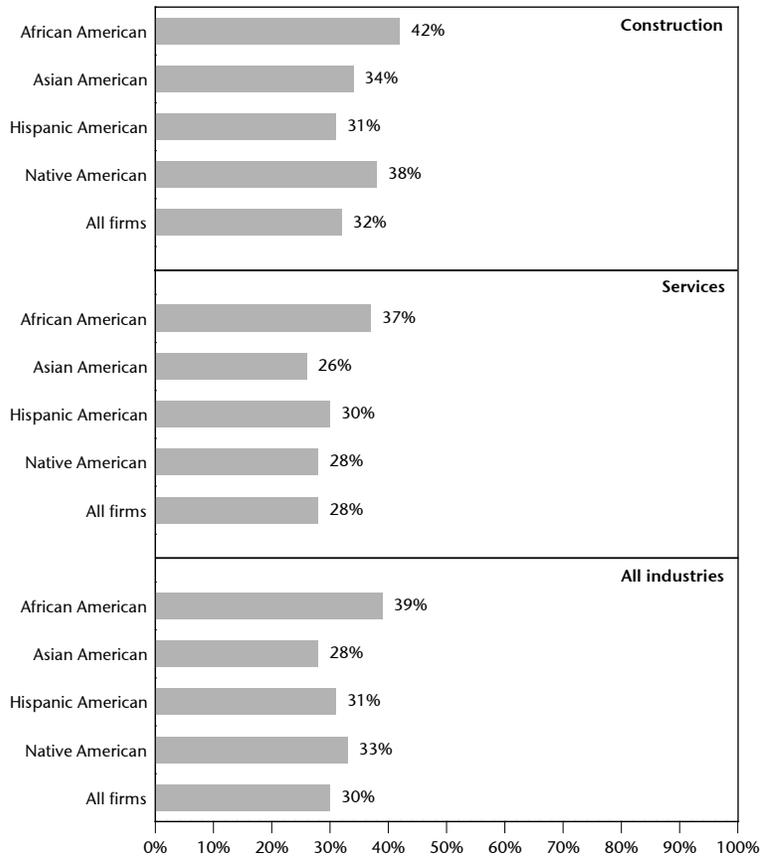
African American-owned firms had a higher than average rate of closure in the construction and services industries. Compared to all firms, Native American-owned businesses were more likely to have closed in the construction industry. Differences between the closure rate for other minority groups and that for all firms were smaller or non-existent.

The study team could not examine whether these patterns also existed in Oregon, as the SBA analysis by industry was not available for individual states.

**Figure H-15.**  
**Rates of firm closure, 1997-**  
**2001, construction, services**  
**and all industries in the U.S.**

Note:  
 Data refer only to employer firms. Sample sizes not reported, but statistics are consistent with SBA data quality guidelines.

Source:  
 Lowrey, Ying. 2005. "Dynamics of Minority-Owned Employer Establishments, 1997-2001." U.S. Small Business Administration Office of Advocacy. Washington, D.C.



**Successful versus unsuccessful closures.** Not all firm closures can be interpreted as a business “failure.” Firms may also close when an owner retires or a more profitable business alternative emerges, both of which represent successful closures.

To date, the 1992 Characteristics of Business Owners (CBO) Survey is the only dataset released by the Census Bureau that classifies firm closures into successful and unsuccessful subsets.<sup>9</sup> The CBO survey, completed in 1996, asked owners of businesses that had closed between 1992 and 1995 the question, “Which item below describes the status of this business at the time the decision was made to cease operations?” Only the responses “successful” and “unsuccessful” were permitted. A firm that reported to be unsuccessful at time of closure was understood to have failed. Figure H-16 shows comparative data for the proportion of firms that closed for failure in the U.S. between 1992 and 1995.<sup>10</sup> Failure rates are shown for all businesses and for the construction and services industries.

<sup>9</sup> CBO data from the 1997 and 2002 Economic Censuses do not include statistics on successful and unsuccessful closure. To date, the 1992 CBO is the only U.S. Census dataset that includes such statistics.

<sup>10</sup> All CBO data should be interpreted with caution due to the fact that firms that did not respond to the survey cannot be assumed to have the same characteristics of ones that did. This report does not include CBO data on overall firm closure rates because firms not responding to the survey were found to be much more likely to have closed than ones that did. Holmes, Thomas J. and James Schmitz. 1996. “Nonresponse Bias and Business Turnover Rates: The Case of the Characteristics of Business Owners Survey.” *Journal of Business & Economic Statistics*. 14(2): 231-241.

This study includes CBO data on firm success because there is no compelling reason to believe that closed firms responding to the survey would have reported different rates of success/failure than those closed firms that did not respond to the

According to the CBO, African American-owned firms were the most likely to report being “unsuccessful” at the time in which their business closed. About 77 percent of the African Americans who had owned and closed a business reported an unsuccessful business or business status. In contrast, only 61 percent of non-minority men who had owned a business said that the business was unsuccessful at time of closing. Differences in the successful versus unsuccessful closing of firms were only somewhat narrower for other groups:

- About 71 percent of Hispanic Americans who had owned and closed businesses reported the business to be unsuccessful at time of closing, a substantial difference from the result for all firms.
- About 73 percent of other minorities who had owned and closed firms reported the business to be unsuccessful, also higher than the rate for all firms.

The difference in successful versus unsuccessful closure rates for women-owned businesses was similar to that of all businesses.

In the construction industry, African American- and Hispanic American-owned businesses were more likely to report an unsuccessful closure than all firms, as were businesses owned by other minorities. Women-owned businesses were also more likely to report an unsuccessful closure compared to all businesses in the construction industry.

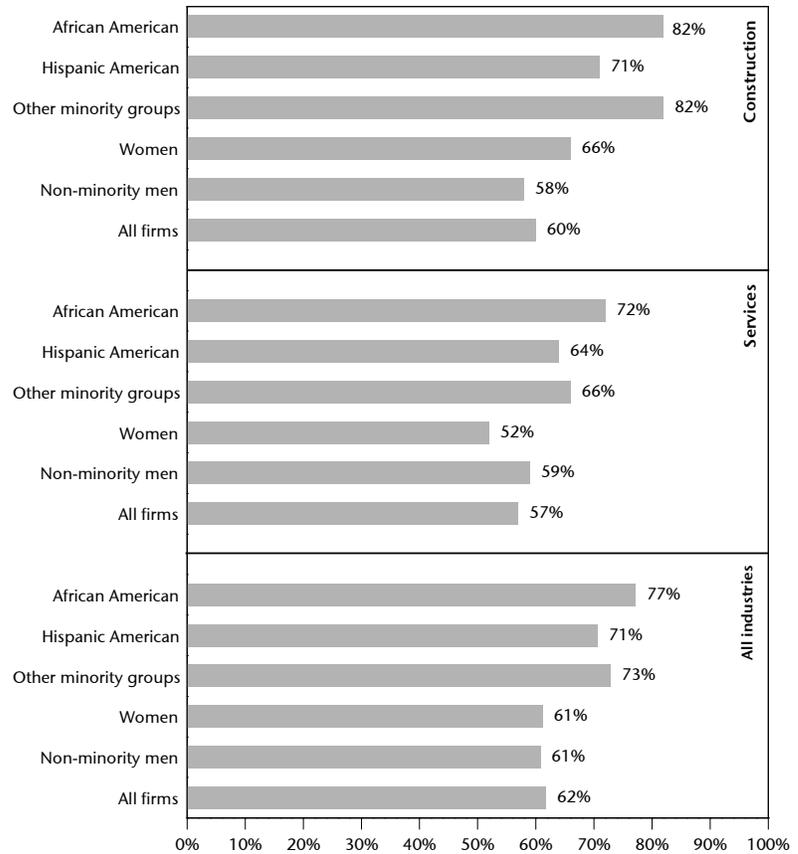
The pattern was similar in the services industry with one exception: women-owned businesses were less likely to report an unsuccessful closure than all businesses in the services industry: about 57 percent of all firms but only 52 percent of women-owned businesses reported unsuccessful closure.

