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Contract Employment: Measurement and Implications for Employer–Employee Relationships

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Abstract

This article utilizes a new nationally representative survey, executed in January 2020, that measures non-standard work. The author estimates the incidence of contract company employment and freelancing and describes who goes into non-standard employment. He then studies earnings and access to employer-provided training among contract company employees—the largest and most mis-measured group of non-standard workers. Training is important because it affects wage growth and career trajectories and also gives insight into the evolving character of employment relationships. Findings indicate that contract company employees face an earnings penalty but that considerable heterogeneity occurs within this category. The analysis of multiple forms of formal training finds that contract company employees receive less training than do standard employees even after multiple controls. Informal training is more textured due to the nature of social interactions inherent in its availability. Throughout the analysis, racial and ethnic disparities are apparent.

Keywords

inequality, employment, non-standard work, training, organizations, labor markets

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A widely shared assessment of the American labor market is that the relationship between employees and their employers has changed in important ways. These shifts are typically characterized as a weakening of the traditional ties between organizations and their workforce and a concomitant increase in the incidence of non-standard jobs. The common use of the term "non-standard" encompasses a range of employment types including freelancing, involuntary part-time work, jobs found through temporary staffing firms, and contract company jobs.

Scholars differ regarding even the "simple" question of just how common is non-standard work as well as who finds themselves working under non-standard arrangements. The implications for individuals who work in non-standard arrangements are also unclear. For example, Dube and Kaplan (2010) showed that some occupations have a substantial wage penalty whereas other researchers point to a range of reasons why employers would use non-standard arrangements other than to drive down wages, which in turn implies that it is important to be sensitive to variation within the non-standard workforce (Abraham and Taylor 1996; Erickcek, Houseman, and Kalleberg 2003).

These questions are hard to answer and the debates difficult to settle in part because of disagreements

regarding definitions. In addition, nationally representative data sources, in particular the Contingent Worker Survey (CWS) (as discussed below), are problematic in some respects. As Howell and Kalleberg (2019) noted, "Unfortunately, interest in and theories of nonstandard work arrangements have outrun empirical evidence based on representative data and using consistent definitions and adequate measures" (p. 17).

I seek to make progress on these issues by working with a new nationally representative survey that carefully defines non-standard work and draws upon best practice in framing the questions for respondents. I provide reliable estimates of the scope of contract company employment and freelancing. After providing these estimates, the article focuses on contract company employees, specifically on the arrangements in which the worker is employed by one organization (the staffing firm) but is assigned to work at the site of another. I use the term "contract company employees" rather than "contractors" to be clear that we are not referring to independent contractors, which is an alternative term for freelancers. Contract company employment is the most severely mis-defined and undercounted form of non-standard work. Visible examples include organizations that lay off their cleaning staff or security staff and replace them with contract company employees. This use of contract company employees extends into other sectors including manufacturing (Dey, Houseman, and Polivka 2012) and high-tech firms (Barley and Kunda 2004). In addition, because contract company employees work in an organization alongside standard employees the comparisons we undertake in this article provide insight into employment relationships.

For the consequences of non-standard employment we examine earnings as well as access to employer-provided training, which is an important outcome for individuals and for understanding the evolving employment relationship. With respect to training we distinguish between four measures of policy-driven training—orientation, workplace behavior, skills training, and tuition benefits. I also study informal training, which is partly policy driven but which also has a significant social component.[1]

The Literature: Incidence, Earnings, and Training

Although the growth of non-standard employment has captured the attention of both scholarly and popular observers, significant challenges and considerable confusion in both the academic and the public discourse arise from lack of clarity regarding definitions and from inadequate data. Available research, both scholarly and popular, utilizes diverse definitions of what constitutes non-standard work with respect to the kinds of arrangements that fall into this category and how each arrangement is defined and measured. In the popular discussion, for example, Upwork (2020) recently claimed that 36% of the workforce are freelancers. Claims along these lines have been challenged on both definitional and measurement grounds by the Economic Policy Institute (Mishel 2015). In the scholarly literature, as an illustration, some researchers include part-time jobs in their list of non-standard work while others do not. Additionally, distinctions between terms such as temp jobs, gig jobs, contract work, contingent jobs, and freelancing are often unclear and confusing.

In our framework, standard employment means that the organization that defines and directs the work is the same organization that is legally responsible for the employee in the sense of directly compensating the employee, withholding taxes, and paying whatever benefits are legally required (Cappelli and Keller 2013; Abraham, Hershbein, and Houseman 2019; Abraham et al. 2021). If the organization that directs the work is not the organization that withholds taxes and is legally and financially responsible for the employee, then the work is either contract company employment or freelancing, with the difference being that freelancers have no legal employer responsible for paying

wages and taxes whereas the staffing firm plays this role for contract company employees. Note that temporary help employees are a subset of contract company employees, and gig workers (such as food delivery or ride-sharing drivers) are a subset of freelancers. Another group of employees who receive W-2s are outsourced employees who may work for a client but not at the client's location. These jobs can range from cloud services to laundry service for hotels. These types of jobs are difficult to distinguish from traditional suppliers and for this article we do not consider these circumstances. Figure 1 summarizes how we define the categories. In the Methods section I describe measurement in more detail.

	Standard work	*Contract company employment*	*Freelancing (sometimes called independent contracting)*
Nature of the relationship	Works at the location of their employer who pays taxes and directs the work.	Have an employer—the staffing firm—who pays taxes but is assigned to work at the location of the client who directs the work: building cleaners or assembly line workers are examples.	Has no employer and hence pays own taxes and provides own benefits. May or may not work at the location of a client.
Subcategories		Temporary help employees are a subcategory distinguished by very short-term assignments.	Gig workers are a subcategory distinguished by finding jobs via an online app.
Another status		Outsourced employees have a legal employer and a client firm. They do not work at the location of their client. This type of arrangement is not considered in this article and they are counted as standard employees. Web cloud services or sent-out laundry services are examples.	

Figure 1. Work Arrangements

Outcomes

The explanations in the literature for the use of contract company employees point in different directions with respect to earnings. One employer motivation is the straightforward objective of obtaining a workforce at lower wages, for example by a bidding process among contractor firms that emphasizes price and therefore provides an incentive to minimize wage costs. A second explanation for lower compensation is that the use of contract company employees enables firms to remove some occupations from the wage norm constraints of internal labor markets (ILMs). Other more benign motives include the need to staff for peak demand or product market volatility and the challenge of obtaining scarce skills for short-term assignments (Abraham and Taylor 1996; Kunda, Barley, and Evans 2002; Erickcek et al. 2003).

The empirical evidence reflects these disparate motives (Lautsch 2002). As an example, Dube and Kaplan (2010) found that security guards and janitors who work for contract companies earn less than those who are standard employees. This pattern seems apparent in other industries and occupations (Bernhardt, Batt, Houseman, and Appelbaum 2015). Nonetheless, high-end contract company employees may command high earnings given their specialized skills (Barley and Kunda 2004; Bidwell and Briscoe 2009), and when contract company employees are called upon to fill in during peak times the earnings consequences are ambiguous (Abraham and Taylor 1996).

The foregoing suggests that a subset of contract company employees will not suffer an earnings disadvantage due to their status; that is, heterogeneity occurs within the category, and this leaves open the question of the overall impact.

Training and Internal Labor Markets

Training is a valuable benefit for workers as it enhances their ability to perform well at work, gain promotions, or move across firms for higher pay. A substantial literature discusses employer-provided training for standard workers (see Osterman 2022 for a review of the literature) but we know virtually nothing about the extent and nature of training for non-standard workers. An important question is whether, in addition to any possible negative earnings consequences, employees in non-standard arrangements receive less training than do standard employees. If this were the case, the disadvantage associated with non-standard work would be intensified.

A second rationale for understanding access to employer-provided training for non-standard workers is that employer training is a central component of ILMs. A reduction in training investments by employers may indicate fraying of those relationships. In the original formulation, ILMs were explained as arising from the need to create job ladders so that senior employees were not threatened by juniors and hence were willing to provide them with on-the-job training (Doeringer and Piore 1971). In their mapping of employment systems in California firms, using Employment Service data, Baron, Davis-Blake, and Bielby (1986) tested and confirmed the hypothesis that "the greater an establishment's dependence on firm-specific skills and on-the-job training, the more likely the establishment is to have an ILM" (p. 250). The empirical literature on training also links it to ILMs. The most straightforward version is that firms with well-developed job ladders will provide more training because they are more likely to be able to retain employees (Lynch and Black 1998). At a deeper level, training is seen as a practice that is complementary to what are often termed High Performance Work Systems, which entail practices such as job enlargement and quality programs (MacDuffie 1995; Ichniowski, Shaw, and Prennushi 1997; Black and Lynch 2001; Arthur, Herdman, and Yang 2021). Organizational sociologists also view training as a component of a firm's ILM or human resource practices. Knoke and Kalleberg (1994) utilized an employer-based survey that collected data on organizational characteristics and training policies and concluded that "company managers presumably view formal training as an integral component of a larger human resources program that defines employees' positions in the organization" (p. 544).

