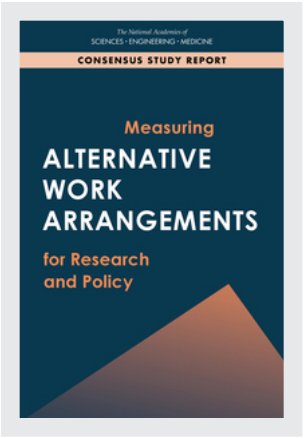

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Committee on Contingent Work and Alternative Work Arrangements

Committee on National Statistics

Division of Behavioral and Social Sciences and Education

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This report reflects the contributions of many colleagues who generously gave their time and expert advice. The U.S. Bureau of Labor Statistics (BLS) sponsored the project to help guide their efforts to improve and modernize the Contingent Worker Supplement (CWS) to the Current Population Survey (CPS). An integral component of the federal economic statistics system, the CPS provides critical information on U.S. labor market conditions and trends. The CWS was developed in the 1990s to measure aspects of the employment relationship—specifically, the temporary or contingent nature of jobs and certain nonstandard or alternative work arrangements. As outlined in this report, a somewhat broader measurement approach is now required to address research and policy information needs pertaining to the changing nature of work in the economy.

The panel thanks BLS staff who helped shape the project scope. They provided comprehensive information about the CPS and CWS programs and conveyed the agency's priorities for next steps in the development of the CWS. At the very first meeting of the panel, William J. Wiatrowski, deputy commissioner of BLS, outlined the agency's vision and strategy for measuring employment in the modern economy and articulated goals for this study. During subsequent meetings, BLS Commissioner William Beach (who began his tenure in the position March 2019) added clarity to this discussion. Anne Polivka, supervisory research economist in the Office of Employment and Unemployment Statistics, shared her extensive knowledge of the CWS and the CPS—describing objectives of the survey, its strengths and limitations, and its design and methodology. Julie Hatch Maxfield, associate commissioner for the Office of Employment and Unemployment

Statistics, presented findings from the May 2017 CWS and walked the panel through the agency's experience adding questions about web-mediated employment. Finally, the panel benefited from expert coordination and leadership throughout the project from Jennifer Edgar, associate commissioner for Survey Methods Research.

The panel also benefited greatly from presentations on topics central to the panel's charge by experts outside the BLS. Participants in open session meetings provided insights about the policy context for measuring alternative work, different measures of worker well-being, and the roles of non-BLS surveys and administrative data in measuring alternative work arrangements. Carolina F. Young, policy advisor, Office of U.S. Senator Mark R. Warner, discussed Congressional developments such as proposed legislation that would direct the U.S. Treasury to study tax issues for web-mediated economy workers, and the kinds of data needed to inform this work. Alastair Fitzpayne, executive director of the Aspen Institute's Future of Work Initiative, and Shelly Steward, research manager for the Initiative, informed the panel about their organization's efforts to identify policy solutions to the challenges facing workers in the 21st century. They also described the Gig Economy Data Hub, developed in partnership with the New York State School of Industrial and Labor Relations at Cornell, an online resource summarizing data sources relevant to the study of independent and nontraditional work.

Susan Lambert of the University of Chicago's School of Social Service Administration presented information to the panel about policy issues affecting worker well-being and provided key insights about the problem of unpredictable work schedules, particularly as they affect the well-being and security of low-income and low-skill workers. Tim Bushnell, Economic Research and Support Office, and Toni Alterman, Division of Surveillance, Hazard Evaluations and Field Studies, both of the National Institute of Occupational Safety and Health, informed the panel about their agency's efforts to develop a taxonomy of work arrangements to examine their relationships with worker safety, health, and well-being.

Gene Zaino, founder and executive chairman of MBO Partners, provided details to the panel about his organization's work on policy issues and research characterizing the independent workforce. Cynthia Davidson and Steve Berchem of the American Staffing Association (ASA) presented information to the panel about survey and policy work at their organization—most notably the ASA Staffing Employment and Sales Survey, which collects information from firms to estimate temporary and contract staffing industry employment, sales, and payroll.