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survey. Headd, Brian. U.S. Small Business Administration, Office of Advocacy. 2000. *Business Success: Factors leading to surviving and closing successfully*. Washington D.C.: 12.

**Figure H-16.**  
**Comparative “failure” rates for**  
**firms that closed between 1992**  
**and 1995**

Source:  
 U.S. Census Bureau, 1996 Characteristics of  
 Business Owners Survey (CBO).



**Reasons for differences in failure rates.** Several researchers have offered explanations for higher rates of successful closure among non-Hispanic white-owned firms and higher rates of failure among MBEs:

- MBE failure is largely due to barriers in access to capital. Regression analysis has identified initial capitalization as the most significant factor in determining firm viability. Because African American-owned businesses secure smaller amounts of debt equity in the form of loans, they are more liable to fail. Difficulty in accessing capital is found to be particularly acute for minority firms in the construction industry.<sup>11</sup>
- Prior work experience in a family member’s business or similar experiences are found to be strong determinants of business viability. Because African American business owners are much less likely to have such experience, their firms are less likely to survive.<sup>12</sup>
- Level of education is found to be a strong determinant in business survival. Level of education explains a significant portion of the gap in firm closure rates between African Americans and non-minority firms.<sup>13</sup>

<sup>11</sup> Bates, Timothy and Caren Grown. 1991. “Commercial Lending Practices and the Development of Black-Owned Construction Companies.” Center for Economic Studies, U.S. Census Bureau.

<sup>12</sup> Robb, A. and Fairlie, R. 2005. “Why are Black-Owned Businesses Less Successful than White-Owned Businesses? The Role of Families, Inheritances, and Business Human Capital.” University of California, Santa Cruz.

<sup>13</sup> Ibid. 24.

- Non-minority business owners have the opportunity to pursue a much wider array of business activities, which increases their likelihood of closing successful businesses to pursue more profitable business alternatives. Minority business owners, especially those who do not speak English, have greatly limited employment options and are less likely to close a successful business.<sup>14</sup>
- The possession of greater initial capital and the generally higher levels of education among Asian Americans determine the high rate of survival of Asian American-owned firms compared to other minority-owned firms.<sup>15</sup>

**Summary.** Available data suggest that closure rates for African American-, Native American- and Hispanic American-owned firms in Oregon are higher than for other firms. Based on national results for the construction and services industries, African American-owned firms had higher rates of closure in study industries than other firms; Native American-owned firms had higher rates of closure in construction.

National data indicate that African Americans, Hispanic Americans and other minorities who owned and closed firms are more likely than all firms to have done so because the firm was unsuccessful. Several studies have examined why business failure rates are higher for firms owned by certain minority groups at the national level.

**Comparative rates of expansion and contraction.** Comparative rates of expansion and contraction of MBE and non-MBE firms are also useful indicators of the success of minority-owned businesses. Again, only some of the data available for the nation are also available at the state level, and none is available for the Portland MSA.

**Expansion.** The SBA's 2005 study of minority business dynamics from 1997-2001 also examined the relative number of firms expanding and contracting for firms in Oregon that had paid employees at the starting time period for the analysis ("employer firms").

Figure H-17 compares the percentage of firms that increased their total employment between 1997 and 2001. Slightly less than one-third of all Oregon firms expanded according to the SBA study. Compared to all Oregon firms, African American-owned firms were much less likely to expand during the 1997-2001 time period. The relative number of Native American-owned businesses expanding was only slightly less than the rate for all firms. Results for Asian American-owned businesses were similar to that for all firms, and firms owned by Hispanic Americans were more likely to expand than all firms.

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<sup>14</sup> Bates, Timothy. 2002. "Analysis of Young Small Firms That Have Closed: Delineating Successful from Unsuccessful Closures." Center for Economic Studies, U.S. Census Bureau.

<sup>15</sup> Bates, Timothy. 1993. "Determinants of Survival and Profitability Among Asian Immigrant-Owned Small Businesses." Center for Economic Studies, U.S. Census Bureau.

Nationally, African American-owned firms were less likely to expand than all firms — a much smaller disparity compared to that observed in Oregon. A 2009 SBA study of business dynamics found that, nationwide, a similar percentage of African American-owned firms expanded during 2002-2003 compared to firms owned by other race and ethnicity groups.<sup>16</sup>

**Figure H-17.**  
**Percentage of firms that expanded employment, 1997-2001, Oregon and the U.S.**

Note:  
 Data refer only to employer firms. Sample sizes not reported, but statistics are consistent with SBA data quality guidelines.

Source:  
 Lowrey, Ying. 2005. "Dynamics of Minority-Owned Employer Establishments, 1997-2001." U.S. Small Business Administration Office of Advocacy. Washington, D.C.

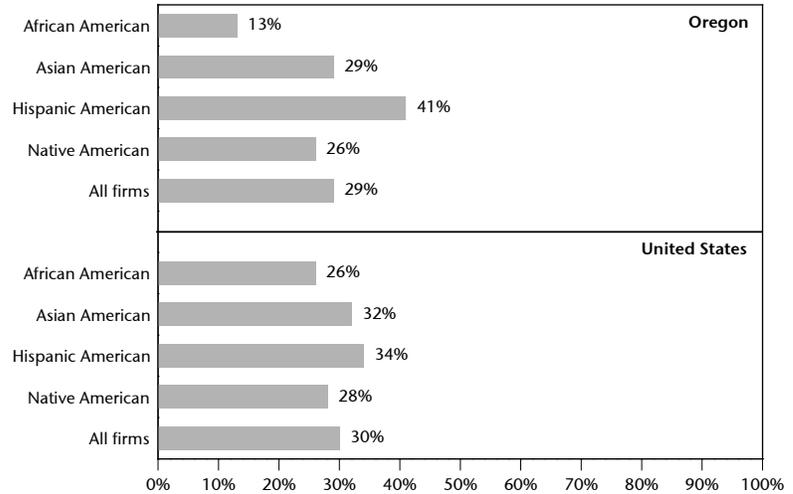


Figure H-18 shows the percentage of firms expanding in the construction and services industries in the United States. The 2005 SBA study did not separately report results for firms at the state or MSA level in individual industries. Nationally, the patterns evident for individual industries were similar to those observed for all industries:

- African American-owned firms were less likely to have expanded than all firms in construction between 1997 and 2001.
- Hispanic American-owned firms were more likely to have expanded in the construction industry than all construction firms.
- Compared to all firms, Native American-owned firms were slightly less likely to expand in the construction industry but slightly more likely to expand in the services industry.
- Asian American-owned firms were as likely as all firms to have expanded in the construction and services industries between 1997 and 2001.