If contract company employees do receive less training than standard employees receive, this implies that the reach of the ILM for the work site that utilizes contract company employees is shrinking. The logic is that if contracting has increased, and if contract company employees receive less training than do standard employees then, overall, organizations for the same volume of output are investing less in training than in the past with concomitant reductions in the scope of their ILMs. Whether this implies that for the economy as a whole ILMs are less prevalent is unclear because it is possible that the legal

employer—the staffing firm—itself has a well-developed ILM.[2]

All this said, it is important to calibrate expectations with respect to non-standard work and training. The argument is not that organizations provide contract company employees with no training. Even in the most straightforward example of an unstructured labor market staffed with migrant and highly contingent employees, some training takes place regarding how and where to pick fruits and vegetables, for example (Fisher 1953). Consider also that when a temporary worker is brought on board to replace a vacationing administrative assistant, the temp necessarily receives some training about organizational procedures. My questions are whether at the site where contract company employees work they receive less training than equivalent standard employees and if any gap remains after extensive controls.

Scholars of employer training have long recognized that in addition to formal training, informal training—training provided by colleagues—plays an important role. Reviews of the training literature report that informal training is ubiquitous (Lerman, McKernan, and Riegg 2004). Nonetheless, non-standard employees may receive less informal training if standard employees are hostile to them. Negative attitudes of standard employees toward contract company employees may result because they perceive them as a threat to their job security. Additionally, failure to provide a full measure of informal training might result simply because contract company employees are not part of the social group, and hence, motivation to help them is lower. A relatively small but useful literature originated and explored these ideas (for a review see Davis-Blake and Broschak 2010), and the findings suggest that these social relationships are valuable (Davis-Blake, Broschak, and George 2003). As an example Pedulla (2013), utilizing matched employee–employer data, found that the use of temporary workers (but not freelancers or on-call employees) negatively impacted standard employee attitudes, and the main mechanism was perceived threat to job security.

As just noted, contract company employees are assigned to work at one organization (the client firm)—which we focused on in the foregoing ILM discussion—but they also have a legal employer (the staffing firm) who hires them and pays their wages. Under some circumstances the staffing firm might provide training to the contracting company employee. On its face this arrangement is not consistent with the Becker (1964) training model because many contract company employees, such as temporary agency workers, are mobile and the staffing firm may find it difficult to capture the productivity gains from training. Scholars studying temp agency workers nonetheless do observe training (Autor 2001; Fernandez-Mateo 2009).

Methods

I utilize a survey conducted in January 2020 (prior to the COVID pandemic) by NORC at the University of Chicago and based on its standing nationally representative AmeriSpeak panel.[3] Data are limited to working people between the ages of 24 and 64. The survey was conducted in English and Spanish. Respondents chose between telephone and the web but only 89 respondents used the telephone. Table 1 describes my sample and compares it to the Current Population Survey (CPS). The weighted survey is a close match on demographic dimensions.

Table 1. January 2020 Survey and January 2020 Current Population Survey (CPS), Ages 24–64, Civilian, Employed

	January 2020 survey, unweighted	*January 2020 survey, weighted*	*January 2020 CPS, ages 24–64, working, weighted*

Median age	41	42	42
Age 34 and younger (%)	31.5	31.0	29.7
Age 50 and older (%)	29.1	32.6	32.5
Percentage women (%)	43.2	47.4	47.0
Percentage African American not Hispanic (%)	11.8	11.6	11.7
Percentage Hispanic any race (%)	17.7	17.5	17.8
Percentage white not Hispanic (%)	61.4	61.7	61.3
Percentage Asian not Hispanic (%)	4.5	3.9	6.6
Percentage with college degree or more (%)	48.9	41.9	42.6
Percentage with high school degree or less (%)	25.7	37.0	31.2

Note that standing panels have been used in recent academic research (Kochan, Yang, Kimball, and Kelly 2019; Pedulla and Mueller-Gastell 2019; McGinty, Presskreischer, Han, and Barry 2020), government research reports (Robles and McGee 2016; Board of Governors of the Federal Reserve System 2018), and Pew Survey Research (Horowitz and Graf 2019). Additionally, available assessments of online surveys are reassuring. In 2015, Pew, perhaps the leading national survey firm, executed parallel surveys and searched for differences in responses between those in the mail survey arm and those in the online arm (Keeter and McGeeney 2015). At the time, Pew reported that 89% of the population had access to the internet, a figure that has likely increased since then. Pew reported that of the 406 survey items, two-thirds had a difference in the response between the two arms of 1 percentage point or less and only nine items had a difference of 5 percentage points or more. In addition, within subgroups the most important consideration was age: Those 65 and older showed more differences between the two arms because a lower fraction of this age group was on the internet and hence those who reply via that mode are more likely a biased sample. This circumstance is not a concern for the present research since our age range tops out at 64. Pew concluded that "most survey estimates produced by Web surveys will be a little different from those produced by surveys that cover the entire public" (Keeter and McGeeney 2015: 8–9).

A second study compared probability sampling and interviewing via random digit dialing (RDD) versus via the internet with similarly reassuring results. Chang and Krosnick (2009) concluded that the internet methodology was equivalent with respect to representativeness and superior with respect to self-reporting accuracy (largely due to the lower rate of social desirability response bias).

Calculating the response rate of the American Training Survey (ATS) is complicated because it involves two steps: the response rate of people asked to join the AmeriSpeak panel and the response rate of people in the panel who are asked and agree to participate in the ATS. NORC describes the construction of the AmeriSpeak Panel in its technical report (NORC 2022), but the key statistic is that 24.1% of those who comprised the sampling frame agreed to join the panel. Among the panel members who met our screening criteria, 30.2% agreed to undertake the survey and of that group, 94.3% completed the survey.

Although the weighted characteristics of our survey match well against the CPS, it is possible that some selection, positive or negative, into the survey takes place based on unobserved characteristics. As a check on this possibility, I estimate an annual earnings regression using the March 2019 CPS (because the Census cautions against use of the March 2020 survey due to COVID) and compare the results to a similar regression using the ATS. The results are shown in Appendix Table A.1 and the patterns are very similar, which implies that no relevant unmeasured differences were observed among the respondents in the two surveys.

Variables

The means and standard deviations of all the variables that I utilize are found in Table 2. Several of the variables deserve further elaboration.

Table 2. Means and Standard Deviations

	Mean	*Standard deviation*
Contract company employee	0.108	0.310
Freelancer first job	0.077	0.267
Traditional self-employed	0.034	0.182
Formal skills training	0.549	0.497
Orientation	0.758	0.427
Workplace behavior training	0.757	0.428
Tuition benefit	0.324	0.468
Informal training	0.485	0.499
Gender (1 = woman)	0.474	0.499
Age	42.84	11.65
Experience (age-years of education-6)	22.8	11.9
High school or less	0.370	0.483
College degree	0.419	0.493
Married or partnered	0.615	0.486
African American	0.116	0.321
Hispanic	0.175	0.380
Asian	0.038	0.193
Task scale	4.09	2.03
Physical work	0.404	0.490
Part time (less than 35 hours per week)	0.179	0.383
Initiative: want more	0.645	0.478
Initiative: sought out training past year	0.195	0.396
Usual hours	37.56	10.19
Annual weeks worked	45.00	13.53
Total annual earnings	$51,726	$38,193

Source: American Training Survey.

Non-standard Employment. Considerable care was taken to identify non-standard employment. For the main job the first step was asking (the sequence was repeated if there was also a second job):

> Most people's job falls into one of two buckets. Please read these definitions carefully to see which one applies to your main job, i.e., the job in which you spend the most time.
>
> Employee: You work for an employer who takes taxes out of your pay.
>
> Self-employed: This means working for your own business such as a store or company that you own. This also means working as a freelancer or as an independent contractor. Self-employment also includes doing farm work, or raising livestock for either your own or your family's ranch, or commercial fishing.
>
> Are you an employee?
>
> Are you self-employed?

If people described themselves as employees they were asked:

Please read these definitions carefully to see which one applies to your main job, i.e., the job in which you spend the most time.

A standard employee works for an employer who takes taxes out of your pay. Most, but not all, people fall into this category.

However some employees are contract company employees. This means you work for a firm that pays you and takes taxes out of your pay, but the firm assigns you to work at the location of another organization. You could be assigned to that location either briefly or for a long time, but your paycheck comes from the firm that gives you work assignments and takes your taxes from your pay and not from the organization where you work.

This means you are employed by a staffing firm or temp firm or contract company that supplies other organizations with people, such as those who have computer skills or factory skills or cleaning skills or other kinds of skills.

Are you a standard employee?

Are you a contract company employee?