Leif Jensen of Penn State University presented findings from his survey-based research exploring urban-rural variation in informal work activities and discussed strategies for measuring these patterns. Dmitri Koustas of

the University of Chicago added to the panel's knowledge base about what can be learned about alternative work arrangements from tax and from personal financial services data—particularly for jobs mediated through online platforms. Mike Udell and Diane Lim from the District Economics Group provided a rich accounting of the role of tax data in measuring alternative work arrangements, identifying advantages and limitations of such data to measure alternative employment. Jim Spletzer of the Center for Economic Studies, U.S. Census Bureau, detailed work being conducted at the Census Bureau that involves combining data sources; he assessed the potential of linking CPS microdata to tax data, described how this kind of data linkage is done, and summarized what might be learned about alternative work arrangements using this approach. Additionally, Fiona Greig, from the JPMorgan Chase Institute and a consultant to the project, provided insights into the use of private sector data in understanding alternative work arrangements. The panel thanks all of these individuals for their contributions to the study process.

The panel could not have conducted its work efficiently without the capable staff of the National Academies of Sciences, Engineering, and Medicine: Brian Harris-Kojetin, director of the Committee on National Statistics, provided institutional leadership and substantive contributions during meetings; Kirsten Sampson Snyder, Division of Behavioral and Social Sciences and Education, coordinated the review process flawlessly; and Marc DeFrancis provided thorough final editing that improved the readability of the report. We also thank senior program associate Anthony Mann for his well-organized and efficient logistical support of the panel's meetings, as well as his contribution formatting this report. The panel is especially indebted to Christopher Mackie of the Committee on National Statistics, who was the study director for the project. Chris played an invaluable role in organizing meetings; synthesizing input from panel members, outside experts, and reviewers; and helping to draft the report and response to external reviews.

Finally, and most importantly, I would like to add a note of appreciation for fellow panel members who formed the core of the study team. This report reflects the collective expertise and commitment of all panel members: Katharine G. Abraham, University of Maryland; Annette Bernhardt, University of California–Berkeley; Jennifer Dykema, University of Wisconsin–Madison; Diana Farrell, JPMorgan Chase Institute; Arne L. Kalleberg, University of North Carolina at Chapel Hill; Kristen M. Olson, University of Nebraska–Lincoln; Barbara J. Robles, Federal Reserve Board; Michael R. Strain, American Enterprise Institute; and David Weil, Brandeis University. This group—chosen for their diverse perspectives, backgrounds, and subject matter knowledge—gave generously of their time to attend meetings and to collaborate in the writing of this report.

This Consensus Study Report was reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise. The purpose of this independent review is to provide candid and critical comments that will assist the National Academies of Sciences, Engineering, and Medicine in making each published report as sound as possible and to ensure that it meets the institutional standards for quality, objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process.

We thank the following individuals for their review of this report: David Autor, Department of Economics, Massachusetts Institute of Technology; Susan J. Lambert, School of Social Service Administration, University of Chicago; Thomas L. Mesenbourg, retired, U.S. Census Bureau; Lawrence Mishel, Distinguished Fellow, Economic Policy Institute; Jean Opsomer, Senior Statistician, Westat, Inc.; Stanley Presser, Sociology Department and Joint Program in Survey Methodology, University of Maryland; Alexandrea J. Ravenelle, Department of Sociology, University of North Carolina–Chapel Hill, and visiting scholar, Institute for Public Knowledge, New York University; and Carolina F. Young, policy advisor, Office of U.S. Senator Mark R. Warner.

Although the reviewers listed above provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before its release. The review of the report was overseen by Robert A. Moffitt, Department of Economics, Johns Hopkins University, and Alicia L. Carriquiry, Department of Statistics, Iowa State University. They were responsible for making certain that an independent examination of this report was carried out in accordance with the standards of the National Academies and that all review comments were carefully considered. Responsibility for the final content rests entirely with the authoring committee and the National Academies.

