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**The use of alternative employment arrangements by small  
businesses: Evidence from the 2003 Survey of Small Business  
Finances**

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# **The use of alternative employment arrangements by small businesses: Evidence from the 2003 Survey of Small Business Finances**

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## Abstract

According to the CPS, employees in alternative work arrangements make up over 10 percent of U.S. workers. Because of the pervasiveness of these types of arrangements, it is important to understand why firms are choosing to use them. Using data from the 2003 Survey of Small Business Finances, we model the firm's decision to use alternative employment arrangements using a large representative sample of small businesses in the U.S. In general, our results are similar to previous establishment-level studies that have examined the use of these types of employment arrangements. However, many of these previous studies have been narrow in scope because of data limitations. We find evidence to support each of the following hypotheses: 1) firms may be using alternative employment arrangements (AEA) in an attempt to generate cost savings by substituting standard employees with AEA employees when internal wages and benefit costs are high; 2) firms may be using AEA to meet irregular product demand constraints; and 3) firms may be using AEA to take advantage of economies of scale for certain tasks or services. Additionally, we present some additional findings that add to the relatively limited establishment level literature on alternative employment arrangements.

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## **1. Introduction**

Employees in alternative work arrangements are explicitly defined by Polivka (1996) “either as individuals whose employment is arranged through an employment intermediary such as a temporary help firm, or individuals whose place, time and quantity of work are potentially unpredictable. The latest estimates from the Bureau of Labor Statistics (2005) Current Population Survey (CPS) indicate that 7.4 percent of workers (10.3 million workers) were employed as independent contractors, 1.8 percent (2.5 million) were on-call workers, 0.9 percent (1.2 million) were temporary help agency workers, and 0.6 percent (813,000 workers) were provided by contract firms. In other words, roughly one in ten workers (10.7 percent) employed in 2005 are considered to have been in “alternative employment arrangements.”

Much of the existing literature on alternative employment arrangements (AEA) provides information about the characteristics of AEA workers and how they differ from the characteristics of workers in standard employment arrangements (see Cohaney 1996; Cohaney 1998; DiNatale 2001). The driving force behind this literature is concern that workers in these situations often lack permanent employment contracts, fringe benefits, or other benefits associated with ongoing employee-employer relationships.

The literature examining AEA from the firm perspective is limited. The focus of this vein of research is to try to explain why firms choose to use AEA in place of standard employment contracts. Abraham and Taylor (1996) point out that the previous literature has offered three general explanations. First, firms may be using AEA in an attempt generate cost savings by substituting standard employees with AEA employees when the internal wages and cost of providing benefits to standard employees are relatively high. Second, firms may be using AEA to meet irregular product demand constraints. Finally, firms may be using AEA to take advantage of economies of scale for certain tasks or services, such as computer or janitorial

services that are required to run and/or grow the business. The literature indicates that a firm's decision is likely based on a combination of all of these factors. In general, studies that have examined the use of AEA at the enterprise level have been limited in scope to certain industries (Abraham and Taylor 1996), geographic areas (Gramm and Schnell 2001), or have had small sample sizes (Abraham 1988; Houseman 2001, Gramm and Schnell).

We add to the firm-perspective literature by examining the characteristics of firms that choose to use AEA using data from the 2003 Survey of Small Business Finances (SSBF). In 2003, a series of questions was added to the SSBF to collect information from firms about their usage of AEA. The data that were collected allow us to examine AEA usage in a relatively large representative sample of small businesses. The Small Business Administration estimates that small businesses (firms with fewer than 500 employees) account for 98 percent of all non-farm businesses in the United States and up to 50 percent of all new jobs created each year (Small Business Administration 2005). Given their importance in our economy and the job market, it is important to understand the extent to which small business firms are choosing to use AEA.

We examine the three major hypotheses presented in the previous literature and present some additional findings that add to the relatively limited literature on why firms choose to use alternative employment arrangements. Generally, we find that small firms choose to use AEA for the same reasons that larger firms do. Amongst small businesses, the size of the firm—as measured by standard employment, sales, or assets—plays a dominant factor in determining whether or not a firm uses AEA, with larger firms choosing to use them more extensively. This suggests that the firms in the SSBF data, on average, may be too small to take advantage of *internal* economies of scale. However, we find some evidence to suggest that firms are taking advantage of *external* economies of scale for certain services. We find that fluctuation in product/service demand plays an important role in the firm's decision to use AEA, and while

there is some evidence to support the hypothesis that firms are using these arrangements to save on costs, the results relating to this hypothesis are less convincing due to the lack of precision on internal wage data.

## **2. Data and Descriptive Statistics**

The 2003 SSBF was conducted to collect information from the owners of a nationally representative sample of U.S. small business enterprises. Owners were asked about firm income statements; balance sheets; financial relationships; credit experiences; lending terms and conditions; the types of, and locations of financial institutions that were used; and about various other firm characteristics.<sup>1</sup>

The target population of the survey was defined as for-profit, non-governmental, non-depository, and non-agricultural enterprises with fewer than 500 employees. Firms in the sample had to be either single establishments, or the headquarters of multiple establishment enterprises that were not majority owned subsidiaries of other firms. Additionally, in order to be eligible, firms had to have been in business during December of 2003 and at the time of the interview. The majority of interviews occurred between June and December of 2004.

Following a series of questions regarding their use of standard employees, survey respondents were asked about their firm's use of AEA. Specifically, respondents were asked if the firm used any of the following types of workers during a typical pay period in 2003: temporary staffing obtained from a temporary help service; leased employees from a leasing service or a professional employer organization; contractors, subcontractors, independent contractors, or outside consultants.<sup>2</sup> If a respondent reported using at least one of these

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<sup>1</sup> For detailed information about the 2003 SSBF, see 2003 Methodology Report (National Opinion Research Center, 2005). Selected survey results are summarized in Mach and Wolken, 2006.

<sup>2</sup> Respondents were also asked about their use of paid day laborers in this series of questions (9.8% of firms reported using them). However, since day labor is traditionally arranged directly by the employer rather than some employment intermediary, it is typically not considered in the context of alternative work arrangements (see Polivka 1996). No analysis is done in this paper on the use of day laborers.

employment arrangements, they were then asked to report the total number of all such workers used during a typical pay period in 2003. It is important to note that the 2003 SSBF did not collect any information on the capacity in which these workers were used. Therefore, it is impossible to determine if alternative workers were used to supplement or complement the firm's standard workforce. Additionally, the survey data are limited to the "typical" pay period for the firm, so information regarding the dynamics of the firm's usage of AEA throughout the year is lost. However, the survey data provide a great deal of detail on other firm characteristics that are useful in identifying the determinants of AEA usage.

Table 1 indicates that less than half of small businesses employ some type of alternative worker. Because these figures are estimates of AEA usage during a typical 2003 pay period rather than at any point during the year, they are likely to be a lower bound estimate of the percentage of firms that actually used AEA at some point during the course of the year. This caveat aside, the percentage is smaller than those that are reported in other studies. For example, Abraham (1988) reports that 93 percent of firms reported using some form of AEA. This disparity is likely a function of the specialized samples that were used. The large majority of firms sampled in Abraham's study had 50 or more employees, and many were subsidiaries of larger corporations. By contrast, less than 3 percent of the weighted sample of firms in the SSBF data have more than 50 employees, and majority-owned subsidiaries were strictly omitted by the sample design. Of the firms in the SSBF that did employ at least 50 employees, over 65 percent used some type of alternative employment arrangement. These larger firms were much more likely to have employed any of the individual types of alternative arrangements as well (independent contractors, leased employees, and temporary agency workers). Consistent with the individual-level statistics reported by the BLS, independent contractors were the most commonly reported type of AEA used, with 2 out of 5 firms reporting that they used them.