If people described themselves as self-employed in the opening question they were asked:

Do you consider yourself a freelancer or independent contractor? Some freelancers obtain customers on their own or maybe by an online app. It may also mean working on an individual contract basis for an organization. A key to work as a freelancer or independent contractor is that whoever hires you for work does not take out your taxes when paying you and does not consider you to be a regular employee. Although many examples might have you working in multiple locations, it is possible to be hired and work in one location regularly.

Based on this description are you a freelancer?

Earnings. Our measure of earnings is total annual earnings because contract company employees often work for more than one employer over the course of a year.

Training. The training measures (showing the language used in the survey) are:

General orientation training: “Initial orientation training explaining the organization and/or what you will be doing in your job.”

Workplace behavior training: “Training regarding harassment or other aspects of workplace behavior.”

Further skills training: “Other job-related training such as how to run a new machine, a new administrative process, or use a new piece of software.”

Informal training: “When your fellow employees take the time to show how to do the job or to learn new skills.”

Education benefits: “An education or tuition benefit that reimburses you for courses that you take in a college, community college, school, or on-line program.”

Contract company employees were asked separately about training they receive at the site where they are assigned and about training they receive from the staffing firm. I focus on training received

within the 12 months prior to the survey. The education benefit variable is a human resource policy question and refers to the policy in effect at the time of the interview.

Taken as a whole, these measures delineate the provision of training that standard employees receive from their employer and that company contract employees receive from two sources, their legal employer (staffing firm) and their work site (client firm). This said, subtle differences affect what is being captured. Informal training involves the policies of the organization as well as the social relationships among employees. Disparities may shed some light on those interactions. The education and tuition benefit question captures both the existence of the policy and awareness about it. If employees or contract company employees lack knowledge of a policy it may reflect a policy decision by the organization regarding promotion of the policy.

Skills and Tasks. The specific skills variables are motivated by Becker's (1964) classic distinction between general and specific training. The measures I use are based on two questions: "If you changed jobs how useful would the skills you received in training be to a new employer in the same industry? If you changed jobs how useful would the skills you received in training be in a different industry?" The answers to these two questions are on a 1 to 5 scale from totally transferable to not at all transferable, and I assign a positive value if the answer is totally or mostly transferable. The framing is similar to that used elsewhere in the literature (Loewenstein and Spletzer 1999; Waddoups 2014) but I add the distinction between same industry and different industry specificity.

The task measures draw from the literature on survey-based measurement of workplace skills (Handel 2016, 2017; OECD 2016). The survey asked a series of questions about the tasks the respondents undertake on the job. The stem was: "How often does the following occur in your main job." The tasks were: "Facing a complex problem that takes at least 30 minutes to find a good solution," "Being required to read a document of more than five pages," "Being required to use math: addition, subtraction, multiplication," "Being required to use math beyond addition, subtraction, and multiplication," "Being required to use a computer for word processing, web-browsing, or email (but not including the use of a device such as a cash register that is simply attached to a computer)," "Being required to work with specialized software beyond word-processing, web-browser, or email," and "Working as part of a team in which you and your colleagues decide how to get the work done." For each of these skills we assign a value of 1 if the respondent engages in them at least once a week and a zero otherwise. These items were then summed into a task index that took on a value between 1 and 7 (Cronbach's alpha = .742). In addition we included a measure of physical labor by asking whether once a week or more they are "required to perform physical labor for a stretch of 30 minutes or more," and this was entered into the models separately. Keep in mind that these variables capture the tasks that are utilized at work and are not measures of capabilities or capacities that workers do not use. This distinction is a consideration that arises below when we discuss specification of the earnings models.

Incidence and Selection

I first present descriptive data on the incidence of the several employment categories. In Table 3, if we focus on the main job (defined in the survey as the job where the respondent spends the most hours) then 81.5% are in standard employment, with freelancers accounting for 7.7% of the workforce and contract company employees 10.8%. Note that 5.7% of the overall sample work as freelancers in a second job and 1.8% of the sample work as contract company employees in a second job.

Table 3. Percentage of Workforce in Each Employment Status

Percentage (%) of workforce whose main job is:	
Standard	81.5
Freelance	7.7
Contract company employee	10.8
Temp in main job	2.1
Gig in main job	0.9
Percentage traditional self-employed in main job	3.4
Percentage not freelancers in main job but freelancers in second job	5.7

Source: American Training Survey.
Notes: Traditional self-employed are included in this table as standard employees. Temp jobs are a subset of contract company employees who are assigned to their work site for a month or less. Gig workers are a subset of freelancers who obtain their work via an online platform.

The Contingent Worker Survey (CWS), a supplement to the Current Population Survey (CPS) and last administered in 2017, is the largest and best-known data source regarding non-standard work. Incidence of freelancers in their main job in my data is close to the 2017 CWS estimate of 6.5% for 25- to 64-year-olds (the CWS captures only main jobs); my estimate of temp workers is somewhat above the CWS estimate of 0.9% but very close to the estimate provided by Dey, Houseman, and Polivka (2010) from the employer-based Current Employment Statistics program. My estimate of contract company employees who are not temps is very much in excess of the CWS estimate of 0.6%. Finally, my evidence on the substantial incidence of second job freelancers is consistent with estimates of non-standard employment based on tax reporting (Abraham et al. 2021).

My finding of high rates of contract company employment in the context of a nationally representative survey is important but also raises the question of whether the result is plausible given that it is much higher than the 0.6% reported in the CWS. I explore three categories of explanations for this higher percentage: technical considerations in how the CWS measures contract company employment, features of the CWS sampling that might limit the ability of the CWS to fully measure contract company employment, and our more detailed questions.

The technical concern is that the published CWS rate requires contract company employees to work only at one site during the survey week, which is overly restrictive for many contract company employees. For example, in many parts of the country, building cleaning and security jobs are only part-time (to avoid benefits) and so contract company employees work in more than one location to obtain adequate total compensation. This restriction, however, is the result of a sequence of questions in the CWS, and it is possible to eliminate it as well as to add in temporary workers in the count (as is done in the present survey). If we ignore the restriction about working at only one site and add in temporary workers (as we do in our survey) then the CWS rate of contract company employment is 1.9%, which is slightly closer to our rate but a large gap remains.

Turning to sampling issues, a number of scholars, as well as the National Academies of Sciences, Engineering, and Medicine (2020; hereafter cited as the National Academy) report on alternative work arrangements, have pointed out that the use of proxy respondents (typically a parent or a spouse) to report on the employment status of another individual is particularly problematic when it comes to alternative employment arrangements. As an example, Katz and Krueger reported that the rate of alternative employment arrangements in the 2017 CWS was 2.9 percentage points higher for self-reports than for proxy reports (National Academy 2020: 44). In the 2017 CWS sample that corresponds to our

age range, 45.8% of the sample is reported by a proxy. Furthermore the error rate is likely to be particularly high for long-term contract company employment because the proxy simply will not know what organization pays the wage and withholds taxes. In our survey 59.8% of contract company employees were assigned to their work site for six months or more. All this said, even if we increased the incidence of contract company employment in line with Katz and Krueger for the 45.8% of the sample who are proxy respondents, the gap between the CWS incidence and ours narrows but would remain large.

An additional sampling issue concerns response rates to the CWS supplement. According to the National Academy study, non-response to supplements has increased from 15.5% in 2005 to 23.0% in 2017, a period during which all observers believe that the use of contract company employment has increased. Additionally, as the National Academy (2020) notes, "non-responders are not likely to be randomly distributed throughout the population."

Referring directly to these concerns, the report by the National Academy of Sciences on Alternative Work Arrangements suggested that the design of the CWS leads to considerable underestimates of contract company work. The report (National Academy 2020: 9) stated that

> while tracking temporary help employment is important, the incidence measured by the CWS is well below that indicated by employer surveys and administrative data. . . . Respondents appear to confuse their actual employer, the temporary help agency, with the client for whom they are performing work. . . . [The] BLS concluded that respondents cannot reliably report on the contract arrangements of their employers. . . . Similar policy issues arise for contract company workers.

Nonetheless, it does seem unlikely that the technical issues and the sampling issues explain the entire gap between the CWS and my survey. This then leaves us with differences in questions and who is represented. The CWS question is,

> Some companies provide employees or their services to others under contract. A few examples of services that can be contracted out include security, landscaping, or computer programing. Did you (NAME) work for a company that contracts out services last week?

The comparable ATS question, shown above, is more detailed and arguably makes it easier to elicit an accurate response.

To pursue the difference further in Appendix Table A.2, we compare the occupational distribution of contract company employees in the ATS with that in the CWS. As noted in the table, we adjust the CWS definition of contract company employees to make it as comparable as possible with that used in the present article. There is no reason to expect that the distributions would be identical particularly given the relatively small sample sizes of contract company employees in both surveys. The pattern that emerges is that contract company employees in the CWS are more heavily weighted toward blue-collar work than in the ATS, and the ATS includes relatively more low-end service and white-collar jobs.