<sup>16</sup> Lowrey, Ying. 2009. "Dynamics of Employer Establishments, 2002-2003." U.S. Small Business Administration Office of Advocacy. Washington D.C.

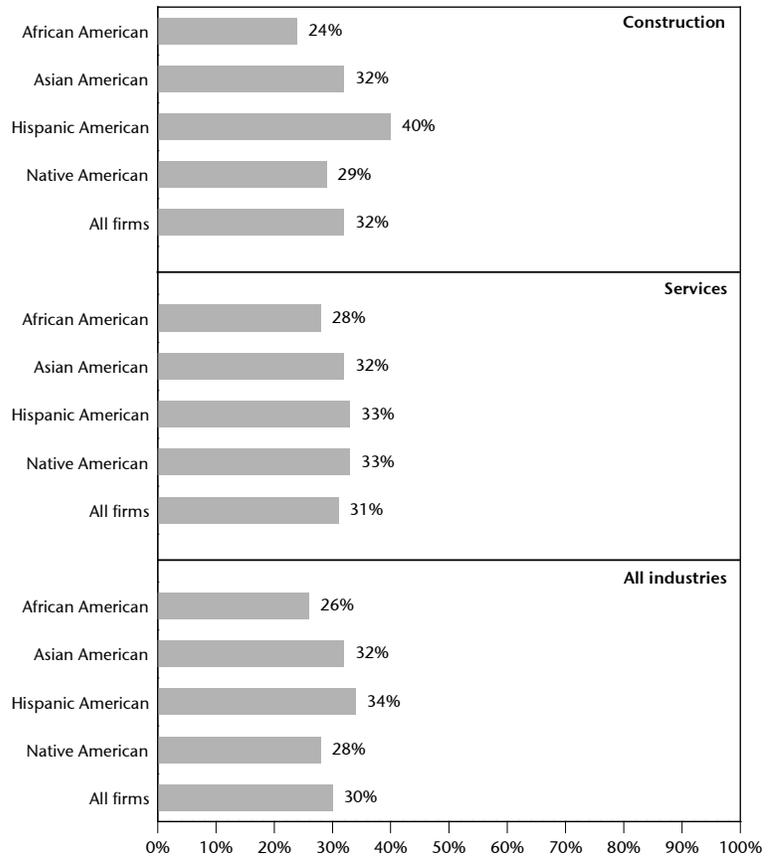
**Figure H-18.**  
**Percentage of firms that**  
**expanded employment, 1997-**  
**2001, construction, services**  
**and all industries in the U.S.**

**Note:**

Data refer only to employer firms. Sample sizes not reported, but statistics are consistent with SBA data quality guidelines.

**Source:**

Lowrey, Ying. 2005. "Dynamics of Minority-Owned Employer Establishments, 1997-2001." U.S. Small Business Administration Office of Advocacy. Washington, D.C.



**Contraction.** Figure H-19 shows the percentage of firms that reduced their employment between 1997 and 2001. As with the analysis of expanding firms, these data track the activity of firms that had paid employees in 1997. In Oregon, African American- and Hispanic American-owned firms were less likely to have contracted during 1997-2001 than all firms. Compared to all firms, Asian American-owned firms were slightly more likely to have contracted. The percentage of Native American-owned firms contracting was similar to the average for all firms.

In the United States as whole, MBEs were similar to all firms in terms of the percentage that contracted employment.

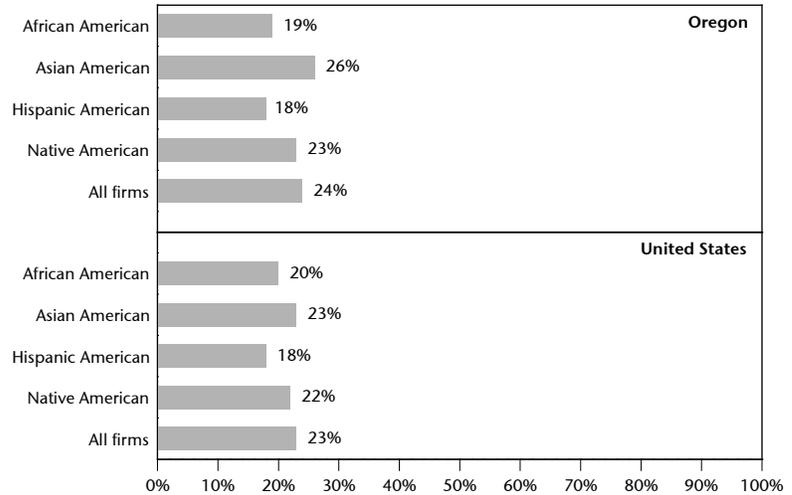
**Figure H-19.**  
**Percentage of firms that**  
**contracted employment, 1997-**  
**2001, Oregon and the U.S.**

**Note:**

Data refers only to employer firms. Sample sizes not reported, but statistics are consistent with SBA data quality guidelines.

**Source:**

Lowrey, Ying. 2005. "Dynamics of Minority-Owned Employer Establishments, 1997-2001." U.S. Small Business Administration Office of Advocacy. Washington, D.C.



The SBA study did not report state-specific results relating to contraction in individual industries. However, Figure H-20 shows the share of firms contracting for the construction and services industries at the national level.

Compared to all construction firms in the United States, a similar or smaller percentage of MBE construction firms contracted employment between 1997 and 2001. However, in the services industry, Asian American- and Hispanic American-owned firms were slightly more likely to have contracted than all firms, whereas African American- and Native American-owned firms were marginally less likely to have contracted.

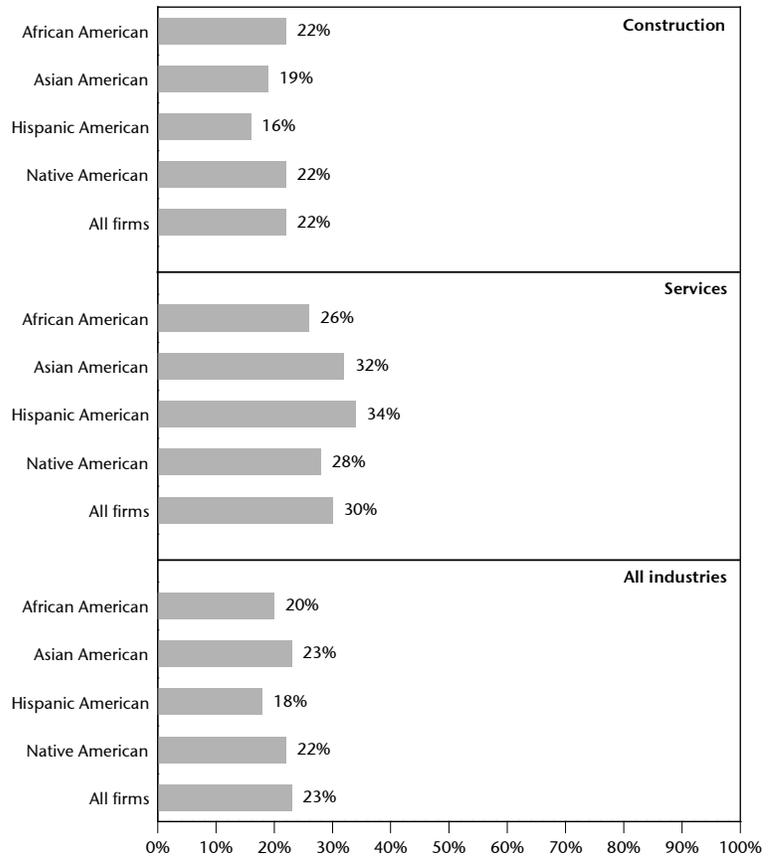
**Figure H-20.**  
**Percentage of firms that**  
**contracted employment, 1997-**  
**2001, construction, services**  
**and all industries in the U.S.**

**Note:**

Data refer only to employer firms. Sample sizes not reported, but statistics are consistent with SBA data quality guidelines.