Table 2 provides usage rates of AEA by various univariate firm characteristics. There were minimal differences in usage patterns by the various owner demographic characteristics. For instance, firms owned by Asians were somewhat less likely to use any type of alternative arrangement than those owned by whites, blacks, and Native Americans. Male-owned firms were somewhat more likely to employ AEA than were female-owned firms, or firms that were equally male and female owned.<sup>3</sup> Similar trends were evident across the specific types of alternative arrangements, with Asian-owned firms less likely than other racial categories, and female-owned firms less likely than male-owned firms to use independent contractors and leased employees.

The use of AEA varied substantially by industry, which is consistent with the hypothesis that firms use AEA in the face of cyclical or seasonal product demand. Nearly 65 percent of construction and mining firms used some form of AEA, with 62 percent of them employing independent contractors. In contrast, the retail trade industry was much less likely to employ alternative workers, with less than 28 percent doing so, and about 25 percent employing independent contractors. Firms in the manufacturing industry were the most likely to use temporary help agency employees (14 percent), followed by firms in retail trade (12 percent), and firms in construction and mining (10 percent).

There were some substantial differences in AEA usage by firm location. Firms located in urban areas were more likely to use alternative arrangements than firms in rural areas. Additionally, urban firms were more than twice as likely to use temporary agency workers than firms located in rural areas. This is perhaps due to the fact that temporary help agencies tend to be located in urban areas<sup>4</sup>. This provides some evidence to suggest that urban firms might be

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<sup>3</sup> Firm level owner characteristics are based on a weighted percentage of the individual owner characteristics. See Mach and Wolken (2006) for more information.

<sup>4</sup> 2005 County Business Pattern figures indicate that 90.5 percent of temporary agencies are located in urban areas.

taking advantage of economies of scale for workers with specialized skills that presumably exist in more highly populated areas. AEA usage patterns differed significantly between the geographic regions of the U.S. Firms in the west were more likely to use alternative arrangements than firms in any other region of the country. These firms were also the most likely to use independent contractors. By Census division, the differences were even larger. Forty-eight percent of firms in the Pacific Division used some type of alternative arrangement, compared to just over 38 percent of firms in the Mid-Atlantic. Respectively, these Census divisions were also the most and least likely to use independent contractors. Firms located in states with right-to-work laws are slightly more likely to use independent contractors than firms in forced-union states.

The relationship between the area where the firm does business and whether or not it used any alternative arrangements is quite significant. The wider the firm's sales area, the more likely the firm was to have used an alternative arrangement. Firms operating outside of the United States were more than twice as likely to use temporary agency workers than firms that operated primarily within their respective cities. Additionally, firms that had three or more offices were nearly 25 percent more likely to use alternative arrangements than were firms with single locations. Most of this disparity stems from differences in the relative use of independent contractors, with smaller differences in the use of other types of arrangements.

Substantial differences in AEA usage can be seen by how firms are organized. Only 36 percent of firms classified as sole proprietorships used alternative workers, whereas 53 percent of C-corporations used some type of alternative arrangement. C-corporations were more than three times as likely to use temporary employment agencies than sole proprietorships and partnerships. This is consistent with the positive correlation between firm size and AEA usage. Of the firms with less than three employees, 34 percent used some sort of alternative employment

arrangement; 2 percent used employees from a temporary agency; 21 percent used leased employees; and 33 percent used independent contractors. Of the firms with five or more employees, 52 percent used some sort of alternative employment arrangement, 14 percent used employees from a temporary agency, 5 percent used leased employees, and 47 percent used independent contractors. The use of AEA also monotonically increases with firm assets, sales, employment, and profitability. Eighty-eight percent of the most profitable firms, 80 percent of firms in the highest asset class, and 66 percent of firms with the most sales in 2003 all reported using some form of AEA.

In the descriptive statistics there appears to be a positive correlation between the average salary paid to standard employees and the use of AEA.<sup>5</sup> Just under 38 percent of firms with average yearly salaries under \$5,000 used AEA, while 54 percent of firms with average salaries of over \$30,000 did so. This trend held across the different types of arrangements as well. This positive correlation may be an indication that firms are using AEA workers to cut costs because their current workforce is relatively more expensive. However, without more information on the tasks performed by these workers compared to those performed by the traditional employees, this is only speculative.

Table 3 provides detail on the characteristics of firms that do and do not use AEA. This table reinforces many of the themes described above, but provides some additional insight into the make-up of the small business population. It also provides further insight into why the reported AEA usage by small businesses in the SSBF appears much lower than in previous studies. By industry, over 40 percent of the firms that used at least some form of alternative arrangement were in business or professional services. Despite the fact that less than half of

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<sup>5</sup> The survey collected information on the total cost of wages and salaries paid in the previous years. We calculate an average salary by dividing this by the total number of non-owners working in the firm (A10.2). Because the question on employment treats part-time workers the same as full-time workers and the paid workers the same as unpaid workers, this measure is likely to be a noisy one.

these firms used alternative arrangements, they comprise a large portion of the overall population of firms that used any type of AEA. This is attributable to the fact that firms in business or professional services account for such a large portion of the small business population. Similar disparities between the percentages of firms with a given characteristic that use AEA and the percentages of the overall total small business AEA users that they represent can be seen in the number of firm locations, the firm sales area, and the firm size measures. While more of these factors (offices, employees, sales, etc.) are related to higher AEA usage, they comprise a smaller and smaller portion of the small business population of firms with alternative arrangements. For example, firms with a single location accounted for 82 percent of firms employing AEA, while firms with two locations accounted for only 12 percent; however, looking again at table 2, only 41 percent of firms with a single location used AEA, whereas 54 percent of firms with two locations used AEA.

### 3. Estimation

We estimate a reduced form model of the likelihood of the firm using an AEA as a function of three types of characteristics:

$$(1) \quad p_i^* = \alpha E_i + \beta F_i + \delta G_i + u_i$$

where  $p_i^*$  is a value function correlated with the probability that the firm  $i$  uses an AEA.  $E$  is a matrix of variables measuring the firm's use of traditional employment (number of workers and a measure of average wage);  $F$  is a matrix of variables capturing the dynamics of the firm's demand (industry, number of offices, sales area, total sales, profitability, seasonality measure, cyclicity measure, etc.); and  $G$  is a matrix of variables capturing other differences in firm

characteristics (owner characteristics and Census division) that may imply differential propensity to employ AEA.<sup>6</sup>

In practice, we do not observe the *probability* that a given firm uses an AEA, but rather whether or not a given firm *used* an AEA.

$$(2) \quad \begin{aligned} p_i &= 1 && \text{if } p_i^* > 0 \\ p_i &= 0 && \text{otherwise} \end{aligned}$$

$$(3) \quad \begin{aligned} \Pr(p_i = 1) &= \Pr[u_i > -(\alpha E_i + \beta F_i + \delta G_i)] \\ &= 1 - F[-(\alpha E_i + \beta F_i + \delta G_i)] \end{aligned}$$

where  $F(\cdot)$  is the cumulative distribution function of  $u$ . Assuming that  $u_i$  is normally distributed, we can estimate  $\alpha$ ,  $\beta$ , and  $\delta$  from equation (3) using a probit model. We estimate several variants of the basic model and present the marginal effects, at the weighted sample mean, of our final model.