External evidence suggests that my estimate is closer to the mark than is the CWS. The rate of contract company employment in the ATS is consistent with that found in detailed case studies of specific industries. Erickcek et al. (2003) found that (more than 20 years ago) in many occupations in hospitals and auto parts firms for which they had detailed data, 10% or more of total hours worked were by temporary agency employees (which, recall, are a subset of contract company employees). Dube and Kaplan (2010) reported that in the year 2000, 20% of building cleaners and 50% of security guards were contract company employees. In manufacturing Dey et al. (2012) linked a large representative BLS survey of establishments (the Occupational Employment Statistics) to the CWS data on industry

assignment of staffing agency workers. They reported that the percentage of manufacturing employment that was made up of workers assigned by staffing firms grew from 2.3% in 1989 to 9.2% in 2006. Other studies that found substantial utilization of contract company employment in various industries include Dey et al. (2010), Autor (2003), and Weil (2014). In addition, press reports emphasize the extensive utilization of contract workers (Weber 2017; Roosevelt 2019).

An additional source of reassurance comes from a new survey with a fresh sample that I conducted in April 2022. The survey once again was drawn from the NORC panel and included 3,424 people aged 26 to 66 of whom 2,283 were employed. The sample matched well against the CPS demographics in the monthly April survey. The definitions of employment status were identical in all respects to those used in the 2020 survey that is the basis of this article. The estimates were actually slightly higher than the present survey: Among the new sample respondents who were working, 12.5% were contract company employees and 8.2% were freelancers in their first job.

Description

Table 4 displays the occupational distribution of contract company employees compared to that of standard employees. First it is apparent that contract company work is not confined to any one occupation, but rather occurs across the full range of occupations. This said, contract work is more common in low-end service jobs and blue-collar jobs than in professional and higher quality white-collar work.

Table 4. Occupational Distribution of Standard and Contract Company Employees

	Standard (%)	*Contract company employees (%)*
Management	5.2	1.8
Business and Finance	6.6	2.9
Computers, Math, Architecture, and Engineering	9.6	7.0
Life, Physical, Social Sciences	0.7	0.8
Legal and Professional	1.4	1.0
Social Services	2.0	1.3
Education, Training, Libraries	11.6	9.8
Arts, Entertainment, Sports	1.0	2.0
Health Practitioner	6.2	3.3
Health Support	5.3	8.3
Protective Services	2.5	7.8
Food and Accommodations	4.9	7.7
Buildings and Grounds	1.6	3.1
Personal Services	3.0	4.1
Sales	9.9	7.2
Office and Administration	10.0	5.5
Construction and Extraction	1.4	7.0
Installation, Maintenance, Repair	4.3	7.2
Production	8.0	6.9
Transportation and Material Moving	4.6	5.0

Source: American Training Survey.
Notes: First job freelancers and traditional self-employed excluded.

Table 5 provides descriptive statistics on the makeup of standard employees, freelancers, and contract company employees. Freelancers, in both first and second jobs, look similar to standard employees, and this suggests that they are not at a disadvantage in the labor market. In the present survey 82.2% of first job freelancers said they preferred their status. By sharp contrast contract company employees are much more likely to be people whose characteristics put them at a disadvantage in the job market. They are more likely to be African American or Hispanic, less well educated, and younger.[4]

Table 5. Characteristics of Each Employment Status

	Standard in main job (%)	*Freelancers in main job (%)*	*Contract company employee in main job (%)*
Women	48.7	45.3	39.1
Men	51.3	54.7	60.9
Whites	63.9	65.9	39.3
African Americans	11.4	7.7	18.3
Hispanics	15.8	16.4	32.3
Asians	4.0	4.2	3.3
High school or less	34.4	37.5	52.5
Some college	21.9	21.2	15.5
College degree	43.5	41.1	31.3
Age 35 or younger	32.5	26.1	46.3
Age 50 or older	33.3	43.1	18.3

Source: American Training Survey.
Notes: Traditional self-employed are excluded.

Earnings

Earnings are, of course, a fundamental outcome of concern and, as noted earlier in the literature, the impact on earnings is unclear for contract company employment. Because contract company employees work at multiple sites we ask about annual earnings. For contract company employees the mean is $41,401 versus $53,732 for standard employees. The first part of Table 6, panel A, reports earning regressions from a subsample that includes contract company employees and standard employees (but not freelancers). We begin by estimating a classic earnings model that controls for education, experience,[5] and demographics and includes a fixed effect for contract company status. Focusing first on the impact of contract company employment, the variable, as hypothesized, is negative and significant. These results suggest that even after controlling for human capital and experience, contract company employees receive lower earnings than equivalent standard employees. Unfortunately, after controls for human capital, the model also shows that women, African Americans, and Hispanics face reduced earnings. By contrast Asians are advantaged. These patterns with respect to gender, race, and ethnicity are consistent with the literature based on a wide range of data sets. In unreported regressions we pursued the question of gender and race by interacting each ascriptive status with contract company employment and none of the interactions were significant. This finding implies that disparities occur across the board and are not specific to the nature of the work arrangement.

Table 6. Total Annual Earnings, Panel A

	(1)	*(2)*	*(3)*	*(4)*
Contract company employee	−0.230***	−0.080**	−0.063*	−0.039
	(0.041)	(0.034)	(0.032)	(0.033)
High school degree or less	−0.199***	−0.137***	−0.098***	−0.069*
	(0.035)	(0.029)	(0.028)	(0.029)
College degree	0.414***	0.361***	0.318***	0.274***
	(0.030)	(0.025)	(0.025)	(0.025)
Experience	0.035***	0.025***	0.028***	0.022***
	(0.004)	(0.004)	(0.003)	(0.003)
Experience squared	−0.0005***	−0.0003***	−0.0004***	−0.0003***
	(0.0001)	(0.00009)	(0.00008)	(0.00008)
Female	−0.386***	−0.235***	−0.188***	−0.246***
	(0.026)	(0.022)	(0.022)	(0.021)
African American	−0.191***	−0.190***	−0.170***	−0.147***
	(0.040)	(0.033)	(0.031)	(0.032)
Hispanic	−0.139***	−0.094***	−0.069**	−0.075***
	(0.034)	(0.028)	(0.027)	(0.028)
Asian	0.155**	0.210***	0.086*	0.178***
	(0.062)	(0.052)	(0.050)	(0.050)
Usual hours		0.031***	0.028***	0.027***
		(0.001)	(0.001)	(0.001)
Annual weeks worked		0.018***	0.017***	0.017***
		(0.0008)	(0.0008)	(0.0008)
Task scale				0.077***
				(0.005)
Physical tasks				−0.145***
				(0.022)
Constant	10.285***	8.275***		8.25***
	(0.058)	(0.078)		(0.077)
Occupation fixed effects	No	No	Yes	No
R-squared	0.240	0.476	0.531	0.512
F	109.8	254.3	121.59	248.3
	(9; 3,076)	(11; 3,074)	(29; 3,056)	(13; 3,072)
N	3,086	3,086	3,086	3,086

Table 6. Total Annual Earnings, Panel B

	Top 25th	*Bottom 25th*
Contract company employee	0.014	−0.101**
	(0.039)	(0.041)
High school degree or less	−0.085**	−0.065*
	(0.035)	(0.039)
College degree	0.2275***	0.267***
	(0.039)	(0.031)
Experience	0.016**	0.026***
	(0.005)	(0.005)
Experience squared	−0.0002**	−0.0004***
	(0.0001)	(0.0001)
Female	−0.278***	−0.248***
	(0.030)	(0.030)
African American	−0.119**	−0.140**
	(0.049)	(0.049)

Hispanic	−0.059*	−0.074**
	(0.032)	(0.033)
Asian	0.218***	0.168
	(0.061)	(0.108)
Usual hours	0.027***	0.029***
	(0.002)	(0.001)
Annual weeks worked	0.014***	0.023***
	(0.001)	(0.001)
Task scale	0.066***	0.095***
	(0.007)	(0.006)
Physical tasks	−0.129***	−0.205***
	(0.024)	(0.025)
Constant	8.876***	7.449***
	(0.093)	(0.105)
R-squared	0.291	0.358
N	2,791	2,791

Source: American Training Survey.
Notes: Dependent variable is ln(total annual earnings). Standard errors in parentheses. Quantile standard errors are conditional bootstrapped quantile regressions.
*$p < .10$; **$p < .05$; ***$p < .01$.

The foregoing results included controls for human capital—education and experience—but no controls for employment characteristics. The question of whether to control for job assignment has been raised most sharply in the research on discrimination, a literature that parallels our strategy of testing for the consequences of a fixed effect after appropriate controls. Scholars studying discrimination often counsel against including occupation controls in earnings models since occupational assignments reflect employer behavior and including them eliminates a potentially important channel of disparate impact.