Susan N. Houseman, *Chair*
Committee on Contingent Work and
Alternative Work Arrangements

Contents

Summary 1

1 Introduction: Motivation for the Study 15
1.1. The Changing Nature of Work, 15
1.2. Informing Research and Policy, 19
1.3. The Measurement Role of the Contingent Worker Supplement, 25
1.4. Charge to the Panel, 30

2 Measurement Needs for Understanding the Changing Nature of Work 33
2.1. Employment: Measuring All "Significant" Sources of Work Income, 36
2.2. Job Types: Categories of Alternative Work Arrangements, 40
2.3. Key Job Characteristics Affecting Worker Outcomes and Well-being, Employer Strategies, 43
2.4. Information about Alternative Work Arrangements That Could Be Provided by Businesses, 50

3 Role of the Contingent Worker Supplement in Fulfilling Measurement Needs Related to Alternative Work Arrangements 53
3.1. Overview of the Contingent Worker Supplement, 54
3.2. CWS Scope: Universe of Workers and Work Activities, 58
3.3. Categorizing Work and Workers, 67

3.4. Insecurity in Hours, Jobs, and Earnings, 75
3.5. Other Information Needed for Understanding Alternative Work Arrangements and Their Implications for Workers, 80

4 The Role of Other Data Sources in Measuring Alternative Work Arrangements 87
4.1. Other Household Surveys, 88
4.2. Establishment and Other Business Surveys, 90
4.3. Government Administrative and Commercial Data, 94
4.4. The Longer-Term Promise of Combining Data Sources, 100

References 103

Appendixes

A Biographical Sketches of Committee Members 111
B Summary of June 10, 2019, Workshop 115

Summary

MOTIVATION FOR THE STUDY: BETTER DATA TO INFORM RESEARCH AND POLICY

Business structures, employment relationships, job characteristics, and worker outcomes have changed in the United States over the last few decades—in some ways unpredictably. The way people work, for whom they work, how that work is arranged, and how they are paid are all elements of the evolving labor market. The goals of businesses to be more flexible and to lower costs continue to shape employment relationships, aspects of which have been enabled by new technologies.

A high level of interest exists among policy makers and researchers in addressing concerns about the future of work in the United States. These concerns are heightened by the perceived fracturing of relationships between workers and employers, the loss of safety net protections and benefits to workers, the growing importance of access to skills and education as the impacts of new technologies and automation are felt, and the market-based pressure that companies face to produce short-term profits, sometimes at the expense of long-term value. These issues, as well as related ones such as wage stagnation and job quality, are often associated with alternative work arrangements (AWAs)—which include independent-contractor and other nonemployee jobs, work through intermediaries such as temporary help agencies and other contract companies, and work with unpredictable schedules—although they also pertain to many standard jobs (Howell and Kalleberg, 2019). A better understanding of the magnitude of and trends

in AWAs, along with the implications for job quality, is needed to develop appropriate policies in response to the changing nature of work.

Along with addressing challenges inherent in AWAs, policies also need to nurture the positives created by innovative new employment models. People often value being their own boss and the scheduling flexibility that some AWAs afford. And, from the perspective of businesses, companies may use independent contractors not just to lower costs, but also to tap into skills pools with the agility required to maintain competitiveness. Sustaining a strong economy requires that policies be designed to make new employment models work well both for workers and for the organizations that hire them. One policy goal is to protect the lower-paid workers who are vulnerable to abuse as part of a "race to the bottom" while simultaneously enabling on-shore economic growth for the higher-skilled and higher-paid jobs where workers often have choices.

Congress and other policy makers will move forward on legislation and advocacy regarding the future of work in some capacity with or without data-based evidence. This makes it all the more urgent to improve the data infrastructure for studying the alternative worker population.