Table 4 provides the probit coefficients from a baseline modeling of firms' overall propensity to use any alternative employment arrangement. The models in columns 1 and 3 of the table include the majority of the descriptive measures discussed earlier. The specification in column 1 uses dummy variables for the main 2-digit industry, while the specification in column 3 presents results from a model that uses seasonality and cyclical measures suggested by Abraham and Taylor (1996).<sup>7</sup> Columns 2 and 4 repeat the specifications in columns 1 and 3, respectively, omitting dummy variables that control for owner race and organizational form of the firm (sole proprietorship, C-corporation, S-corporation).

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<sup>6</sup> Such a reduced form would result from a formal model where there are quasi-fixed costs associated with hiring standard employees. See Qi, (1992).

<sup>7</sup> The seasonality measure is defined by the standard deviation of the coefficients from a regression of the change in log employment on the firm's 2, 3, or 4 digit industry (depending on the availability of information) on a set of twelve month dummies. The cyclical measure is defined by the coefficient from a regression of the change in seasonally adjusted log employment in the firm's 2, 3, or 4 digit industry (depending on the availability of information) on the change in seasonally adjusted log of total nonagricultural payroll employment.

Significance tests presented at the bottom of table 4 indicate that omitting the race and organizational form variables does not materially affect the estimation. This insignificance is likely related to the fact that these characteristics are highly correlated with firm size. Mach and Wolken (2006) show that minority-owned firms, female-owned firms, and sole proprietorships tended to have fewer employees, fewer assets and lower sales than firms that were non-minority owned, male owned, and firms that were organized as corporations or partnerships. In addition, because there are not large differences across the two specifications, the rest of the paper will restrict itself to the model that uses the industry dummies rather than the cyclical and seasonality measures, as they are easier to interpret and potentially convey more information about the industry beyond its cyclical or seasonal nature. However, it is worth noting that the coefficient on the cyclical variable in each of the models shows a significant positive relationship with AEA usage, suggesting that firms in more cyclical industries may be using AEA as a short-term adjustment strategy to cope with fluctuations in demand for their products/services. This is consistent with the hypothesis that firms may be using AEA to deal with irregular product demand constraints.

Table 5 presents the probit coefficients from the pared-down model presented in Table 4 (column 4), by the specific types of AEA. Not surprisingly, the results show that the use of AEA varied significantly by industry. There were also substantial differences across the various measures of firm size. Generally, the larger the firm (whether measured by employment, or assets), the more likely it was to employ AEA. There is also evidence that firms may be using AEA as a mechanism to grow, with growth in sales from the previous year associated with an increased likelihood of using AEA. Both firm location and primary sales area appear to have played a role in the decision to use AEA. Broader sales markets, being located in an urban area, and being located in the West, were all positively associated with using AEA. Additionally,

firms located in right-to-work states were significantly more likely to have used alternative employment arrangements than firms located in forced-union states. On the one hand, this result is somewhat counter-intuitive in that this should make the cost of hiring/firing a standard employee lower. However, it is possibly a reflection of the general acceptance of non-permanent work contracts in these states.

Table 6 presents the marginal effects derived from the final probit specifications presented in table 5. The estimates are measured at the weighted sample mean and provide information on the importance of each of the various measures in a firm's decision about whether or not to use AEA. Perhaps due to the lack of information on the capacity in which AEA employees were used, our results do not show a significant relationship between the average salary paid to standard employees and the likelihood of a firm using AEA. However, there is a strong positive relationship between AEA usage and the average salary of a given firm's market area. On average, a percentage increase in the average salary of a firm's market area leads to nearly a 19 percent increase in the probability that a firm used some form of AEA.

The largest marginal effects are attributable to the firm's industry. Firms in construction and mining were nearly 40 percent more likely to use any type of AEA than were firms in retail trade. Looking across the various types of arrangements, we see that this was largely due to the use of independent contractors. Firms in construction and manufacturing were only 7 percent more likely to use employees from a temporary agency, and were no more likely to use leased employees than were retail trade firms. In general, firms in more historically cyclical industries appear to be more likely to use AEA than those in less cyclical industries. Appendix table 1 presents the measures of cyclical and seasonality (constructed at the 1-Digit industry level) suggested by Abraham (1996). According to the measures presented in the table, construction

and mining firms tend to be relatively sensitive to the business cycle. The relationship between seasonality of product/service demand and AEA usage is less obvious.

The smallest of small businesses, those with fewer than 3 standard employees, were 10 percent less likely than firms with 5 or more employees to use any type of AEA. This effect was strongest for the likelihood of using independent contractors, and smallest for the likelihood of using leased employees. Firms with 3 or 4 standard employees did not look any different than the firms with 5 or more employees in their decision to use any type of AEA. However, they were about 3 percent less likely to use employees from a temporary agency. Growing firms were also about 5 percent more likely to use AEA than firms with constant or declining sales in the previous year, perhaps suggesting that firms may be using AEA as a mechanism for growth. Profit margin (the ratio of a firm's profits to its sales – often used as a measure of operational efficiency and cost management), is positively related to a firm's decision to use temporary workers, but does not appear to be related to the decision to use any of the other types of arrangements.

The broader the firm's primary sales area, the more likely it was to have used some form of AEA. Firms that conducted business primarily within the city were more than 20 percent less likely to use AEA workers than firms that did business outside of their geographic region; firms that did business within their metropolitan area or county were 13 percent less likely; and firms that did business within the state were only 5 percent less likely. Again, this effect was strongest for the use of independent contractors, weaker for the use of temporary agency employees, and nonexistent for the use of leased employees.

Being located in an urban area did not significantly affect the likelihood that firms used some type of AEA<sup>8</sup>. However, firms located in urban areas were about 3 percent more likely to use temporary agency employees than rural firms. Again, this is likely driven by the fact that most temporary agencies are located in urban areas. By region, we find some significant differences in the likelihood that a firm will choose to use any of the individual types of arrangements. Relative to firms located in the South, being located in the West increased the likelihood of employing independent contractors by about 9 percent; decreased the likelihood of using leased employees by about 1 percent; and increased the likelihood of using any type of AEA by nearly 10 percent.

#### **4. Conclusions**

This paper used data from the 2003 SSBF to examine the use of alternative employment arrangements by small businesses. Because small businesses represent a substantial portion of potential employers, the results from this paper can be used in conjunction with information on the change in the small business population to examine the likely trends in AEA usage in the economy. The results indicate that small businesses do use AEA in the course of their normal operations, but at a lower rate than larger firms. As with larger firms, the most common type of AEA used by small businesses are independent contractors, with a far smaller percentage using employees from a temporary agency, and an even smaller percentage using leased employees.

We used results from our estimates to test the following hypotheses presented in previous establishment level studies on the use of alternative employment arrangements with larger firms:

1) firms may be using AEA in an attempt generate cost savings by substituting standard employees with AEA employees when the internal wages and benefits of standard employees are

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<sup>8</sup> Without market level variables in our specification, there is a significant positive relationship between AEA usage and being located in an urban area. Including variables to capture the effects of the average wage and education levels of firm market areas makes the urban coefficient negative and insignificant. The addition of these variables does not substantially affect any of the other estimates.

high; 2) firms may be using AEA to meet irregular product demand constraints; and 3) firms may be using AEA to take advantage of economies of scale for certain services.