This decision about holding job characteristics constant turns on to what extent these reflect employee choice as well as "legitimate" or "illegitimate" employer decisions. In our context working time controls on their face are justifiable given that the dependent variable is total annual earnings, and 30.5% of contract company employees are part time compared to 16.1% of standard employees. With respect to the task measures, recall that they capture tasks utilized on the job as opposed to what skills the individual possesses and hence are subject to the concern that they reflect employer decisions. Furthermore we already control for education and work experience.

We report estimates with a full range of job controls and the interpretive complications just described should be kept in mind. Table 6, column (2) adds hours and weeks of work, column (3) includes controls for occupation, and column (4) substitutes our measures of the task content of the work for occupation. The gender, race, and ethnicity patterns are unchanged. When only hours and weeks of work are included the size of the contract company employment penalty is reduced but remains significant. When occupation is controlled for, the impact of being a contract company employee diminishes somewhat but remains negative and significant. When task content is included, the ascriptive differentials still persist but the contract company variable diminishes further and loses significance.

The literature is clear that a subgroup of skilled contract company employees may in some respects do better in the labor market in comparison to standard employees (Barley and Kunda 2004; Smith and Neuwirth 2008; Fernandez-Mateo 2009). In my survey 29.5% of contract company employees earned more than the mean earnings of standard employees. With this in mind, the second part of Table 6, panel B, reports conditional quantile earnings regressions for the top and bottom 25 percentiles of the earning distribution. Strikingly, in the top 25th percentile I see no evidence of a penalty for contract company

employees whereas such a penalty is clearly evident in the bottom quarter of the earnings distribution even after the full range of controls. A concrete way of putting this, using typical occupations as illustrations, is that high-level IT contract company employees do as well as their standard employee colleagues, but when security work or landscaping is pulled out of the organization's ILM, wages fall for the contract company employees. This supports the literature regarding the diversity of motivations for utilization of contract company employees. Also notable is that gender, race, and ethnicity disparities persist in both ends of the earnings distribution. The results here are consistent with Goldschmidt and Schmieder (2017) who found when working with German data that contract company employment (what they term on-site domestic outsourcing) disproportionately affects the wages of low-skilled employees.

A summary of the earnings patterns is that holding standard human capital constant, contract company employees overall face an earnings penalty. However, for the group as a whole the mechanism appears to be that on average they are assigned to positions that require fewer skilled tasks even after education controls (i.e., a college-educated contract company employee gets a worse assignment than a college-educated standard employee), and this explains the gap. But the point is that a penalty does exist: It shows up as a worse job assignment and hence lower earnings. This said, when we recognize heterogeneity (the stereotypical high-end Silicon Valley IT contractor versus the security guard) then the processes diverge and at the high end I see no contract company penalty but at the low end the penalty persists even after job task controls. Additionally, strong evidence supports that women, Hispanics, and African Americans are at an earnings disadvantage across the earning distribution but somewhat more strongly at the bottom.

Training and Education Benefits

Regarding training, I first estimate models that clearly reflect the policy decisions at the work site. These include formal skills training and the education benefit. I then take up informal training, which, as discussed earlier, represents an interaction of organizational policy and the attitudes of the standard workforce. Finally I consider access to training for contract company employees when training provided by the staffing firm as well as the work site are both factored in.

Before turning to training and the education benefit, note that contract company employees do receive orientation and workplace behavior training at relatively high rates. Among standard employees who had been with the employer for a year or less, 79.9% received orientation training while 64.3% of contract company workers did so at the work site. For workplace behavior training the comparable rates are 74.6% and 62.6%. These percentages demonstrate that the organization (the work site) is aware of the contract company employees, is consciously making policy with respect to them, and in at least a limited sense is integrating them into their workforce.

Table 7 displays descriptive training patterns for standard employees and contract company employees. The top panel refers to training provided at the work site and the second panel includes, for contract company employees, any training also provided by the staffing firm. In this table, and in all subsequent analysis, I omit traditional self-employed respondents (since they are, in effect, the employer as well as employee) and I omit freelancers in their main job.

Table 7. Access to Employer Training and Education Benefits

	Access at the Work Site	
	Standard employees	

	Standard employee, all tenure groups (%)	*Standard employees with one year or less of job tenure (%)*	*Contract company employees (%)*
Further skills training past 12 months at work site	59.0	69.4	33.5
Informal training past 12 months at work site	51.2	61.0	37.8
Education tuition benefit	35.9	23.2	13.5
	Access at Work Site and Also from Staffing Agency		
	Standard employee, All tenure groups (%)	*Standard employees with one year or less of job tenure (%)*	*Contract company employees (%)*
Further skills training past 12 months including training provided by legal employer	59.0	69.4	46.7
Education tuition benefit currently available including provided by legal employer	35.9	23.2	24.6

Source: American Training Survey.
Notes: First job freelancers and traditional self-employed excluded. For those who have multiple jobs, the data refer to their first or main job.

The top panel distinguishes between training received by standard employees regardless of how long they have worked for their employer and those who have been at the employer for a year or less. This distinction is important in order to render the comparison between standard employees and contract company employees as "apples to apples" given that contract company employees do not obtain long tenure at the work site.

The panel demonstrates that standard employees receive more training, both formal and informal, and the gap widens for the group with one year or less of tenure. One interpretation for the tenure pattern is that employers invest more in training new hires than seasoned workers but another view might be that employer investment in training has increased across the board over time and this leads to the appearance that short tenure people receive more training. To test this latter interpretation, we examined training received by people who had been at the firm for five years or less and for 10 years or less. If training was increasing monotonically over time the rate would increase from the 10-year tenure group to the five-year group, but the pattern is the reverse. This finding is tentative evidence against the interpretation that investment in training shows a secular increase and instead supports the view that employers simply invest more during the first year of employment. However, keep in mind that our data are cross-sectional and we cannot make firm statements about trend.

In one respect the pattern for the tuition benefit is similar to that for training: Standard employees have greater access than do contract company employees. The pattern diverges, however, in that standard employees with longer tenure are more likely to be eligible for tuition benefit than those with one year or less. This observation makes sense if one thinks of the tuition policy as an employment benefit that rewards longer tenure.

The second panel of Table 7 takes into account, for both training and the education benefit, that in some cases the staffing firm itself provides training. That staffing firms provide training to their highly mobile employees whose skills are general may be a surprise but, as noted earlier, the literature shows

that this is not uncommon. Thus, the gap between contract company employees and standard employees narrows as a result. But among those with one year of tenure or less, the gap remains substantial.

Our incidence of training for standard workers is in the middle of estimates in the literature from employee-based surveys (as opposed to surveys that interview managers about their practices). Frazis, Gittleman, and Joyce (2000) reported, drawing on the BLS Survey of Employer-Provided Training (SEPT) that focused on mid-size and larger firms, that 69.8% of employees received formal training in the past year. Waddoups (2016) used the 2008 Census Bureau Survey of Income and Program Participation (SIPP) and found that 14.9% of workers aged 16 to 65 received formal employer training. In their review of three surveys with different sampling frames, Mikelson and Nightingale (2004) reported that approximately 70% of employees receive training from their employers although the time frame over which this training took place was unclear. Lerman et al. (2004) reviewed several surveys and found that the fraction of employees who received formal training varied between 26% and 65%. In 2018 the General Social Survey reported that 51% of respondents had received training from their employer.

I now turn to the modeling in Table 8. Because the dependent variables are binary, the equation is estimated via logit, and the reported coefficients are the marginal effects estimated at the means for all variables. For formal training the dependent variable is whether the respondent had received formal skills training in the past year at the work site. I begin by limiting the sample of standard employees to those who have worked at the location for a year or less, a period that makes them comparable to the contract company employees. After a series of equations for that group I then re-estimate the model for the entire sample.