**Source:**

Lowrey, Ying. 2005. "Dynamics of Minority-Owned Employer Establishments, 1997-2001." U.S. Small Business Administration Office of Advocacy. Washington, D.C.



**Summary.** Between 1997 and 2001, the SBA study found that 29 percent of Oregon employer firms (i.e., those with paid employees other than the business owner and family members) had expanded employment, 24 percent had contracted employment, and 31 percent had closed. In Oregon:

- Among groups examined, African American-owned firms were the most likely to close and the least likely to expand. However, African American-owned firms were less likely to contract than all firms.
- Compared to all firms, Native American-owned firms were more likely to close and less likely to expand, but not more likely to contract.
- Hispanic American-owned businesses were more likely to close than all firms. However, they were less likely to contract and more likely to expand than all firms.
- Asian American-owned firms were similar to all firms in the proportion that expanded employment and that closed during this period. However, firms owned by Asian Americans were slightly more likely to contract than all firms.

With the exception of African American-owned firms, MBEs generally fared as well or better than all firms in Oregon in terms of the percentage that expanded employment. Among businesses owned by minorities, only Asian American-owned firms were more likely to have contracted than all firms (and this difference was only marginal). Rates of firm closure for firms owned by African Americans, Hispanic Americans and Native Americans were greater than the average for all firms.

## **Business Earnings/Receipts**

Annual receipts and business earnings are also an indicator of the success of a business. The study team examined:

- Business receipts data published by the U.S. Census Bureau;
- Data on business earnings for business owners from the 2000 Census and 2006-2008 American Community Surveys (ACS); and
- Annual revenue data for construction and professional services firms in Portland collected as part of the availability interviews.

**Business receipts from 2002 survey of business owners.** BBC examined receipts for firms in the Portland MSA, Oregon and the U.S. using data from the 2002 Survey of Business Owners (SBO), conducted by the U.S. Census Bureau. BBC also analyzed receipts for firms in individual industries. The SBO separately reports business receipts for employer firms (i.e., those with paid employees other than the business owner and family members) and for all firms.<sup>17</sup>

**Receipts for all firms.** Figure H-21 presents 2002 mean annual receipts for employer and non-employer firms, by race/ethnicity and gender. The SBO data for firms across all industries in Oregon indicate that average receipts for minority- and women-owned businesses were much lower than the average for all firms, with some groups faring worse than others.

Businesses owned by African Americans had average receipts that were roughly 45 percent of the average for all firms in 2002. At about \$111,000, average receipts for Native American-owned firms were less than one-third the average for all firms. Asian American- and Hispanic American-owned firms had higher average receipts than other minority groups in 2002. Nevertheless, average receipts for both groups were still below the average for all firms, as were average receipts for women-owned firm in Oregon.

As shown in Figure H-21, disparities in business receipts for minority and women-owned businesses compared to all firms in Oregon are broadly consistent with those seen in the United States as a whole. However, disparities in average receipts between African American- and Hispanic American-owned firms and all firms were larger in the U.S. than Oregon.

Because the SBO did not separately report receipts for publicly-traded and privately held companies in individual MSAs, the study team could not examine differences between minority- and women-owned firms and all privately held businesses in the Portland MSA. However, results for different racial/ethnic and gender groups in the Portland MSA were very similar to those found in Oregon.

Consistent with the results shown in Figure H-21, a more recent SBA study (2007) found similar differences when examining firms in all industries across the U.S.<sup>18</sup>

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<sup>17</sup> The SBO data used in this analysis include incorporated and unincorporated firms, but not publicly-traded companies or other firms not classifiable by race/ethnicity and gender.

<sup>18</sup> Lowrey, Ying. 2007. *Minorities in Business: A Demographic Review of Minority Business Ownership*. Office of Economic Research, Office of Advocacy, U.S. Small Business Administration.

**Figure H-21.**  
**Mean annual receipts**  
**(thousands) for all firms, by**  
**race/ethnicity and gender of**  
**owners, 2002**

Note:  
 Includes employer and non-employer firms. Does not include publicly-traded companies or other firms not classifiable by race/ethnicity and gender.  
 Source:  
 2002 Survey of Business Owners, part of the U.S. Census Bureau's 2002 Economic Census.

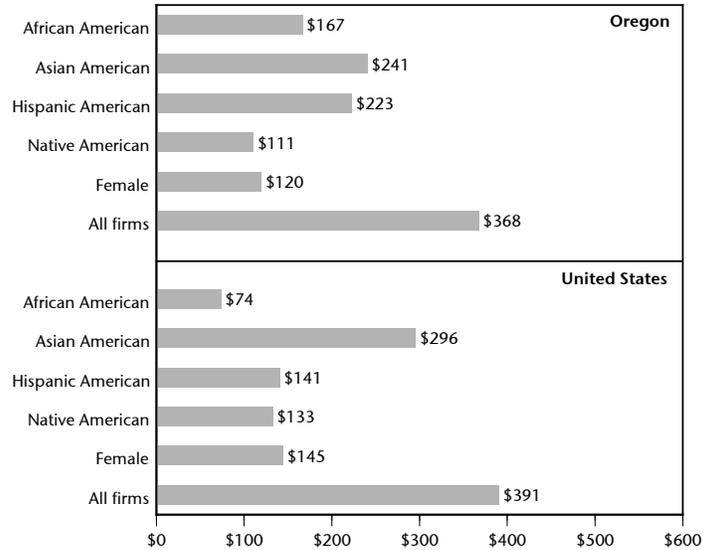


Figure H-22 shows mean annual earnings in 2002 for employer firms in Oregon and the United States. Minority- and women-owned employer firms had substantially lower average business receipts than all employer firms, both in the state and nation.