In the case of the first hypothesis, we find some evidence to suggest that firms may be contracting out to save on costs when internal wages are high. Though not measured with precision, we find a negative relationship between the average annual salary of a given firm and its decision to use AEA. Additionally, there is a significantly positive relationship between the probability that a firm contracted out and the average salary of its market area. It also appears that the more operationally efficient firms, as measured by return on sales, tend to be more likely to use independent contractors. This could partly be attributed to the cost savings that firms are realizing by using these contractors, suggesting that contracting out might be an effective cost management strategy. Because the SSBF does not provide any establishment level data on the benefits offered to employees, it is difficult to determine the effect of benefit costs on a firm's decision to contract out.

As with larger firms, the decision to use AEA is strongly driven by the firm's industry. This is consistent with the argument that firms use AEA in response to variations in demand for their product. Although the relationship between contracting out and the seasonality of demand for a firm's products or services is not clear, there does seem to be a positive relationship between the cyclical nature of demand for a firm's products/services and its decision to contract out.

One of the more pervasive results is that the size of the firm is an important factor in determining whether or not the firm uses AEA; fewer standard employees, lower sales, and fewer assets all decrease the likelihood that a given firm will use AEA. This size effect could be related to the fact that as firms grow, they are more likely to require additional periphery services, such as accounting or computer services. Small businesses, on average, are simply too small to take advantage of internal economies of scale when it comes to these types of services.

Peripheral services may either be cheaper to outsource when the firm's internal wages are high, or when there are external economies of scale involved.

**Table 1: Small Business Usage of Alternative Workers (weighted percentage)**

	<i>All firms</i>	<i>Small Firms (&lt; 50 employees)</i>	<i>Large Firms (&gt;=50 employees)</i>
Any nonstandard employment	43.2	42.7	65.9
Temporary employees	7.6	6.9	33.1
Leased employees	2.9	2.7	7.7
Contractors or consultants	40.2	39.9	55.3

Estimates are weighted using survey replicate weights.

**Table 2: Usage of alternative work arrangements by firm characteristic (weighted)**

Among firms with the following characteristics...	Percentage of firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Owner characteristics<sup>†</sup></i>					
Nonwhite or Hispanic	57.74	42.26	13.97	4.30	38.02
White	56.55	43.45	6.98	2.80	40.44
Black	55.14	44.86	17.77	6.29	42.74
Native American	56.02	43.98	6.89	8.39	41.39
Asian or Pacific Islander	61.18	38.82	13.18	4.17	35.06
Hispanic	53.57	46.43	13.79	5.33	39.74
Non-Hispanic white	56.54	43.46	6.69	2.77	40.63
Female	62.31	37.69	5.26	1.73	35.90
Male	53.90	46.10	8.98	3.63	42.40
Ownership equally	60.99	39.01	4.82	1.57	37.38
<i>Industry</i>					
Construction and Mining	35.52	64.48	10.39	4.36	62.14
Manufacturing	51.92	48.08	14.15	2.06	42.61
Transportation	45.45	54.55	7.15	6.05	52.27
Wholesale trade	59.52	40.48	12.14	2.67	32.58
Retail trade	72.19	27.81	4.59	2.24	25.43
Insurance and real	45.44	54.56	6.28	2.79	52.17
Business services	60.66	39.34	6.05	2.92	36.99
Professional services	57.13	42.87	7.46	2.33	40.03
<i>Urbanization at main office</i>					
Urban	55.88	44.12	8.41	2.90	40.81
Rural	60.84	39.16	3.69	2.76	37.58
<i>Census region</i>					
Northeast	59.83	40.17	6.12	2.53	38.06
Midwest	59.32	40.68	7.07	2.81	37.95
South	56.17	43.83	8.07	3.67	40.53
West	52.87	47.13	8.49	2.07	43.57
<i>Census Division</i>					
New England	56.56	43.44	6.44	4.39	41.69
Middle Atlantic	61.24	38.76	5.97	1.73	36.50
East North Central	60.59	39.41	7.53	3.60	36.86
West North Central	56.68	43.32	6.11	1.19	40.19
South Atlantic	55.91	44.09	8.46	4.73	40.85
East South Central	53.98	46.02	10.35	2.86	41.83
West South Central	57.73	42.27	6.23	2.18	39.31
Mountain	55.15	44.85	6.40	1.81	42.94
Pacific	51.83	48.17	9.44	2.18	43.86

**Table 2—continued**

Among firms with the following characteristics...	Percentage of firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Firm located in a right-to-work state</i>					
right-to-work state	54.44	45.56	7.22	3.21	42.39
forced-union state	58.23	41.77	7.80	2.66	38.87
<i>Primary sales area</i>					
Within the city	70.64	29.36	4.53	1.55	26.87
Within the county/metropolitan area	58.47	41.53	6.10	3.02	39.29
Within the state	49.00	51.00	7.78	4.13	47.55
Within the region	50.22	49.78	7.54	3.42	47.04
Throughout the country	48.33	51.67	15.74	3.18	46.12
Globally	41.22	58.78	12.96	1.95	54.24
<i>Number of offices</i>					
one location	58.94	41.06	6.88	2.60	38.27
two locations	45.64	54.36	10.22	3.46	49.99
3 or more locations	34.97	65.03	9.41	4.56	60.77
<i>Organizational form</i>					
Proprietorship	63.89	36.11	4.54	1.68	33.87
Partnership	51.40	48.60	4.45	1.74	48.18
S corporation	52.72	47.28	9.60	3.66	44.14
C corporation	47.46	52.54	13.88	5.33	46.19
Owners managed	57.21	42.79	7.15	2.79	40.03
<i>Years under current ownership</i>					
0 <= years < 5	60.69	39.31	6.38	3.34	37.44
5 <= years < 10	53.51	46.49	9.22	2.63	42.83
10 <= years < 15	54.59	45.41	6.06	1.93	43.29
15 <= years <= 20	54.97	45.03	7.20	1.35	43.25
20 <= years <= 25	60.28	39.72	8.70	2.35	34.88
years >= 25	57.26	42.74	7.85	4.87	38.70
<i>Number of employees</i>					
0-2 employees	66.21	33.79	2.38	1.00	32.65
3-4 employees	54.22	45.78	6.16	3.04	42.41
> 4 employees	48.47	51.53	13.59	4.69	46.82
<i>Average Salary per non-owner worker (\$)</i>					
0 ≤ avg salary ≤ 4,999	62.16	37.84	3.66	1.94	36.69
5,000 ≤ avg salary ≤ 14,999	57.57	42.43	7.22	2.69	38.99
15,000 ≤ avg salary ≤ 29,999	53.61	46.39	10.50	2.65	41.37
Avg salary ≥ 30,000	45.50	54.50	14.64	5.82	49.56