MEASUREMENT NEEDS FOR UNDERSTANDING THE CHANGING NATURE OF WORK

Changes in the structure of work—specifically growth in temporary work—were already apparent by the 1980s. Recognizing a need for high-quality data that could be used for analyzing these trends shaping the labor market, the U.S. Bureau of Labor Statistics (BLS) developed the Contingent Worker Supplement (CWS) of the Current Population Survey (CPS), which was first administered in 1995.[1] The Supplement has been fielded five times since 1995, at irregular intervals depending on funding, most recently in 2017. The CWS was implemented to measure aspects of the employment relationship—specifically, whether people's jobs were temporary or contingent in nature, and hence less secure. The supplement also measures work arrangements thought to be associated with lower commitment by companies to their workforce. The CWS currently collects information from individuals identified as employed in the CPS only about their main job, defined by BLS as the job associated with the most hours worked.

Although much has changed in the 25 years since the first CWS was implemented, the broad measurement objectives as originally conceived are

[1]As defined by BLS, contingent workers are those who "do not expect their jobs to last or who report that their jobs are temporary." They also do not have an implicit or explicit contract for ongoing employment. Available: https://www.bls.gov/cps/contingent-and-alternative-arrangements-faqs.htm.

still relevant today. Indeed, when BLS received funding to field a new round of the CWS in 2017, a primary objective was to assess how the number of workers in contingent work and AWAs had changed since 2005, the last time the supplement had been fielded. However, modifications to the survey are needed to accurately measure changes in the workforce in a way that meets current policy and research requirements.

The charge to the authoring panel of this report was to develop recommendations to help guide BLS in its efforts to improve and modernize the CWS.[2] In so doing, the panel's work reflects research and policy questions that have arisen from concerns about the economic and health impacts on the population of modern work arrangements, which are evolving in response to emerging technologies and the shifting boundaries of where, how, and by whom work is performed. These concerns have only been heightened during the current critical time for our economy. The onset and now deepening impact of COVID-19 has exposed how vulnerable our society can be when workers are participating in the labor market without an adequate and well-coordinated social safety net. This unprecedented economic disruption has made it even more clear the importance of BLS's work to better measure alternative work arrangements in the United States.

In carrying out its charge, the panel assessed (1) the measurement needs for monitoring the changing employment landscape and for informing policies designed to mitigate negative effects while preserving the benefits from these changes; (2) the role of household surveys, and the CWS specifically, in fulfilling the spectrum of measurement needs concerning AWAs; and (3) the comparative strengths and weaknesses of the CWS in the context of complementary survey and nonsurvey data sources.

THE ROLE OF THE CWS IN MEASURING ALTERNATIVE WORK ARRANGEMENTS; RECOMMENDATIONS FOR FUTURE ITERATIONS OF THE SURVEY

The CWS measures arrangements concerning the main job of everyone who reports having worked during the survey reference period in the basic monthly CPS. By design, it does not capture work done by a person to generate income that is not reported in response to the core CPS employment questions. The panel considered whether this universe of workers and work activities is defined appropriately to capture the information on work in contingent and alternative work arrangements needed for policy and research. In so doing, issues related to the survey reference week, work activities that might not be reported on the main CPS, and secondary work activities were all examined.

[2]The statement of task is reproduced in full in Chapter 1.

Survey Scope: The Universe of Workers and Types of Work Covered

Before AWAs can be measured, the universe of respondents (workers) from whom information is being requested must be determined. In the current CWS, other than a single question asked of unemployed and discouraged workers, questions are asked only of those who are identified in the basic monthly CPS as having been employed in the prior week. One major survey design feature that could affect which respondents are within the scope of the CWS concerns the timing and regularity of respondents' work in relation to the survey's 1-week reference period. People who report being unemployed or not in the labor force may nonetheless engage in work activities periodically to supplement household income. Unlike people who work a regular weekly schedule or who do not work at all, those whose work is sporadic may be missed. The choice of reference period may be particularly important for measuring platform or app-based work and informal independent contractor work. Analyses of financial account data (e.g., Farrell, Greig, and Hamoudi, 2018) indicate that most individuals participating in platform work do so during no more than 3 months of the year. As a result, platform participation rates are much lower if estimated for a particular week as opposed to a longer period.