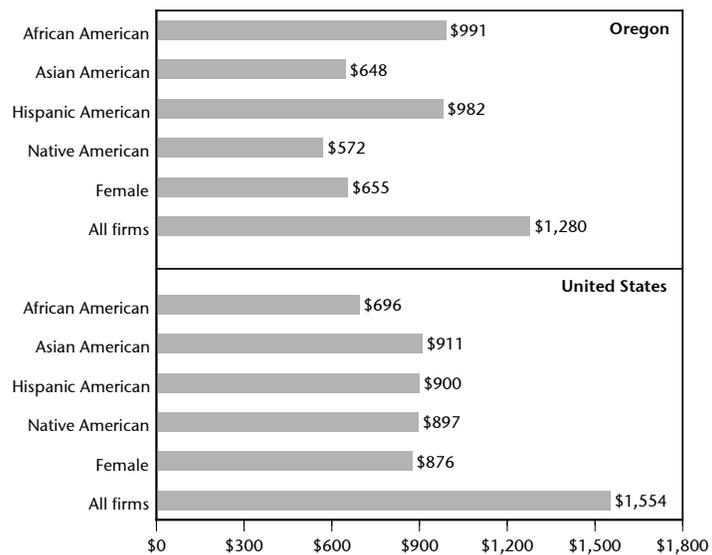
The 2002 mean annual receipts for African American- and Hispanic American-owned employer firms in Oregon were greater compared to firms owned by other minority groups but still below the average for all firms. Native American-owned firms had the lowest average receipts at about 45 percent of the average for all firms in the state.

Data were not available to allow comparison between minority- and female-owned firms and all privately held firms in the Portland MSA, but average receipts for minority- and women-owned businesses appear to be generally consistent with those found for the state as a whole. Firms owned by African Americans, however, appear to have lower average earnings in the Portland MSA than Oregon.

**Figure H-22.**  
**Mean annual receipts**  
**(thousands) for employer firms,**  
**by race/ethnicity and gender of**  
**owners, 2002**

Note:  
 Includes only employer firms. Does not include publicly-traded companies or other firms not classifiable by race/ethnicity and gender.

Source:  
 2002 Survey of Business Owners, part of the U.S. Census Bureau's 2002 Economic Census.



**Receipts by industry.** The study team also analyzed SBO data for firms in the construction industry and the professional, scientific and technical services industry. Figure H-23 presents mean annual receipts in 2002 for all firms (employer and non-employer firms combined) and for employer firms by racial, ethnic and gender group. Results are presented for Oregon and the United States.

**Figure H-23.**  
**Mean annual receipts (thousands) for firms in the construction and professional, scientific and technical services industries, by race/ethnicity and gender of owners, 2002**

	All firms		Employer firms	
	Construction	Professional, scientific & technical services	Construction	Professional, scientific & technical services
<b>Oregon</b>				
African American	\$325	\$79	\$897	\$227
Asian American	153	132	425	650
Hispanic American	284	70	643	556
Native American	205	34	651	122
Female	259	63	689	318
All firms	\$389	\$137	\$1,003	\$500
<b>United States</b>				
African American	\$128	\$81	\$860	\$644
Asian American	250	177	1,100	779
Hispanic American	148	109	901	595
Native American	188	93	1,007	480
Female	339	85	1,206	429
All firms	\$400	\$180	\$1,398	\$699

Note: Does not include publicly-traded companies or other firms not classifiable by race/ethnicity and gender.

Source: 2002 Survey of Business Owners, part of the U.S. Census Bureau's 2002 Economic Census.

In the Oregon construction industry, average 2002 receipts for minority- and women-owned firms were lower than the average for all firms. Results for all firms (including employer and non-employer firms) indicate:

- Asian American-owned construction firms in Portland had average receipts that were about 39 percent of the average for all firms.
- Among minority groups, African American- and Hispanic American-owned construction firms had the highest average receipts, but these were still less than the average for all firms.
- Native American-owned construction firms had average receipts that were about 53 percent of the average for all companies.
- Average receipts for women-owned construction firms in Oregon were about two-thirds of the average for all firms.

The study team found lower than average receipts for minority- and women-owned construction firms, both when considering all firms or just employer firms in Oregon. This pattern was also evident in the national construction industry.

In the Oregon professional, scientific and technical services industry, minority- and women owned firms had lower average receipts than all firms. Results for all firms (including employer and non-employer firms) in this industry show:

- Native American-owned firms had average receipts of \$34,000, less than one-fourth the average for all firms.
- Among MBEs, businesses owned by Asian Americans had the highest average receipts at \$132,000, still slightly less than the average for all companies.
- Average receipts for firms owned by African Americans were about \$79,000, less than three-fifths the average for all firms.
- Hispanic American-owned firms had average receipts that were about half of the average for all companies.
- Women-owned firms' average receipts were less than half that of all firms.

An examination of employer firms in professional, scientific and technical services yielded similar results: minority- and women-owned firms had below average annual receipts in the Oregon in 2002.

**Business earnings for business owners.** In order to assess the success of self-employed minorities and women in the study industries, BBC examined earnings using Public Use Microdata Samples (PUMS) from the 2000 U.S. Census and 2006-2008 ACS. BBC analyzed incorporated and unincorporated business owners, age 16 and over, who reported positive business earnings. Since the 2000 Census reports business earnings for the previous year, figures presented here are based on earnings in 1999.

**Business owner earnings in 1999.** Figure H-24 shows average earnings in 1999 for business owners in the construction industry in the Portland MSA, Oregon and the United States. These results are based on the 2000 Census, in which individuals were asked to give their business income for the previous year.

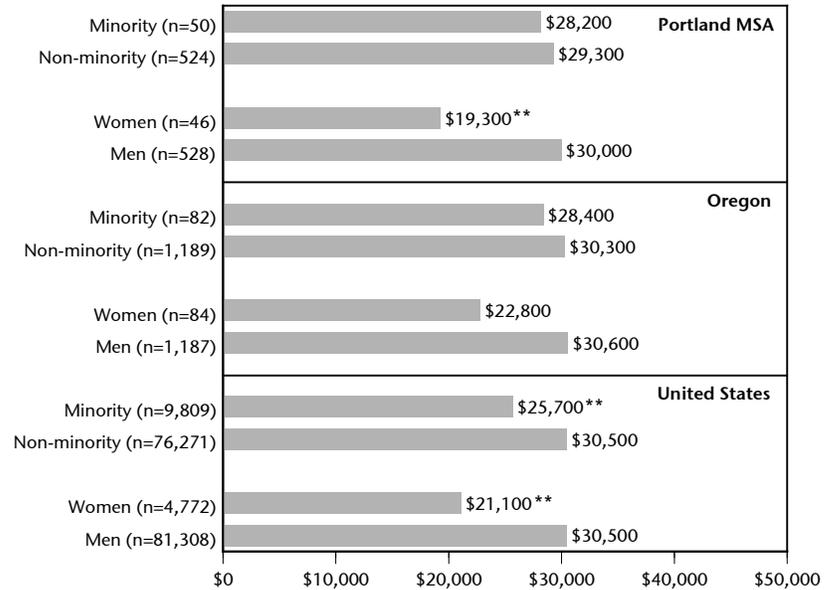
In 1999, female construction business owners in Portland earned \$19,300, substantially less than the \$30,000 earned by their male counterparts (a statistically significant difference). Mean annual earnings for minority construction business owners (\$28,200) were slightly less, on average, than non-minority business owner earnings (\$29,300).

Results for Portland are similar to Oregon and the U.S., where large disparities in average earnings existed between women and men who owned construction businesses. However, disparities in mean earnings between minority and non-minority construction business owners appear to be not as large in the Portland MSA and Oregon compared with the United States.

Due to small sample sizes, BBC was unable to report robust figures for average earnings in the Portland professional services industry in 1999. However, results suggest that there were disparities in earnings between female and male business owners and between minority and non-minority business owners.