**Table 2—continued**

Among firms with the following characteristics...	Percentage of firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Asset size(\$1,000)</i>					
assets < 25	68.36	31.64	3.55	1.79	29.64
25 <= assets < 50	62.08	37.92	3.73	1.53	35.98
50 <= assets < 100	57.32	42.68	6.26	2.82	41.30
100 <= assets < 250	53.04	46.96	7.90	2.93	44.45
250 <= assets < 500	49.65	50.35	10.12	4.81	45.32
500 <= assets < 1,000	44.70	55.30	12.25	5.29	49.93
1,000 <= assets <= 2,500	42.60	57.40	17.47	5.14	51.32
2,500 <= assets <= 5,000	41.17	58.83	20.48	6.45	50.10
assets >= 5,000	20.83	79.17	30.97	4.94	67.58
<i>Total sales in 2003(\$1,000)</i>					
sales < 25	78.76	21.24	2.79	0.30	20.07
25 <= sales < 50	69.00	31.00	2.83	1.05	30.15
50 <= sales < 100	59.43	40.57	3.77	1.43	39.25
100 <= sales < 250	57.95	42.05	5.84	3.25	38.65
250 <= sales < 500	53.15	46.85	6.99	1.85	44.66
500 <= sales < 1,000	48.52	51.48	7.53	5.53	48.09
1,000 <= sales < 2,500	45.34	54.66	15.98	4.67	48.02
2,500 <= sales < 5,000	41.87	58.13	16.71	5.35	53.51
sales >= 5,000	33.69	66.31	30.04	5.79	56.51
<i>Total profit in 2003(\$1,000)</i>					
profit < 10	60.09	39.91	6.75	3.16	37.25
10 <= profit < 50	58.41	41.59	4.51	1.98	39.13
50 <= profit < 100	58.27	41.73	5.12	2.17	39.16
100 <= profit < 500	51.76	48.24	11.53	3.40	44.38
500 <= profit < 1,000	41.40	58.60	14.24	3.54	55.27
1,000 <= profit < 5,000	43.94	56.06	19.95	5.23	48.52
profit >= 5,000	11.78	88.22	32.38	5.39	78.23
<i>Return on Sales (Profit/Sales ratio)</i>					
profit/sales < 0	54.94	45.06	7.88	4.20	41.88
0 <= prof/sales < .25	52.07	47.93	9.77	3.11	44.25
.25 <= prof/sales < .5	59.64	40.36	7.05	1.99	38.37
prof/sales > .5	62.75	37.25	4.02	2.18	34.68
<i>Credit score</i>					
D&B credit score: 0-10	50.70	49.30	8.15	6.67	46.58
D&B credit score: 11-25	61.95	38.05	10.00	3.96	33.79
D&B credit score: 26-50	62.22	37.78	4.23	2.32	35.88
D&B credit score: 51-75	54.37	45.63	8.83	1.90	42.07
D&B credit score: 76-90	55.18	44.82	6.22	2.53	41.86
D&B credit score: 91-100	51.97	48.03	10.12	1.88	45.40

**Table 2—continued**

Among firms with the following characteristics...	Percentage of firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Total sales in 2003 vs. 2002</i>					
sales increased in 2003	52.23	47.77	8.42	3.95	44.75
sales decreased in 2003	60.54	39.46	6.87	1.98	36.47
<i>Average salary in firm market area (\$)</i>					
avg. salary <= 30,000	62.38	37.62	4.12	2.71	35.94
30,000 < avg. salary <= 35,500	55.27	44.73	8.36	3.29	41.36
35,500 < avg. salary <= 42,500	55.29	44.71	8.61	1.99	41.54
avg. salary > 42,500	54.07	45.93	9.22	3.46	42.14
<i>Education in firm market area (percent of population with...)</i>					
No high school degree <= 15%	57.42	42.58	7.02	2.40	39.92
15% < No high school degree <= 19%	55.23	44.77	8.41	3.38	41.60
less than high school > 19%	58.26	41.74	7.01	2.72	38.53
college degree or more <= 28%	60.25	39.75	5.82	3.01	37.51
28% < college degree or more <= 34%	54.72	45.28	8.25	2.95	41.85
college degree or more > 34%	55.71	44.29	8.46	2.68	41.03

†Firm-level characteristics are weighted (by the owners' ownership shares) averages of individual owner characteristics when there is more than one owner. Estimates are weighted using survey replicate weights.

**Table 3: Firm characteristic by usage of alternative work arrangements (weighted)**

Percentage that have the following characteristic...	Among firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Owner characteristics<sup>†</sup></i>					
Nonwhite or Hispanic	13.39	12.66	24.01	17.76	12.22
White	90.70	91.41	83.75	88.39	91.44
Black	3.65	3.71	8.60	6.16	3.79
Native American	1.41	1.25	0.73	2.15	1.25
Asian or Pacific Islander	4.52	3.52	6.90	3.77	3.39
Hispanic	3.99	4.36	7.37	5.71	3.97
Non-Hispanic white	86.32	87.03	76.36	83.14	87.45
Female	24.66	19.36	15.05	11.22	19.82
Male	61.60	69.09	76.77	81.61	68.28
Ownership equally	13.74	11.55	8.18	7.17	11.90
<i>Industry</i>					
Construction and Mining	7.40	17.67	16.32	18.35	18.30
Manufacturing	6.53	7.87	13.26	5.05	7.49
Transportation	3.01	4.76	3.56	8.13	4.90
Wholesale trade	6.15	5.53	9.51	5.63	4.79
Retail trade	23.47	11.79	11.23	13.15	11.58
Insurance and real	5.78	9.07	5.96	7.12	9.32
Business services	26.80	22.91	20.16	26.17	23.16
Professional services	20.77	20.40	20.01	16.41	20.47
<i>Urbanization at main office</i>					
Urban	81.23	84.02	91.44	82.61	83.51
Rural	18.78	15.98	8.56	17.39	16.49
<i>Census region</i>					
Northeast	20.83	18.41	15.98	17.87	18.75
Midwest	21.99	19.79	19.57	20.51	19.84
South	34.39	35.16	37.06	43.91	34.94
West	22.80	26.63	27.39	17.71	26.47
<i>Census Division</i>					
New England	5.90	6.00	5.06	9.34	6.19
Middle Atlantic	14.93	12.41	10.92	8.52	12.56
East North Central	15.15	12.93	14.07	18.15	13.00
West North Central	6.85	6.86	5.49	2.36	6.84
South Atlantic	18.64	19.24	21.15	30.39	19.16
East South Central	5.05	5.65	7.24	5.36	5.52
West South Central	10.71	10.27	8.67	8.16	10.26
Mountain	7.43	7.92	6.46	4.88	8.15
Pacific	15.37	18.72	20.93	12.84	18.31