Table 8. Formal Skills Training at the Work Site

	One year of job tenure or less				*Any tenure*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*
Contract company employee	−0.290***	−0.294***	−0.289***	−0.279***	−0.164***
	(0.038)	(0.039)	(0.040)	(0.040)	(0.030)
Female	−0.015	−0.018	−0.019	−0.023	−0.022
	(0.039)	(0.043)	(0.043)	(0.044)	(0.021)
Age	0.0008	0.001	0.0008	0.001	0.0004
	(0.0018)	(0.001)	(0.0018)	(0.001)	(0.0008)
High school or less	0.010	0.054	0.085	0.087	0.006
	(0.050)	(0.052)	(0.053)	(0.054)	(0.026)
College degree	0.128***	0.086*	0.073	0.063	0.016
	(0.047)	(0.050)	(0.051)	(0.051)	(0.024)
African American	−0.024	−0.001	0.017	0.010	−0.021
	(0.053)	(0.055)	(0.056)	(0.056)	(0.030)
Hispanic	−0.099**	−0.082*	−0.076	−0.083	−0.081***
	(0.046)	(0.048)	(0.048)	(0.048)	(0.030)
Asian	0.024	0.015	0.006	−0.032	−0.037
	(0.089)	(0.092)	(0.093)	(0.094)	(0.047)
Part time		−0.034	−0.005	0.002	−0.055**
		(0.042)	(0.043)	(0.044)	(0.023)
Specific industry		0.154***	0.145**	0.117**	0.099***
		(0.046)	(0.046)	(0.047)	(0.024)
Specific anywhere		−0.074*	−0.082*	−0.091**	−0.039*
		(0.042)	(0.042)	(0.042)	(0.020)
Task scale			0.037***	0.032**	0.034***

Task scale			0.037	0.032	0.031
			(0.010)	(0.010)	(0.005)
Physical work			−0.022	−0.025	−0.016
			(0.041)	(0.042)	(0.021)
Initiative: want more				0.067	0.065***
				(0.041)	(0.020)
Initiative: sought out training				0.159**	0.133***
				(0.047)	(0.024)
Occupation fixed effects	No	Yes	Yes	Yes	Yes
N	811	811	811	811	3,086
Log likelihood	90.80	130.5	143.3	158.0	302.2
Pseudo R^2	0.081	0.117	0.129	0.142	0.072

Source: American Training Survey.
Notes: Logit models. Dependent variable is receipt of formal training at the work site in the previous 12 months. Traditional self-employed and freelancers excluded. Coefficients are marginal impacts at the means for all variables. Standard errors in parentheses.
*p <.10; **p <.05; ***p <.01.

For formal skills training column (1) shows that with controls for personal characteristics, contracting status is associated with reduced access to work site training. Additionally, college education is associated with increased access. Hispanic ethnicity is penalized and findings show that this pattern persists throughout the models. Column (2) introduces controls for the nature of the employment as well as occupational fixed effects. Whereas earlier I entered usual hours, to more accurately estimate total earnings, here I use a fixed effect for part-time status given that the distinction between full and part time is what employers typically use with respect to benefits and employment policy.

The negative impact of contract company employment is unchanged and the coefficient on college education retains significance but is reduced. Much as the Becker-style arguments suggest, firm-specific skills are associated with a higher incidence of training and the impact is reversed for industry-specific training, which suggests that firms are concerned about mobility and poaching limiting their amortization of training investments.

In column (3) the task variables are introduced. The negative coefficient for contract company employment is unchanged but the coefficient on college education diminishes and loses significance while the task index is positive and significant. The observation that people who undertake more complex tasks obtain more training is not necessarily causal—skill levels may be higher because of the training rather than the reverse—but the broader training literature suggests that firms prefer to invest in people who already have high levels of human capital. Hispanic status remains negative.

The bottom line is that contract company employee status is associated with reduced access to formal training at the work site and this holds even after extensive controls. A threat to the validity of this finding, however, is if contract company employees, for whatever reason, do not seek out training, and hence they are less likely to receive it. This interpretation stands in contrast to the alternative view that contract company employees are offered fewer opportunities. The survey offers a strategy for sorting this out. Standard employees were asked, “If it were possible would you like to receive additional training from your employer?” and contract company employees were asked the same question with reference to the site where they were assigned. Among standard employees 71.2% responded affirmatively whereas among contract company employees 53.2% did so. Although the gap is not wide, a selection effect may be impacting the results for receipt of training. An additional related indicator of motivation is a battery of questions about whether in the previous 12 months the respondent sought out

training on their own, not required by their employer, in one or more of several training venues. The venues were community colleges, proprietary schools, online programs, union-provided training, and community training programs. Among contract company employees 21.1% said they had done so and among standard employees 18.7% responded affirmatively.

Seeking training might be thought of as taking initiative or having the desire for training. To test for whether such actions affect our results, we re-estimated the full model for formal training including fixed effects for whether the respondent indicated an interest in more work site training and whether they had sought out external training on their own. The results are shown in column (4) of Table 8. As is apparent both measures are, as expected, positive and one is significant but they have no impact upon the probabilities that contract company employees receive formal training with the implication that the lack of training is driven by employer or work site decisions.

In column (5) of Table 8 we re-run the full model for the entire sample, that is for contract company employees and all standard employees regardless of how long they have worked at the site. The negative coefficient on contract company employment (and hence the gap with standard employees) remains large and significant but is slightly reduced, which implies that for standard employees training provision is most likely to occur early in a person's employment history—which is what one might expect and is shown in the descriptive data.[6]

We now turn to the availability of a paid tuition benefit, and we present results for a sample who had worked at the site for a year or less and for the entire sample. Results are shown in Table 9. Just as was true for formal skills training, the coefficients on contract company employee status are negative for the education benefit, and this is the case for both the one year sample and the entire sample. The patterns for the other variables are consistent with expectations: Tuition support is a benefit and hence part-time status reduces access whereas education and skill are associated with greater access to the tuition benefit. In contrast to the results for training, African Americans report a higher access to a tuition benefit and, as was true earlier, in the full model Hispanics are penalized.

Table 9. Education Benefit

	One year of tenure or less	*All tenure groups*
Contract company employee	−0.099***	−0.247***
	(0.032)	(0.036)
Gender (1 = woman)	0.045	0.004
	(0.032)	(0.020)
Age	0.0009	0.002**
	(0.001)	(0.0008)
High school or less	0.024	−0.093***
	(0.044)	(0.027)
College degree	0.100**	0.030
	(0.038)	(0.023)
African American	0.072*	0.073**
	(0.040)	(0.029)
Hispanic	−0.012	−0.041
	(0.038)	(0.026)
Asian	0.073	−0.035
	(0.059)	(0.044)
Part time	−0.113***	−0.130***
	(0.035)	(0.024)
Specific industry	0.012	0.051**
	(0.036)	(0.025)

	(0.036)	(0.025)
Specific anywhere	0.009	0.043**
	(0.030)	(0.020)
Task scale	0.016**	0.035***
	(0.007)	(0.005)
Physical work	0.028	−0.019
	(0.031)	(0.020)
Occupation fixed effects	Yes	Yes
N	811	3,086
Log likelihood	73.53	361.0
Pseudo R^2	0.085	0.088

Source: American Training Survey.
Notes: Logit models. Dependent variable availability of tuition benefits at the work site. Traditional self-employed and freelancers excluded. Coefficients are marginal impacts at the means for all variables. Standard errors in parentheses.
*p <.10; **p <.05; ***p <.01.

Informal Training

Informal training represents a mixture of organizational policies and social relationships among the workforce. Certainly the organization can encourage informal training by asking one employee to show another how to do a task. But at the same time employees can make choices about whether to reach out to help someone as well as how responsive to be to organizational requests to help. As the headline of a *Wall Street Journal* story on the job experience of contract company employees noted, "The work lives of contract company employees frequently feel like a series of tiny slights that reinforce their second-class status and bruise their self-worth" (Weber 2017).

Results for informal training are in Table 10. I follow the same strategy as I did for formal training with column (1) limited to people with one year or less of tenure at the job site and column (2) being the full model for the entire sample. The results for the one-year tenure group are very similar to those for formal training. Contract company employment is negative and significant in both the limited and the full model for those who had worked at the site for a year or less. And these patterns, along with the generally consistent significance of the task, college, and specific skills measures, show that the kind of work one does also influences access to training, as was true for formal training. Unlike the case for formal training, however, in the full model for all tenure groups contract company employees experience no disadvantage relative to standard employees.

Table 10. Informal Work Site Training

	One year of tenure or less	*All tenure categories*
Contract company employee	−0.104**	−0.015
	(0.041)	(0.032)
Female	0.017	−0.001
	(0.044)	(0.021)
Age	0.003*	−0.001
	(0.001)	(0.0009)
High school or less	−0.034	−0.040
	(0.054)	(0.027)
College degree	0.083	0.093***
	(0.052)	(0.024)

African American	−0.049	−0.043
	(0.057)	(0.031)
Hispanic	−0.077	−0.086***
	(0.049)	(0.026)
Asian	−0.107	−0.125**
	(0.095)	(0.048)
Part time	−0.057	0.008
	(0.044)	(0.024)
Specific industry	0.158***	0.130***
	(0.048)	(0.026)
Specific anywhere	−0.051	−0.007
	(0.043)	(0.021)
Task scale	0.026**	0.028***
	(0.011)	(0.005)
Physical work	−0.001	−0.010
	(0.042)	(0.021)
Initiative: want more	0.225***	0.183***
	(0.042)	(0.021)
Initiative: sought out training	0.189***	0.133***
	(0.047)	(0.024)
Occupation fixed effects	Yes	Yes
N	811	3,086
Log likelihood	149.26	380.44
Pseudo R^2	0.133	0.089

Source: American Training Survey.
Notes: Logit models. Dependent variable is receipt of informal training at the work site in the previous 12 months. Traditional self-employed and freelancers excluded. Coefficients are marginal impacts at the means for all variables. Standard errors in parentheses.
*p <.10; **p <.05; ***p <.01.