Recent research (e.g., Abraham and Amaya, 2019; Bracha and Burke, 2017) also suggests that the standard CPS employment question does not capture everyone who performs work for pay during the survey's reference week. For reasons specified below, some types of AWA work—such as performing housekeeping or yard work, providing child care or elder care, driving for Uber, and many others—appear especially elusive. One possible explanation for this finding is that some people engaged in AWAs may not think of themselves as employed in the labor force, especially if they have held a standard employer-provided job in the past. In the CWS, people whose only employment is work they do not report in response to the basic CPS employment question are not asked about the arrangements under which that work occurs. This is a potentially important omission.

The CWS could address these two issues—a short reference period and potential under-reporting of certain AWAs—by asking CPS respondents who did not report any work in the main CPS a set of initial screener questions.

> At the beginning of the CWS supplement, screener questions should be asked of those who did not report any work in the basic monthly CPS. The questions should probe into work activities for pay that individuals sometimes do to supplement household income when they are unemployed and looking for a steady job or when they are retired or otherwise not steadily employed. The questions should ask about such work over a longer reference period, such as 1 month, as well as during the CPS reference period (the prior week). (**Recommendation 3.1**)

Further limiting the scope of work activity covered in the CPS is that it has traditionally been concerned only with the main job held by respondents. CPS data indicate that the share of workers who held more than one job averaged about 5 percent during 2017. However, research based on other data sources suggests that secondary work activities are far more common (Abraham, Hershbein, and Houseman, 2019; Allard and Polivka, 2018; Bracha and Burke, 2018). Moreover, evidence suggests that secondary work activities often generate a substantial portion of people's income and can be important for helping households offset a reduction in income earned from a main job. For those reporting that they worked, it would therefore be extremely useful to follow up about secondary work activity.

> For respondents reporting only one job in the basic CPS, the CWS should begin with a set of questions about additional work activity. Respondents would first be asked if they did anything for pay (to supplement income) beyond what they have already reported for their main job. The questions would ask about such work over a longer reference period, such as 1 month, as well as about the CPS reference period (the prior week). (**Recommendation 3.2**)

The 2017 CWS already asked respondents with at least one main job about additional work they may have done for pay using web platforms. Recommendation 3.2 simply expands this line of inquiry to include other types of work.

At least a subset of the questions asked about primary jobs should also be asked about the second jobs, whether those second jobs are identified in the basic monthly CPS or (as recommended above) in response to a question about additional work asked on the CWS:

> It would be desirable to ask the full battery of CWS questions about all secondary jobs held either during the reference week or during the longer 1-month time frame. At a minimum, the CWS should collect information, where applicable, on selected characteristics of one secondary job (when there is more than one secondary job, selecting the one with the most hours worked). These characteristics should include whether the job is a self-employment or independent-contractor arrangement, hours variability, and main reason for holding the secondary job. If not already collected in the basic monthly CPS, information on hours, earnings, industry, and occupation also should be collected. (**Recommendation 3.3**)

As is always the case when new questions are added to the CPS or its supplements, careful cognitive testing will be required:

> Implementation of the new questions proposed for the CWS (in recommendations 3.1 through 3.3) will require extensive cognitive testing to determine the optimal reference period and wording to solicit responses about work that was not reported in the main CPS. (**Recommendation 3.4**)

It is critical for policy purposes that BLS endeavor to capture all work activity. Because employment mediated through platforms/apps is perceived to be growing rapidly, there is strong research and policy interest in tracking it. To do so, and to address one of the profound policy questions about modern employment—how people are piecing together income—some disruption of the CWS is warranted. Adding follow-up probing questions to the CWS could potentially affect responses in subsequent waves of the main CPS survey. While careful question wording should mitigate any such effects, the BLS may want to run tests on outgoing rotation groups to see how much additional employment is being picked up in such questions.