**Table 3—continued**

Percentage that have the following characteristic...	Among firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Firm located in a right-to-work state</i>					
right-to-work state	37.38	40.95	37.10	42.38	40.95
forced-union state	62.62	59.05	62.90	57.62	59.05
<i>Primary sales area</i>					
Within the city	27.72	15.14	13.35	12.31	14.89
Within the county/metropolitan area	33.89	31.69	26.67	35.23	32.22
Within the state	14.76	20.15	17.36	25.00	20.20
Within the region	10.20	13.26	11.47	13.45	13.47
Throughout the country	9.60	13.35	23.38	11.20	12.79
Globally	2.92	5.46	6.89	2.81	5.41
<i>Number of offices</i>					
one location	89.31	81.67	78.44	77.74	81.81
two locations	7.57	11.85	12.66	11.60	11.72
3 or more locations	1.29	3.13	2.50	3.25	3.14
<i>Organizational form</i>					
Proprietorship	50.24	37.34	26.93	26.74	37.65
Partnership	7.85	9.69	4.88	4.74	10.33
S corporation	28.85	33.94	39.60	38.98	34.05
C corporation	13.07	19.03	28.59	29.54	17.97
Owners managed	94.92	93.36	89.32	93.64	93.87
<i>Years under current ownership</i>					
0 <= years < 5	22.09	18.78	17.43	24.53	19.22
5 <= years < 10	20.80	23.77	26.92	20.52	23.53
10 <= years < 15	15.39	16.69	12.78	9.32	17.10
15 <= years <= 20	12.22	13.16	12.00	6.03	13.59
20 <= years <= 25	11.52	9.98	12.46	9.13	9.42
years >= 25	17.97	17.62	18.41	30.48	17.15
<i>Number of employees</i>					
0-2 employees	46.76	31.38	12.67	14.26	32.59
3-4 employees	19.73	21.87	16.88	22.42	21.77
> 4 employees	33.51	46.75	70.46	63.33	45.64
<i>Average Salary per non-owner worker (\$)</i>					
0 ≤ avg salary ≤ 4,999	48.51	38.72	21.50	29.06	40.35
5,000 ≤ avg salary ≤ 14,999	18.39	17.87	17.41	17.36	17.65
15,000 ≤ avg salary ≤ 29,999	19.67	22.42	29.02	19.63	21.50
Avg salary ≥ 30,000	13.44	20.99	32.08	33.95	20.50

**Table 3—continued**

Percentage that have the following characteristic...	Among firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Asset size(\$1,000)</i>					
assets < 25	37.81	23.01	14.80	20.10	23.17
25 <= assets < 50	38.31	30.78	17.36	19.18	31.39
50 <= assets < 100	13.55	13.27	11.15	13.53	13.80
100 <= assets < 250	14.80	17.31	16.67	16.65	17.61
250 <= assets < 500	8.80	11.72	13.46	17.24	11.34
500 <= assets < 1,000	5.56	8.95	11.50	11.78	8.68
1,000 <= assets <= 2,500	4.35	7.63	13.35	10.58	7.32
2,500 <= assets <= 5,000	1.26	2.53	5.07	4.25	2.31
assets >= 5,000	0.75	3.57	7.85	2.63	3.27
<i>Total sales in 2003(\$1,000)</i>					
sales < 25	20.29	7.19	5.39	1.56	7.30
25 <= sales < 50	23.93	14.14	7.39	7.35	14.78
50 <= sales < 100	11.96	10.73	5.72	5.84	11.16
100 <= sales < 250	20.19	19.20	15.36	21.45	18.96
250 <= sales < 500	13.39	15.51	13.26	9.42	15.89
500 <= sales < 1,000	10.39	14.48	12.17	24.03	14.54
1,000 <= sales < 2,500	8.00	12.75	21.36	16.76	12.04
2,500 <= sales < 5,000	2.68	4.88	7.99	6.88	4.82
sales >= 5,000	2.29	5.97	15.42	7.19	5.45
<i>Total profit in 2003(\$1,000)</i>					
profit < 10	41.71	36.30	35.20	42.69	36.40
10 <= profit < 50	24.95	23.35	14.45	17.11	23.61
50 <= profit < 100	12.58	11.85	8.33	9.50	11.95
100 <= profit < 500	16.68	20.47	28.04	22.23	20.24
500 <= profit < 1,000	1.92	3.57	4.97	3.29	3.62
1,000 <= profit < 5,000	2.07	3.48	7.02	4.74	3.23
profit >= 5,000	0.10	1.01	2.05	0.46	0.97
<i>Return on Sales (Profit/Sales ratio)</i>					
profit/sales < 0	18.49	19.85	19.97	27.03	19.82
0 <= prof sales < .25	35.20	42.56	49.50	42.32	42.23
.25 <= prof sales < .5	20.75	18.44	18.24	14.01	18.85
prof sales > .5	22.94	17.88	11.02	15.56	17.89
<i>Credit score</i>					
D&B credit score: 0-10	8.84	11.22	10.69	22.03	11.39
D&B credit score: 11-25	15.83	12.83	19.24	20.58	12.24
D&B credit score: 26-50	24.50	19.53	12.51	18.08	19.93
D&B credit score: 51-75	23.82	26.30	28.98	16.54	26.06
D&B credit score: 76-90	17.34	18.46	14.60	15.97	18.54
D&B credit score: 91-100	9.68	11.66	13.99	6.80	11.84

**Table 3—continued**

Percentage that have the following characteristic...	Among firms that...				
	used no alternative arrangement	used at least one alternative arrangement	used temp employees from agency	used leased employees	used independent contractors
<i>Total sales in 2003 vs. 2002</i>					
sales increased in 2003	41.92	50.35	50.53	63.28	50.69
sales decreased in 2003	58.08	49.65	49.47	36.72	49.31
<i>Average salary in firm market area (\$)</i>					
avg. salary <= 30,000	27.36	21.80	13.63	24.13	22.38
30,000 < avg. salary <= 35,500	25.50	27.05	28.80	30.07	26.88
35,500 < avg. salary <= 42,500	23.47	24.76	27.33	15.46	24.72
avg. salary > 42,500	23.68	26.40	30.24	30.34	26.02
<i>Education in firm market area (percent of population with...)</i>					
No high school degree <= 15%	34.63	33.68	31.66	28.51	33.95
15% < No high school degree <= 19%	39.17	41.70	44.62	48.17	41.64
No high school degree > 19%	26.20	24.62	23.72	23.31	24.42
college degree or more <= 28%	32.37	28.06	23.51	31.25	28.46
28% < college degree or more <= 34%	33.94	36.78	38.19	36.38	36.54
college degree or more > 34%	33.69	35.15	38.29	32.37	34.99

†Firm-level characteristics are weighted (by the owners' ownership shares) averages of individual owner characteristics when there is more than one owner. Estimates are weighted using survey replicate weights.

**Table 4: Probit Coefficients-Baseline Specifications**

	uses alternative arrangement - with industry dummies		uses alternative arrangement - with seasonality/cyclicality variables	
<i>Industry</i>				
Construct and Mining	1.033	1.040		
	(0.117)***	(0.116)***		
Manufacturing	0.294	0.307		
	(0.120)**	(0.121)**		
Transportation	0.585	0.591		
	(0.170)***	(0.169)***		
Wholesale trade	0.101	0.107		
	(0.123)	(0.122)		
Insurance and real	0.703	0.712		
	(0.122)***	(0.123)***		
Business services	0.401	0.402		
	(0.088)***	(0.088)***		
Professional services	0.449	0.455		
	(0.091)***	(0.090)***		
<i>Seasonality and cyclicality<sup>†</sup></i>				
cyclical			0.228	0.227
			(0.040)***	(0.039)***
seasonal			-2.281	-2.328
			(1.461)	(1.447)
<i>Firm Size Measures</i>				
0-2 employees	-0.271	-0.294	-0.210	-0.225
	(0.098)***	(0.096)***	(0.098)**	(0.096)**
3-4 employees	-0.025	-0.040	-0.016	-0.024
	(0.080)	(0.079)	(0.079)	(0.078)
Number of offices	0.032	0.034	0.031	0.032
	(0.018)*	(0.018)*	(0.017)*	(0.017)*
Log(average salary)	-0.004	-0.004	-0.001	-0.001
	(0.009)	(0.009)	(0.009)	(0.009)
Log(assets)	0.088	0.088	0.073	0.073
	(0.015)***	(0.014)***	(0.014)***	(0.014)***
Profit/Sales	0.007	0.007	0.009	0.009
	(0.006)	(0.005)	(0.008)	(0.008)
Sales in 2003 > than 2002	0.156	0.159	0.178	0.182
	(0.058)***	(0.058)***	(0.057)***	(0.057)***
<i>Primary sales area</i>				
Within the city	-0.579	-0.584	-0.547	-0.547
	(0.094)***	(0.094)***	(0.091)***	(0.090)***
Within county/metropolitan area	-0.382	-0.384	-0.278	-0.274
	(0.087)***	(0.086)***	(0.085)***	(0.084)***
Within the state	-0.143	-0.138	-0.043	-0.036
	(0.095)	(0.094)	(0.093)	(0.093)
Within the region	-0.132	-0.129	-0.070	-0.063
	(0.102)	(0.102)	(0.102)	(0.102)