Note that our initiative variables play a more important role for informal training than they do for formal training. This makes sense given the likely importance of reaching out to colleagues to obtain informal help and training.

Training and Educational Benefit from the Staffing Firm

I have focused on training and the tuition benefit provided to contract company employees at the site where they work. The rationale is twofold: Training is of value to employees and if contract company employees receive less this is a problem parallel to that of wage penalties. The second rationale is that the extent of training at the site where the work is performed is informative about the trajectory of ILMs. A complication of the first motivation is that the staffing firm may also provide training and hence the training that contract company employees receive is the sum of the two sources. As we discussed earlier, some literature rationalizes this pattern even in the face of considerable mobility across different staffing agencies. Table 7 showed that the gaps are narrowed, but generally not eliminated, when the staffing firm is considered.

In Table 11 I replicate the earlier results with the new dependent variables being training from both sources in the past year and the availability of an education benefit from either the work site or the staffing firm. For both outcomes I first consider respondents with one year of job tenure or less and then present the full model for the entire sample across all tenure ranges of standard employees.

Table 11. Formal Skills Training and Education Benefit: Work Site and Staffing Firm

	Formal training		*Education benefit*	
	One year of tenure or less	*All tenure categories*	*One year of tenure or less*	*All tenure categories*
	(1)	*(2)*	*(3)*	*(4)*
Contract company employee	−0.127***	−0.026	0.034	−0.069**
	(0.038)	(0.029)	(0.033)	(0.032)
Gender (1 = woman)	−0.036	−0.026	0.048	0.005
	(0.041)	(0.020)	(0.035)	(0.020)
Age	−0.0008	−0.00003	0.001	0.002**
	(0.001)	(0.0008)	(0.001)	(0.0008)
High school or less	0.108**	0.012	0.008	−0.096**
	(0.049)	(0.029)	(0.048)	(0.027)
College degree	0.091*	0.023	0.098**	0.031
	(0.048)	(0.028)	(0.042)	(0.023)
African American	0.006	−0.024	0.075*	0.068**
	(0.052)	(0.029)	(0.045)	(0.029)
Hispanic	−0.035	−0.0055**	0.008	−0.036
	(0.045)	(0.026)	(0.040)	(0.026)
Asian	−0.029	−0.066	0.060	−0.043
	(0.091)	(0.025)	(0.069)	(0.045)
Part time	0.007	−0.052**	−0.179**	−0.116***
	(0.041)	(0.023)	(0.038)	(0.024)
Specific industry	0.108**	0.095***	0.052	0.061**
	(0.043)	(0.024)	(0.040)	(0.025)
Specific anywhere	−0.073*	−0.034*	−0.012	0.030
	(0.039)	(0.020)	(0.033)	(0.020)
Task scale	0.032***	0.035***	0.016*	0.032***
	(0.009)	(0.005)	(0.008)	(0.005)
Physical work	−0.020	−0.015	0.008	−0.026
	(0.039)	(0.020)	(0.034)	(0.029)
Initiative: want more	0.050	0.069**	0.104**	0.091***
	(0.039)	(0.020)	(0.036)	(0.020)
Initiative: sought out training	0.136**	0.137***	0.012	0.014
	(0.045)	(0.024)	(0.035)	(0.022)
Occupation fixed effects	Yes	Yes	Yes	Yes
N	811	3,086	811	3,086
Log likelihood	104.76	244.67	72.69	319.54
Pseudo R^2	0.097	0.059	0.076	0.077

Source: American Training Survey.
Notes: Logit models. Dependent variable is receipt of formal training at the work site or from the legal employer in the previous 12 months and availability of tuition benefit. Traditional self-employed and freelancers excluded. Coefficients are marginal impacts at the means for all variables. Standard errors in parentheses.
*p <.10; **p <.05; ***p <.01.

Columns (1) and (2) present results for formal training and columns (3) and (4) for the education benefit. With respect to training, the pattern for the group with one year or less of tenure tracks closely the results we discussed earlier for training provided only at the site. Contract company employees

consistently receive less formal training than do standard employees with comparable tenure. The only notable divergence from the earlier discussion is that Hispanic ethnicity is no longer associated with less training. Where these models differ from the earlier results is when I consider the entire sample across all tenure ranges. The disparity with contract company employees persists when only human capital and ascriptive variables are included but is eliminated when the full range of job controls are added. These patterns suggest a somewhat more nuanced assessment of the access of contract company employees to training although on balance it seems fair, but not indisputable, to conclude that the disadvantage persists when training from the staffing firm is included.

For tuition benefits, comparing standard and contract company employees with one year or less of tenure shows no difference across the groups largely because firms seem to restrict the availability of the benefit to standard employees with more tenure. When the entire tenure range is included, contract company employees are at a disadvantage.

Discussion

The core contributions of this article are to provide estimates of the extent of non-standard work and to examine the consequences for the largest group of non-standard work, contract company employees, for earnings and for access to skill training. Throughout the article I address a number of complications and subtleties such as heterogeneity within the group, distinctions in outcomes depending on job tenure, the impact of controls for task and skill, and the role of training provided by the staffing agency as well as at the work site.

Using an original survey, I find that 18.5% of the adult workforce is in non-standard employment in their main job and the largest component is the 10.8% who are contract company employees. Both of these estimates are new to the literature. We show that on average contract company employees are drawn from groups that face labor market barriers.

With respect to earnings I find that while on average, after human capital controls, contract company workers are at a disadvantage relative to standard employees, nonetheless heterogeneity with quantile regressions show that earnings determination differs between the top and bottom tiers and at the top contract company employees do not face an earnings penalty. This heterogeneity calls for closer examination of the reasons why employers make use of contract work: The high-end category is most likely utilized because those employees possess scarce skills and can undertake work that is needed on an irregular basis (Abraham and Taylor 1996; Erickcek et al. 2003). Also recall that the size of the earning gap depends on whether controls are introduced for job assignments, and whether to do this is an unsettled question in the earnings literature.

The emphasis on employer-provided training is new to the literature on non-standard work. The central insight we offer is that access to training is a significant indicator for two reasons. First, from the perspective of an individual, training pays off in terms of earnings and career growth. As such it is a complement to earnings as an outcome and in some ways more fundamental since low-wage occupations can lead to high-quality careers if the firm in which they are situated offers training and growth opportunities. Training patterns also provide insight into the trajectory of ILMs.

In studying training I move beyond what is typical in the training literature and disaggregate formal training into orientation, workplace behavior, skills training, and tuition benefits. I also ask about informal training, which is partly policy driven but which also has a significant social component.

I consider access to training by focusing primarily on contract company employees and standard employees with comparable tenure at the work site (one year or less). For this group I find consistently that contract company employees receive less training at the work site after extensive controls than do

standard employees, and this finding persists after I also consider training provided by the staffing firm as well as the work site. When standard employees of all tenure ranges are considered, the disparity persists for training at the work site in all models. When training for the staffing firm is added, the disparity remains when the one-year tenure group is studied but is eliminated when the entire tenure range is included. The overall thrust of the training findings is that contract company employees face a training deficit but this conclusion is somewhat weaker when both sources of training are accounted for. For the tuition benefit the disparity between standard and contract company employees remains for the full tenure range even when benefits provided by the staffing firm are also considered.

In the course of my analysis of training I uncovered several patterns that are of interest independent of the focus on contract company employees. Training provision appears to be greatest in the first year of employment for standard employees, and this implies that employers front-load their training investments, a practice that makes sense both with respect to onboarding and also amortization of their investment. My measures of initiative and desire proved significant in all formulations and this implies that when access to training and the incidence of employer investment is studied it is useful to focus not only on the policies of the firm but also on the interests and expectations of the workforce. Additionally, several of the standard components of economics training models were validated, most notably the role of firm and industry-specific skills.

Perhaps the most complicated interpretative issue concerns the question of what the appropriate controls are to include in models. Good reasons exist to control for tasks in assessing access to training but the counter-argument—that task assignments are employer choices and including them may obscure pathways of disadvantage—is also compelling. I do not resolve this and instead present results with and without task and occupational controls. As noted, the overall thrust of the results regardless of specification is a training gap between contract company employees and standard employees. This said, note the impact our task index has even after occupation and education control and it is striking that task measures are more important than education in shaping outcomes.

An advantage of a focus on training is that it helps with understanding the changing nature of ILMs, a trend that has been widely observed (Cappelli 1999; Hollister 2004; Bidwell, Briscoe, Fernandez-Mateo, and Sterling 2013; Dencker and Fang 2016; Cobb and Lin 2017). All schools of thought view training as a core feature of ILMs (Baron et al. 1986; Knoke and Kalleberg 1994). If a substantial portion of the workforce producing any given product or service is excluded from the organization's training system, and by implication its ILM, this speaks to a reduced ambit for ILMs and traditional employer–employee relationships at the sites at which contract company employees are assigned.[7]

In this context it is also notable that while contract company employees are worse off than standard employees at the work site on all dimensions, they do receive orientation and workplace behavior training at relatively high rates. This observation is worthwhile because it implies that the organization (the work site) is aware of the contract company employees and is consciously making policy with respect to them.