Job Types: Categories of Alternative Work Arrangements

The CWS permits the classification of a respondent's main job into one of several mutually exclusive work categories:[3]

- Temporary agency worker;
- Contract company worker, other than a temporary agency worker;
- Independent contractor;
- Employee, not in an alternative work arrangement; or
- Self-employed, not independent contractor.

This categorization captures whether a worker is an employee of the organization for whom he or she is performing work. The set of AWAs distinguishes between those who are not employees (independent contractors, day laborers) and those who are in an intermediated arrangement (temporary agency worker, contract company worker). In the latter, workers are employees of a temporary help agency or other type of company that contracts their services to other organizations. On-demand platform work, captured only in the 2017 CWS, is a hybrid of these two job types. Although payments to workers in this category are mediated by the platform company, the workers are usually classified as independent contractors.

Among these categories, there is particularly strong policy and research interest in distinguishing between those who are W-2 employees and those engaged in various self-employment or nonemployee arrangements. The

[3]The CWS also collects information on on-call and day laborer work, which are covered in the next section.

latter are not covered by employment and labor laws such as those regulating wages and hours or guaranteeing collectively bargaining rights. Nor are they covered by social insurance programs, such as unemployment insurance and worker's compensation. And finally, they have no access to the benefits often provided by employers, such as paid sick leave, health insurance, and retirement benefits. If work migrates toward a nonemployer structure, pressure will build to adjust social safety net and employment laws to mitigate this potential negative side effect of the trend. Recent legislative initiatives, such as California's new law establishing a strict test for independent contractor classification, which might result in the reclassification of independent contractors such as those working for Uber and Lyft as employees, are suggestive of future policy initiatives.

One challenge that household surveys have in measuring self-employment and subcategories of self-employment, such as independent contractors, is that respondents vary in their interpretation and understanding of what these terms mean. For example, while some respondents may understand "self-employment" to mean a status where one is not an employee of an organization, others may understand the term to mean the situation of owning and operating one's own business. In coding whether a worker is an employee or self-employed, the CPS, like other government household surveys, does not ask respondents who report working whether they are employees, but rather whether they work for an organization or are self-employed. Those who do work for an organization but are not W-2 employees may report working for that organization rather than being self-employed. As a result, surveys may be prone to misidentifying independent contractors as employees (Abraham, Hershbein, and Houseman, 2019); this, in turn, may help explain why research using administrative data based on tax filings shows a greater share of (and higher growth in) individuals with self-employment income than does the CPS (Abraham et al., 2020; Abraham et al., Forthcoming; Jackson, Looney, and Ramnath, 2017; Lim et al., 2019).

Given this evidence, a broad approach is needed for measuring independent contract work. Many who work as independent contractors do so primarily for one organization and may not think of themselves as *obtaining customers on their own* in the same way as, say, a self-employed business owner might. For this reason, that definition, which is used in a CWS question on independent contractors, is problematic.

> The CWS should continue to ask those identified both as self-employed and as employees in the main CPS about their status as an independent contractor. However, a broad definition of independent contractor should be given in both questions, and the current definition of independent contractor used for those identified as wage and salary workers should be replaced. (**Recommendation 3.5**)

The goal of the question referenced in recommendation 3.5 is to distinguish between W-2 employees and nonemployees, and the independent contractor work measure should include the types of AWAs wherein the individual is not an employee. The CWS should also clarify exactly what an independent contractor is:

> Cognitive testing should, among other things, determine how well respondents distinguish between employee and nonemployee concepts, and explore ways to improve the accuracy of responses. To this end, BLS might clarify for respondents that independent contractors are not employees of the organization or customers for whom they provide a good or service and/or do not have any taxes taken from their pay. (**Recommendation 3.6**)

As described above, BLS has recently prioritized the measurement of web platform work. One reason for this increased interest is that internet intermediary companies are formalizing some work arrangements that were previously considered informal work. There is also evidence that web-mediated options are displacing more traditional job arrangements, as in the case of restaurants using web platforms to fill very-short-run staffing needs in lieu of hiring workers directly.