**Figure H-24.**  
**Mean annual business owner earnings (thousands) in the construction industry, 1999**

Note:  
 The sample universe is business owners age 16 and over who reported positive earnings.  
 \*\* Denotes statistical significance at the 95% confidence level.  
 "Minority" includes African Americans, Hispanic Americans, Asian Americans, Native Americans and other race groups.  
 Source:  
 BBC Research & Consulting from 2000 U.S. Census 5% Public Use Microdata Sample.



**Business owner earnings in 2005-2008.** The 2006-2008 ACS three-year sample also reports business owner earnings. Due to the way each year's ACS survey is conducted, earnings for business owners reported in the three-year sample may be for any year between 2005 and 2008. However, all dollar amounts are given in 2008 dollars.

Figure H-25 shows business earnings in 2005-2008 for owners in the construction industry in the Portland MSA, Oregon and the United States. Similar to 2000, there were large, statistically significant disparities in earnings for female business owners compared to male business owners in the Portland MSA, Oregon and the United States. Differences in Portland between minority and non-minority earnings were less substantial yet still apparent.

As in 2000, the study team was unable to report robust results for 2005-2008 business owner earnings in the Portland professional services industry, due to small sample sizes.

**Figure H-25.**  
**Mean annual business owner earnings (thousands) in the construction industry, 2005-2008**

**Note:**

The sample universe is business owners age 16 and over who reported positive earnings.

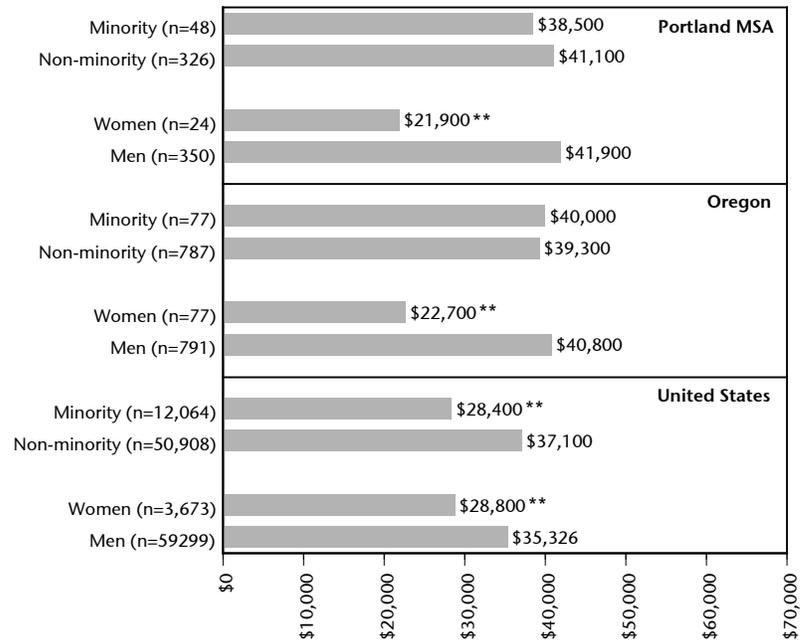
All amounts in 2008 dollars.

\*\* Denotes statistical significance at the 95% confidence level.

“Minority” includes African Americans, Hispanic Americans, Asian Americans, Native Americans and other race groups.

**Source:**

BBC Research & Consulting from 2000 U.S. Census 5% Public Use Microdata Sample.



**Regression analysis of business earnings.** Differences in business owner earnings may be at least partially attributable to neutral factors such as age, marital status or educational attainment. BBC performed regression analysis using 2000 Census PUMS data to examine whether disparities in business earnings for 1999 remained after controlling for certain neutral factors. Consistent with past court-reviewed research, BBC applied an ordinary least squares (OLS) regression to the data.

Consistent with model specifications that have been reviewed by the courts, the dependent variable in this model is the natural logarithm of business earnings. Business owners reporting zero or negative business earnings were excluded, as were observations for which the Census Bureau had imputed the value of business earnings. Along with variables for the race, ethnicity and gender of business owners, the model also included available measures from the PUMS data considered likely to affect earnings potential, including age, age-squared, marital status, ability to speak English well, disability condition and educational attainment. This model is very similar to those reviewed by the courts after other disparity studies.<sup>19</sup>

For the construction industry, the study team developed two separate models:

- A model for business owner earnings in the Portland MSA construction industry that included 429 observations; and
- A model for business owner earnings in the Oregon and Washington construction industry that included 2,130 observations.

The model for Oregon and Washington included an indicator variable for the Portland MSA and interaction terms to represent minority and female business owners in Portland.

<sup>19</sup> For example, National Economic Research Associates, Inc. 2000. *Disadvantaged Business Enterprise Availability Study*. Prepared for the Minnesota Department of Transportation; and National Economic Research Associates, Inc. 2004. *Disadvantaged Business Enterprise Availability Study*. Prepared for the Illinois Department of Transportation.

Due to small sample sizes, BBC took a different approach when examining business owner earnings in the professional services industry. BBC created a model for the professional services industry in the Pacific Census Division (referred to in the following discussion as the Pacific region) that included 1,027 observations.<sup>20</sup> The model included separate terms to take account of the effect of businesses being located in the Portland MSA. This approach is similar to that used by other researchers.

**Construction industry in Portland.** Figure H-26 shows the results of the OLS model for 1999 earnings in the Portland construction industry. The model indicates that some neutral factors are statistically significant in predicting the earnings of business owners in the construction industry: older business owners have greater earnings, but age has less of an effect for the oldest individuals.

Other neutral factors were not statistically significant in predicting business earnings, possibly due to the small number of observations in the estimation sample. However, after taking account of neutral factors, there are statistically significant disparities in business owner earnings in the Portland construction industry in 1999 for women and other race minorities.

Results indicate that female and other race business owners in the Portland construction industry earned significantly less than male and non-Hispanic white business owners, respectively, even after controlling for neutral characteristics.

**Figure H-26.**  
**Portland MSA construction business owner earnings model, 1999**

Variable	Coefficient	t-statistic
Constant	5.852	5.37 **
Age	0.137	4.18 **
Age-squared	-0.002	-4.92 **
Married	0.259	1.44
Speaks English well	1.251	1.39
Disabled	-0.316	-1.20
Less than high school	-0.127	-0.49
Some college	-0.137	-0.86
Four-year degree	-0.286	-1.14
Advanced degree	-0.302	-0.69
African American	0.283	1.44
Asian American	0.352	0.86
Hispanic American	0.256	0.83
Native American	-0.063	-0.18
Other minority group	-1.056	-2.91 **
Female	-0.695	-2.43 **

Note: \*\* Denotes statistical significance at the 95% confidence level.  
\* Denotes statistical significance at the 90% confidence level.

Source: BBC Research & Consulting based on analysis of 2000 Census Public Use Microdata Sample.

<sup>20</sup> The Pacific region includes Alaska, California, Hawaii, Oregon and Washington.

**Construction industry in Oregon and Washington.** BBC also developed a separate model for the Oregon and Washington construction industry using 2000 Census data.<sup>21</sup> The model includes an indicator variable for the Portland MSA and interaction terms to represent minority and women business owners from Portland. Figure H-27 shows the results of this OLS model for 1999. This model includes 2,130 business owners.