Our focus on ILMs and training connects to but is also distinct from two other key frameworks, precarity and fissuring, for thinking about the evolution of employment.

Precariousness (Kalleberg 2009; Kalleberg and Vallas 2018) refers to a broad range of insecurities and contingencies that have increased for employees. Scheduling variability (Lambert 2008; Storer, Schneider, and Harknett 2020), low pay, and insecure employment are examples of concerns that fall under the rubric of precarity. The contrast between this idea and non-standard work is, as others have pointed out, that a great deal of standard work is also precarious along various dimensions (Smith 1997; Cappelli and Keller 2013; National Academy 2020). By the same token a subset of contract company

employees may have a long-term well-paid relationship with a staffing firm and hence not be in a precarious situation.

All this said, the concepts are complementary given that contract company work, while certainly heterogeneous, is more precarious on average than standard work. On average, contract company employees are at a disadvantage relative to standard work. Earnings are lower and access to training is reduced. On the standard 5-point scale of job satisfaction, 30.2% of contract company employees report themselves as very satisfied compared to 41.5% of standard employees and 42.7% of main job freelancers.

A second broad and critical concept, fissuring (Weil 2014), refers to changes in the organizational structure of employment. Contract company employment is consistent with fissuring, but fissuring also incorporates practices such as franchising or physically outsourcing activities (such as shifting IT tasks to the Amazon Cloud). These developments are certainly important for understanding the evolution of the labor market but are outside the concept of contract company employment. As is true for precariousness, contract company employment may be a component of fissuring but is not coterminous with the idea.

Conclusion

The research presented here has moved us forward in our understanding of non-standard work, both with respect to measurement and consequences. Nevertheless, one concern might be that the survey, while large with respect to much of the literature, is much smaller than the Contingent Worker Survey (CWS). Improvements of the sort suggested by the National Academy (2020) will eventually provide more reliable measures of incidence but for now this survey offers the best available estimates of incidence. However, even with improvements in measurement, the CWS will be ill-suited for the kind of organizational analysis undertaken here and by other scholars in the literature. Because the CWS is a component of the Current Population Survey (CPS) it will not provide rich measures of job characteristics, skill requirements, and outcomes along multiple dimensions.

Additionally, while we have addressed the fraying of ILMs, other developments outside the scope we have established also speak to that concern. In particular is outsourcing, as emphasized in the fissuring literature (Weil 2014). Put concretely, if a hotel brings in contract company employees to do the laundry, we have captured this, but if it sends the laundry out to another location to be done by another firm we have not. The jobs at this outside firm may well be good ones and not problematic, and this might be the case with firms that outsource some of their IT to cloud computing, but it seems unlikely in the case of laundry. This topic needs more work. We have also paid limited attention to some employment arrangements, such as part-time work or on-call work, which are standard as we have defined the term but are still essential to study.

Finally, active public policy discussions are ongoing regarding non-standard jobs. Important themes include mis-classification, the importance of portable benefits, and joint employer responsibility (i.e., whether the host firm should bear some responsibility for employment standards of contract company employees and freelancers). It is worth observing that the heterogeneity in earnings and training complicates public policy efforts to address issues such as joint employment because of variation in the interests of both the workforce and the organizations that utilize them. Nonetheless, the evidence in this article suggests that the scope of non-standard employment is substantial and that these public policy questions are indeed important.

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Notes

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1 The present article draws on the same data that were used in an earlier paper (Osterman 2022). In both articles, training is an important outcome and many of the variables are the same. The present article differs in that the earlier article focused on standard employees whereas here I emphasize contract company employees. Additionally, in this current article a fuller range of types of training is considered, quantile earnings regressions are utilized to identify variation within the category of contract company employment, and I consider training provided by the staffing firm as well as by the work site. The survey is available from the author at osterman@mit.edu.

2 I am grateful to a referee for pointing this out. Also important to note is that some scholars believe that declines in the reach of ILMs are reversible as firms recognize the downside with respect to product quality and customer service when relying on contract company employees (Moss, Salzman, and Tilly 2000).

3 NORC (2020) describes the survey as follows: “Funded and operated by NORC at the University of Chicago, AmeriSpeak® is a probability-based panel designed to be representative of the U.S. household population. Randomly selected U.S. households are sampled using area probability and address-based sampling, with a known, non-zero probability of selection from the NORC National Sample Frame. These sampled households are then contacted by U.S. mail, telephone, and field interviewers (face to face). The panel provides sample coverage of approximately 97% of the U.S. household population. Those excluded from the sample include people with P.O. Box only addresses, some addresses not listed in the USPS Delivery Sequence File, and some newly constructed dwellings. While most AmeriSpeak households participate in surveys by web, non-internet households can participate in AmeriSpeak surveys by telephone. Households without conventional internet access but having web access via smartphones are allowed to participate in AmeriSpeak surveys by web.” https://amerispeak.norc.org/about-amerispeak/Pages/default.asp%

4 The literature modeling selection into employment status is limited but in unreported regressions we follow Pedulla and Mueller-Gastell (2019) and Bidwell and Briscoe (2009) in our use of multinomial logit. The model is a reduced form that captures both supply (push) and demand (pull) considerations. In addition to demographics and human capital variables we included the state unemployment rate using the Bureau of Labor Statistics (BLS) U-6 measure that includes discouraged workers and people working involuntarily part time. The model reinforces the descriptive patterns that contract company employees are more likely to be African American or Hispanic, are more likely to have only a high school education, and are more likely to hold these jobs if they live in a state with high unemployment. In short, people who face greater labor market barriers are more likely to find themselves in contract company work.

5 The experience measure is the standard one utilized in the earnings literature: age minus education minus 6. Contract company employees may possibly have less continuous work experience than do standard employees but we do not capture this.

6 We also undertook two robustness tests regarding these results for formal training. First, we stratified the sample into those who held a college degree or more and those who did not and re-estimated the models for each group separately. Second, for contract company employees we utilized their tenure with their staffing firm rather than

time at the work site. In neither case did the results differ in meaningful ways from those we report here.

7 As a referee has pointed out, this shrinking of training could be offset by an increase in training intensity or quality. I have no evidence on this.

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Appendix

Table A.1. Earnings Regressions Comparing March, 2019 Current Population Survey (CPS) and American Training Survey (ATS)

	March 2019 CPS	*ATS*
Sex	−0.271	−0.238***
	(0.0005)	(0.022)
Experience	0.030	0.025***
	(0.0001)	(0.004)
Experience squared	−0.0004	−0.0003***
	(0.0000002)	(0.00008)
High school or less	−0.244	−0.144***
	(0.0006)	(0.029)
College degree or more	0.443	0.368***
	(0.0007)	(0.025)
African American	0.074	0.208***

African American	−0.074	−0.208***
	(0.0009)	(0.033)
Hispanic	−0.076	−0.114***
	(0.0009)	(0.028)
Annual weeks worked	0.039	0.018***
	(0.0003)	(0.0005)
Usual hours worked	0.025	0.031***
	(0.0002)	(0.001)
Constant	6.99	8.289***
	(0.002)	(0.073)
R-squared	0.468	0.472
N	5,572,634	3,086

Notes: The dependent variable is log of annual earnings. March sample constructed to match ATS: civilian employed at time of survey and ages 24–64. Sample limited to non-Hispanic whites, non-Hispanic African Americans, and Hispanics. Standard errors in parentheses.
*p <.10; **p <.05; ***p <.01.

Table A.2. Occupational Distribution of Contract Company Employees in the American Training Survey (ATS) and the 2017 Contingent Worker Survey (CWS)

	ATS (%)	*CWS (%)*
Management	1.8	5.3
Business and Finance	2.9	4.8
Computers, Math, Architecture, and Engineering	7.0	12.0
Life, Physical, Social Sciences	0.8	1.6
Legal and Professional	1.0	0.2
Social Services	1.3	1.4
Education, Training, Libraries	9.8	3.0
Arts, Entertainment, Sports	2.0	1.7
Health Practitioner	3.3	4.0
Health Support	8.3	4.9
Protective Services	7.8	4.2
Food and Accommodations	7.7	2.2
Buildings and Grounds	3.1	5.9
Personal Services	4.1	2.0
Sales	7.2	2.2
Office and Administration	5.5	9.8
Construction and Extraction	7.0	9.9
Installation, Maintenance, Repair	7.2	3.6
Production	6.9	10.2
Transportation and Material Moving	5.0	10.6

Source: American Training Survey and the Contingent Worker Survey.
Notes: For the CWS, the age range, 24–64, matches the ATS, and the definition of contract company employees matches as closely as possible that used in the article: Temporary workers are included and the requirement that the employee work at only one site is dropped.