A decision must be made about which web-mediated activities should be considered within the scope of the CWS. One distinction that can be made is between "work-based" income and income that is generated by a combination of work and capital. However, this distinction is blurry, because many web-mediated jobs combine capital and labor inputs. For example, renting out rooms through AirBnB entails both a capital-based component and a work- (or time-) based component. Someone operating several properties may be occupied full time in the enterprise. Likewise, Uber drivers must own or rent capital in the form of a car that passes the company's equipment standards. How far apart Airbnb and Uber are on the labor/capital continuum is an open question, and there is a conceptual arbitrariness about drawing the line of inclusion for measurement in labor statistics between the two.

> For purposes of measuring web-platform work, BLS should test the option of not making a capital/labor distinction. The survey could simply ask self-identified platform workers which company (or companies) they work with, and then allow the data to be sorted depending on the question at hand. If the concern is over what motivates people's efforts to generate income, the distinction regarding the extent to which income is a return on income or capital may not be crucial. (**Recommendation 3.8**)

Additionally, respondents may have difficulty differentiating between platform work that is more capital-based and that which is more labor-based.

Including all income-generating activities would avoid requiring respondents to make this subjective call.

Job Characteristics: Predictability, Stability, Security

A primary focus of the CWS has been on capturing the security of workers' jobs. The concept of contingency, as measured in the CWS, pertains to whether a worker's job is temporary in the sense that it is expected to last for a limited time. This measure captures job insecurity which, in cases where loss of the job results in employment gaps, may lead to employment and earnings instability. Job insecurity is one factor that may result in earnings insecurity.

The CWS also asks wage and salary workers whether they work on an on-call or day laborer basis—that is, whether they work only when needed. Identifying this type of on-demand work captures a different element of earnings insecurity. Even if a job itself is not temporary, as is the case for much on-call work, the hours and hence a worker's earnings may be variable. Although the AWA categories described in the preceding section are mutually exclusive, these essential characteristics of jobs may be present in all or most work arrangements.

> As opposed to the current approach of classifying workers into the categories of on-call workers or day laborers, the CWS should focus on simply describing the characteristics of these and other work arrangements with variable hours. (**Recommendation 3.10**)

A number of surveys (the 2017 American Time Use Survey Annual Leave Module is one example) offer options for question wording related to characteristics of jobs that could serve as models for the CWS.

Schedule predictability and hours instability. The CWS is well suited to measure the instability in workers' employment and earnings that occurs when their jobs are short term or performed on an on-call basis. But other aspects of schedule variability, such as (un-)reliability and (un-)predictability of hours, are also of great interest given their relationship to earnings and economic well-being. Many jobs, especially in retail and other service sectors, are highly variable in the timing and quantity of work hours. As with temporary work, this kind of variability can lead to economic insecurity. On the positive side, for some workers, the employment fluidity of such work arrangements has added a welcomed element of flexibility for them to earn income. This dichotomy—the implication of both insecurity and flexibility—points to the importance of measuring and tracking job characteristics that directly affect the well-being of workers. The policy implications are clearly different if the trend toward irregular hours is being driven by a desire by

workers for flexible scheduling versus being driven by a lack of opportunities to acquire steady work.

The 2017 CWS found that only 1.9 percent of respondents self-identified as on-call workers, but the research cited above indicates that using a broader measure of schedule variability would yield a considerably higher rate. Given the prevalence of unpredictability in people's work schedules, it has become important to measure this aspect of employment and earnings instability in a large, nationally representative survey:

> For employees, the CWS should inquire into the following aspects of schedules and hours:
>
> - Usual hours worked and hours worked last week (on main and secondary jobs);
> - Schedule autonomy—who determines the schedule, the employer or the worker?
> - Schedule predictability—whether the schedule is generally the same from week to week or, if it varies, how much notice the worker typically receives;
> - The amount by which weekly hours vary; and
> - Whether a worker must be available if called. (**Recommendation 3.11**)

Asking respondents for information about their work schedules can also reveal insights into people's motivations for pursuing a different or a second job.