**Figure H-27.**  
**Oregon and Washington construction industry**  
**business owner earnings model, 1999**

Variable	Coefficient	t-statistic
Constant	7.302	14.11 **
Age	0.101	5.88 **
Age-squared	-0.001	-6.75 **
Married	0.258	3.71 **
Speaks English well	0.665	1.77 *
Disabled	-0.251	-2.00 **
Less than high school	-0.151	-1.45
Some college	-0.129	-1.81 *
Four-year degree	-0.094	-0.92
Advanced degree	-0.054	-0.27
In Portland MSA	-0.086	-1.02
African American	-0.760	-2.38 **
African American in Portland MSA	0.948	2.73 **
Asian American	0.729	2.02 **
Asian American in Portland MSA	-0.525	-1.21
Hispanic American	-0.083	-0.32
Hispanic American in Portland MSA	0.302	0.75
Native American	-0.236	-1.11
Native American in Portland MSA	0.236	0.60
Other minority group	0.837	1.94 *
Other minority group in Portland MSA	-1.950	-4.24 **
Female	-0.627	-3.70 **
Female in Portland MSA	-0.128	-0.38

Note: \*\* Denotes statistical significance at the 95% confidence level.  
 \* Denotes statistical significance at the 90% confidence level.

Source: BBC Research & Consulting based on analysis of 2006-2008 ACS Public Use Microdata Sample.

The following neutral factors are statistically significant in predicting business earnings in the 1999 Oregon and Washington construction industry:

- Older business owners have greater earnings, but this marginal effect declines for the oldest individuals;
- Married business owners tend to have greater business earnings than unmarried business owners;
- Business owners who speak English well generally have greater average business earnings;

<sup>21</sup> The study team included the model for the Oregon and Washington construction industry to account for there being few observations in the estimation sample for the Portland-specific model and for the corresponding lack of statistical confidence.

- Being disabled results in lower average business earnings; and
- Business owners with some college (but no degree) have lower average business earnings than business owners with just a high school degree.

After controlling for neutral factors, a number of statistically significant disparities in business owner earnings remain in the Oregon and Washington construction industry:

- African American business owners earned less than non-Hispanic white business owners;
- Female business owners earned less than male business owners;
- Asian American and “other minority” business owners earned more than their non-Hispanic white counterparts.

The indicator variable for the Portland MSA is not significant, indicating that on average, construction business owner earnings in the Portland area were not significantly different from those in Washington and Oregon. However, for some individual groups, there is evidence of significant differences in earnings between Portland and the wider geographic area in 1999:

- African American construction business owners earned significantly more in the Portland MSA than in Washington and Oregon; and
- Among construction business owners, members of the “other minority” group earned significantly less in Portland than in Washington and Oregon.

**Professional services industry.** Figure H-28 presents the results of the OLS model of business owner earnings specific to the Pacific region professional services industry in 1999. This model includes 1,027 observations and uses interaction terms for evaluating the effect of owning a business in the Portland MSA.

A number of neutral factors are statistically significant in explaining business earnings in the Pacific region professional services industry:

- As in the construction models, older business owners had greater earnings, but this marginal effect declined for the oldest individuals; and
- Business owners who were married tended to have greater business earnings;

After accounting for neutral factors, the model indicates that female business owners earned significantly less on average than men in the professional services industry. The model also indicates that Native Americans and members of the “other minority” group earned significantly more, on average, than similarly situated non-Hispanic white business owners in professional services.

The indicator variable for firms located in the Portland MSA and the interaction terms for minority and women business owners in the MSA suggest that these groups did not have significantly different earnings in the wider Pacific region, even after controlling for other factors.

**Figure H-28.**  
**Pacific region professional services industry business owner earnings model, 1999**

Variable	Coefficient	t-statistic
Constant	7.001	7.73 **
Age	0.111	4.96 **
Age-squared	-0.001	-5.88 **
Married	0.318	2.92 **
Speaks English well	0.544	0.90
Disabled	0.012	0.07
Less than high school	-0.163	-0.33
Some college	0.150	0.48
Four-year degree	0.252	0.83
Advanced degree	0.281	0.89
In Portland MSA	-0.333	-0.93
African American	-0.047	-0.15
African American in Portland MSA	NA	NA
Asian American	-0.038	-0.27
Asian American in Portland MSA	0.123	0.31
Hispanic American	-0.078	-0.42
Hispanic American in Portland MSA	-0.023	-0.03
Native American	0.285	2.00 **
Native American in Portland MSA	NA	NA
Other minority group	0.399	1.77 *
Other minority group in Portland MSA	NA	NA
Female	-0.570	-5.21 **
Female in Portland MSA	0.046	0.09

Note: \*\* Denotes statistical significance at the 95% confidence level.  
 \* Denotes statistical significance at the 90% confidence level.  
 "NA" indicates that the variable was dropped from the model due to too few observations.

Source: BBC Research & Consulting, based on analysis of 2000 Census Public Use Microdata Sample.

**Gross revenue of construction and professional services firms from availability**

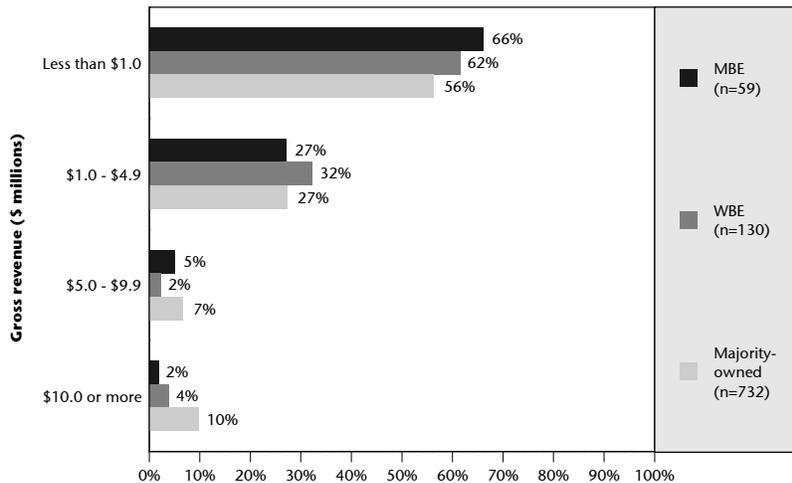
**interviews.** Respondents were asked to identify the size range for their gross revenue for 2009. A second question asked for gross revenue across all locations for multi-location firms. Results for all Portland locations are reported in Figure H-29 and Figure H-30.

**Construction firms.** Figure H-29 examines the distribution of MBEs, WBEs and majority-owned construction industry firms by revenue class. More MBE/WBEs than majority-owned construction firms in Portland had gross revenue of less than \$1 million. Two-thirds of MBEs and 62 percent of WBEs reported revenue of less than \$1 million. A smaller share of majority-owned firms (56%) reported the same revenue for 2009. Compared to MBEs (7%) and WBEs (6%), a larger share of majority-owned firms (17%) reported gross revenue of \$5 million or more.

**Figure H-29.**  
**Gross revenue of company**  
**for all Portland locations,**  
**construction industry**

Note:  
WBE is white women-owned firms.

Source:  
BBC Research & Consulting from 2009 and 2010 Availability Interviews.