**Table 4—continued**

	uses alternative arrangement - with industry dummies		uses alternative arrangement - with seasonality/cyclicality variables	
<i>Location</i>				
Northeast	0.077	0.072	0.055	0.053
	(0.107)	(0.106)	(0.106)	(0.105)
Midwest	0.051	0.046	0.042	0.040
	(0.102)	(0.101)	(0.101)	(0.100)
West	0.262	0.250	0.263	0.257
	(0.095)***	(0.095)***	(0.095)***	(0.094)***
urban indicator	-0.027	-0.021	-0.013	-0.009
	(0.093)	(0.093)	(0.092)	(0.092)
Firm located in a right-to-work state	0.077	0.072	0.055	0.053
	(0.107)	(0.106)	(0.106)	(0.105)
<i>Owner &amp; Other Firm Characteristics</i>				
White	0.041		-0.065	
	(0.275)		(0.276)	
Black	0.141		0.063	
	(0.312)		(0.312)	
Asian or Pacific	-0.159		-0.305	
	(0.301)		(0.302)	
Native American	0.142		0.003	
	(0.280)		(0.276)	
Hispanic	0.037		0.046	
	(0.147)		(0.144)	
female or equally owned	-0.035	-0.033	-0.065	-0.061
	(0.059)	(0.059)	(0.058)	(0.058)
owners managed	-0.001	-0.017	0.020	-0.002
	(0.114)	(0.113)	(0.116)	(0.118)
Partnership	0.090		0.108	
	(0.108)		(0.107)	
S corporation	0.058		0.015	
	(0.074)		(0.072)	
C corporation	0.106		0.081	
	(0.086)		(0.085)	
Log(firm age)	-0.030	-0.031	-0.006	-0.005
	(0.039)	(0.038)	(0.038)	(0.038)
d&b continuous credit score	-0.001	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)

**Table 4—continued**

	uses alternative arrangement - with industry dummies		uses alternative arrangement - with seasonality/cyclical variables	
<i>Firm Market Area Characteristics</i>				
log(avg. salary in firm's market area)	0.474	0.483	0.481	0.482
	(0.220)**	(0.219)**	(0.217)**	(0.216)**
% of population with less than a high school degree	0.012	0.011	0.007	0.007
	(0.011)	(0.011)	(0.011)	(0.011)
% of population with college degree or more	0.007	0.007	0.004	0.004
	(0.007)	(0.007)	(0.007)	(0.007)
firm located in a right-to-work state	0.228	0.235	0.216	0.224
	(0.083)***	(0.083)***	(0.083)***	(0.083)***
Constant	-6.617	-6.582	-6.314	-6.316
	(2.123)***	(2.086)***	(2.089)***	(2.048)***
Observations	4121	4121	4092	4092
Wald tests of joint significance	H0:organization type=0 F( 3, 4047) = 0.59 Prob > F = 0.6190		H0:organization type=0 F( 3, 4018) = 0.58 Prob > F = 0.6284	
	H0:race & ethnicity=0 F( 5, 4047) = 0.64 Prob > F = 0.6724		H0:race & ethnicity=0 F( 5, 4016) = 0.83 Prob > F = 0.5298	

All estimates computed using multiple imputation techniques to adjust for imputed data and weighted to control for survey using sample weights and stratification. Firms with 5 or more employees are the omitted size class. Retail trade is the omitted industry; the Midwest is the omitted region; and sole proprietorship is the omitted organizational form. Standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

† The seasonality measure is defined by the standard deviation of the coefficients from a regression of the change in log employment on the firm's 2, 3, or 4 digit industry (depending on the availability of information) on a set of twelve month dummies. The cyclical measure is defined by the coefficient from a regression of the change in seasonally adjusted log employment in the firm's 2, 3, or 4 digit industry (depending on the availability of information) on the change in seasonally adjusted log of total nonagricultural payroll employment.

**Table 5 Probit Coefficients-By Specific Arrangement**

	used alternative arrangement	used employees from a temp agency	used leased employees	used independent contractors
<i>Industry</i>				
Construct and Mining	1.040 (0.116)***	0.537 (0.165)***	0.326 (0.219)	1.014 (0.115)***
Manufacturing	0.307 (0.121)**	0.374 (0.166)**	-0.024 (0.244)	0.251 (0.122)**
Transportation	0.591 (0.169)***	0.184 (0.210)	0.488 (0.278)*	0.600 (0.169)***
Wholesale trade	0.107 (0.122)	0.349 (0.174)**	0.106 (0.272)	-0.020 (0.126)
Insurance and real	0.712 (0.123)***	0.207 (0.191)	0.204 (0.235)	0.707 (0.123)***
Business services	0.402 (0.088)***	0.231 (0.152)	0.195 (0.213)	0.394 (0.089)***
Professional services	0.455 (0.090)***	0.315 (0.148)**	0.135 (0.198)	0.443 (0.091)***
<i>Firm Size Measures</i>				
0-2 employees	-0.294 (0.096)***	-0.809 (0.147)***	-0.639 (0.191)***	-0.245 (0.097)**
3-4 employees	-0.040 (0.079)	-0.350 (0.107)***	-0.217 (0.138)	-0.025 (0.079)
Number of offices	0.034 (0.018)*	0.015 (0.016)	-0.002 (0.006)	0.003 (0.005)
Log(average salary)	-0.004 (0.009)	-0.002 (0.015)	0.002 (0.018)	-0.007 (0.009)
Log(assets)	0.088 (0.014)***	0.055 (0.022)**	0.017 (0.033)	0.083 (0.014)***
Profit/Sales	0.007 (0.005)	-0.001 (0.002)	-0.002 (0.002)	0.023 (0.009)**
Sales in 2003 > than 2002	0.159 (0.058)***	0.003 (0.081)	0.313 (0.115)***	0.171 (0.058)***
<i>Primary Sales Area</i>				
Within the city	-0.584 (0.094)***	-0.508 (0.132)***	-0.134 (0.213)	-0.547 (0.095)***
Within county/metropolitan area	-0.384 (0.086)***	-0.454 (0.116)***	0.090 (0.174)	-0.328 (0.087)***
Within the state	-0.138 (0.094)	-0.288 (0.122)**	0.282 (0.175)	-0.121 (0.095)
Within the region	-0.129 (0.102)	-0.377 (0.134)***	0.084 (0.189)	-0.071 (0.102)