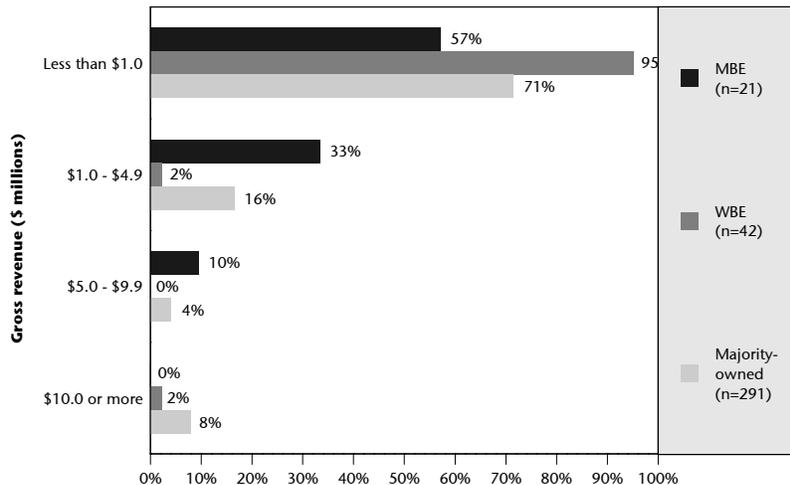


**Professional services firms.** Professional services firms were also asked to identify gross revenue across all Portland locations. As shown in Figure H-30, over 95 percent of WBEs reported gross revenue for 2009 to be less than \$100,000. No WBEs reported gross revenue of \$5 million or more for 2009. A relatively larger share of MBEs than majority-owned firms reported gross revenue of \$5 million to \$10 million in 2009, but no MBEs said that they had gross revenue of \$10 million or more.

**Figure H-30.**  
**Gross revenue of company for all Portland locations, professional services industry**

Note:  
 WBE is white women-owned firms.

Source:  
 BBC Research & Consulting from 2009 and 2010 Availability Interviews.



**Summary of analysis of business receipts and earnings.** BBC examined a number of different data sources for business receipts and earnings for firms in the Portland MSA.

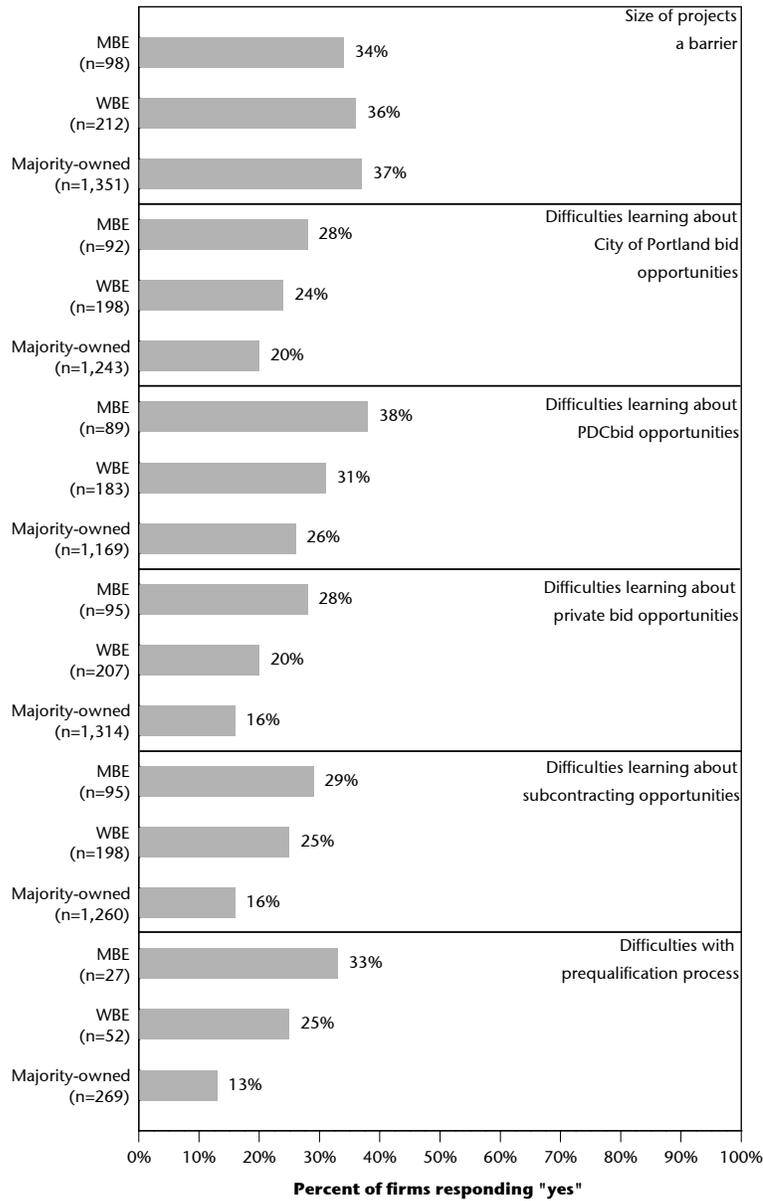
- Analysis of 2002 data indicate that, in the Portland MSA, mean receipts for minority- and women-owned firms were lower compared to that of non-Hispanic white- and male-owned firms in the construction industry and the professional, scientific and technical services industry.
- Regression analyses using Census data for business owner earnings indicate that there are statistically significant disparities in earnings for some groups, even after taking account of neutral factors:
  - Other minority construction business owners tend to earn less than non-Hispanic white construction business owners in the Portland MSA;
  - Female business owners tend to earn less than male business owners in the Portland construction industry.
  - Native American-, female- and other race-owners tend to have lower business earnings in the Pacific region. Model results suggest that results for these groups were not statistically different in the Portland MSA.
  - Data from the availability interviews indicate that — across all subindustries — a larger share of majority-owned firms than of MBE/WBEs reported gross revenues of \$5 million or more. A smaller portion of WBEs than of MBEs reported gross revenues of \$5 million or more.

**Results concerning potential barriers in the local marketplace.** The study team asked firm owners and managers responding to the availability interviews if they had experienced barriers or difficulties associated with starting or expanding a business. BBC asked if:

- The size of projects had presented a barrier to bidding;
- The firm had experienced difficulties learning about bid opportunities with Portland;
- The firm had experienced difficulties learning about bid opportunities with local governments or private companies;
- The firm had experienced difficulties learning about subcontracting opportunities in Portland; and
- The prequalification process for the City of Portland work had presented difficulties for the firm.

Figure H-31 summarizes responses to these questions. Responses for construction and professional services firms have been combined.

**Figure H-31.**  
**Responses to 2010 availability interview questions with construction and PTE firms**



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms.

Source: BBC Research & Consulting.

As shown in Figure H-31, MBEs and WBEs were less likely than majority-owned firms to report that the size of projects had been a barrier to bidding. MBEs and WBEs were more likely than majority-owned firms to report difficulties learning about:

- City of Portland bid opportunities
- Portland Development Commission bid opportunities
- Private sector bid opportunities; and
- Subcontracting opportunities.

Considering those firms that had looked into or applied for prequalification for City of Portland prime contracts, MBEs and WBEs appeared to be more likely than majority-owned firms to report difficulties with the prequalification process.

BBC also asked questions related to access to capital, bonding and insurance; Appendix G reports results.