**Table 5—continued**

	used alternative arrangement	used employees from a temp agency	used leased employees	used independent contractors
<i>Location</i>				
Northeast	0.072 (0.106)	-0.270 (0.151)*	-0.154 (0.178)	0.102 (0.105)
Midwest	0.046 (0.101)	-0.172 (0.139)	-0.203 (0.151)	0.032 (0.101)
West	0.250 (0.095)***	-0.068 (0.128)	-0.215 (0.140)	0.231 (0.094)**
urban indicator	-0.021 (0.093)	0.283 (0.149)*	-0.055 (0.173)	-0.039 (0.093)
<i>Owner &amp; Other Firm Characteristics</i>				
female or equally owned	-0.033 (0.059)	-0.163 (0.087)*	-0.346 (0.134)***	-0.002 (0.059)
owner managed	-0.017 (0.113)	-0.158 (0.142)	0.165 (0.203)	0.055 (0.114)
Log(firm age)	-0.031 (0.038)	-0.044 (0.053)	0.097 (0.091)	-0.038 (0.038)
d&b continuous credit score	-0.001 (0.001)	-0.001 (0.001)	-0.006 (0.002)***	-0.000 (0.001)
<i>Firm Market Area Characteristics</i>				
log(avg. salary in firm's market area)	0.483 (0.219)**	0.543 (0.296)*	0.608 (0.421)	0.432 (0.219)**
% of population with less than a high school degree	0.011 (0.011)	0.004 (0.016)	-0.016 (0.018)	0.003 (0.011)
% of population with college degree or more	0.007 (0.010)	-0.009 (0.016)	-0.015 (0.020)	0.003 (0.010)
firm located in a a right-to-work state	0.235 (0.083)***	-0.143 (0.117)	-0.061 (0.126)	0.231 (0.082)***
Constant	-6.582 (2.086)***	-7.021 (2.781)**	-8.004 (4.099)*	-5.949 (2.092)***
Observations	4121	4121	4121	4121

All estimates computed using multiple imputation techniques to adjust for imputed data and weighted to control for survey using sample weights and stratification. Firms with 5 or more employees are the omitted size class. Retail trade is the omitted industry; the Midwest is the omitted region; and sole proprietorship is the omitted organizational form. Standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table 6: Marginal Effects by Arrangement Type**

	used alternative arrangement	used employees from a temp agency	used leased employees	used independent contractors
<i>Industry</i>				
Construct and Mining	0.389 (0.036)***	0.077 (0.030)**	0.018 (0.015)	0.385 (0.038)***
Manufacturing	0.122 (0.048)**	0.050 (0.027)*	-0.001 (0.010)	0.099 (0.048)**
Transportation	0.231 (0.063)***	0.022 (0.028)	0.033 (0.027)	0.236 (0.064)***
Wholesale trade	0.042 (0.049)	0.046 (0.028)*	0.005 (0.014)	-0.008 (0.048)
Insurance and real	0.276 (0.044)***	0.025 (0.026)	0.010 (0.014)	0.276 (0.046)***
Business services	0.159 (0.035)***	0.026 (0.019)	0.009 (0.011)	0.154 (0.035)***
Professional services	0.180 (0.035)***	0.038 (0.020)*	0.006 (0.010)	0.174 (0.036)***
<i>Firm Size Measures</i>				
0-2 employees	-0.114 (0.037)***	-0.076 (0.013)***	-0.024 (0.007)***	-0.094 (0.036)**
3-4 employees	-0.016 (0.031)	-0.031 (0.008)***	-0.008 (0.005)*	-0.009 (0.030)
Number of offices	0.013 (0.007)*	0.002 (0.002)	-0.000 (0.000)	0.001 (0.002)
Log(average salary)	-0.001 (0.004)	-0.000 (0.001)	0.000 (0.001)	-0.003 (0.004)
Log(assets)	0.035 (0.006)***	0.006 (0.002)**	0.001 (0.001)	0.032 (0.005)***
Profit/Sales	0.003 (0.002)	-0.000 (0.000)	-0.000 (0.000)	0.009 (0.003)**
Sales in 2003 > than 2002	0.063 (0.023)***	0.000 (0.008)	0.014 (0.005)**	0.066 (0.022)***
<i>Primary Sales Area</i>				
Within the city	-0.217 (0.032)***	-0.042 (0.009)***	-0.005 (0.008)	-0.198 (0.031)***
Within county/metropolitan area	-0.148 (0.032)***	-0.042 (0.010)***	0.004 (0.008)	-0.124 (0.032)***
Within the state	-0.054 (0.036)	-0.025 (0.009)***	0.014 (0.010)	-0.046 (0.036)
Within the region	-0.050 (0.039)	-0.031 (0.009)***	0.004 (0.009)	-0.027 (0.039)

**Table 6—continued**

	used alternative arrangement	used employees from a temp agency	used leased employees	used independent contractors
<i>Location</i>				
Northeast	0.028	-0.024	-0.006	0.040
	(0.042)	(0.012)**	(0.006)	(0.041)
Midwest	0.018	-0.016	-0.007	0.012
	(0.040)	(0.012)	(0.005)	(0.039)
West	0.099	-0.007	-0.008	0.090
	(0.038)***	(0.012)	(0.005)*	(0.037)**
urban indicator	-0.008	0.025	-0.002	-0.015
	(0.037)	(0.011)**	(0.008)	(0.036)
<i>Owner &amp; Other Firm Characteristics</i>				
female or equally owned	-0.013	-0.016	-0.013	-0.001
	(0.023)	(0.008)**	(0.005)***	(0.023)
owner managed	-0.007	-0.018	0.006	0.021
	(0.045)	(0.018)	(0.006)	(0.043)
Log(firm age)	-0.012	-0.005	0.004	-0.014
	(0.015)	(0.006)	(0.004)	(0.015)
d&b continuous credit score	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)***	(0.000)
<i>Firm Market Area Characteristics</i>				
log(avg. salary in firm's market area)	0.189	0.056	0.025	0.166
	(0.086)**	(0.031)*	(0.018)	(0.084)**
% of population with less than a high school degree	0.004	0.000	-0.001	0.001
	(0.004)	(0.002)	(0.001)	(0.004)
% of population with college degree or more	0.003	-0.001	-0.001	0.001
	(0.004)	(0.002)	(0.001)	(0.004)
firm located in a right-to-work state	0.092	-0.014	-0.003	0.089
	(0.033)***	(0.012)	(0.005)	(0.032)***
Observations	4121	4121	4121	4121

All estimates computed using multiple imputation techniques to adjust for imputed data and weighted to control for survey using sample weights and stratification. Standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Appendix table 1**

1-Digit Industry	Cyclicality	Seasonality
Mining	2.984	0.01344
Manufacturing-durable goods	2.95637	0.00491
Manufacturing	1.89262	0.00571
Construction	1.69535	0.03488
Transportation	1.26729	0.00723
Real Estate	0.82018	0.0134
Manufacturing-Nondurable goods	0.60295	0.00903
Services	0.4223	0.00525
Retail trade	0.39772	0.01365
Finance, insurance, and real estate	0.37569	0.00503
Insurance carriers	0.32958	0.00228
Wholesale trade	0.26504	0.00282
Insurance	0.22603	0.0023
Finance	0.19947	0.00382
Insurance agents, brokers, and service	0.06877	0.00276

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