Contingency and job insecurity. A large number of questions on the CWS are devoted to measuring the contingency of jobs. Over its history, the CWS has uncovered no trend growth in contingent jobs, and BLS's measures of contingency have not gained currency among policy makers and researchers. Moreover, the questions pertaining to expectations about job length have proven difficult for respondents to answer. For these reasons, some modification of the CWS is warranted.

> While the temporary nature of some jobs is a key characteristic that should continue to be measured in future CWS surveys, the number of questions on contingency should be pared back and the questions that remain should be simplified (**Recommendation 3.12**).

Other Information Needed to Understand the Implications of Alternative Work Arrangements for Workers

A key goal of the CWS is to facilitate an understanding of the relationship between specific work arrangements or job characteristics and worker

outcomes. Toward this end, the CWS measures workers' earnings and benefits as well as their preferences regarding work arrangements.

Earnings and benefits. The positive relationship between people's earnings and their well-being is obvious. Much attention has been given to the flat earnings growth experienced by workers over recent decades and the negative economic, health, and social impacts this has had on families. But how this trend relates to changing work arrangements and the expansion of AWAs is not fully understood, nor are the potential ripple effects of AWAs on conditions in standard employment settings understood. Given the stark contrast between higher-skill and lower-skill independent contractors, the relationship between AWAs and earnings is not well captured by measures of averages.

Given the employer-delivered nature of many benefits in the United States, AWA workers are in some cases disadvantaged with respect to retirement plans, medical care plans, and other benefits. The possible link between AWAs on the one hand and wages and access to critical benefits on the other is of high policy interest. The onset of a global pandemic has underscored the need for increased awareness of the economic vulnerabilities present in the labor market. Basic information on the incidence of benefits being offered would be useful for discussions about the future of work.

Reasons for choosing a work arrangement. The current CWS asks temporary workers, temporary agency workers, on-call workers, day laborers, and self-employed/independent contractors whether they would prefer a "non-contingent" or different job arrangement. The existing line of questions on individuals' preferences for work in alternative arrangements provides information that is potentially valuable but, for reasons described in Chapter 3, difficult to interpret. Nonetheless, it is important to know the reasons people engage in AWAs as well as why people hold multiple jobs. Questions on job satisfaction, on reasons for working in an alternative arrangement, and on the motivation for working a second job/work activity would be extremely useful for understanding people's work patterns.

> BLS should ask questions on job satisfaction for all workers in lieu of asking job preference questions for selected workers. The BLS should continue to ask about reasons for working in selected alternative work arrangements, but it should consider moving away from field coding the responses and instead provide a preset list of reasons and ask respondents to identify the most important. In addition, for those with a second job or work activity, BLS should ask about their motivations for holding multiple jobs. (**Recommendation 3.13**)

Components of the CWS to Streamline

In order to create survey space, some parts of the current CWS could be streamlined. Some questions have proven less useful than others because evidence indicates the quality of the resultant data is poor. For example, while tracking temporary help employment is important, the incidence measured by the CWS is well below that indicated by employer surveys and administrative data (Polivka, 1996). Respondents appear to confuse their actual employer, the temporary help agency, with the client for whom they are performing work. Similarly, while information on contract company workers is needed, household surveys may not offer the best method for collecting it. Partly because BLS concluded that respondents cannot reliably report on the contract arrangements of their employers, the CWS focuses on measuring a narrow set of contract company work: individuals who work primarily for one client company at the client's worksite (i.e., remote work is not included). This narrow definition misses a lot of contract work.

> BLS should consider dropping questions on temporary help agency employment and on contract company work from the CWS to make room for other, higher-priority questions. (**Recommendation 3.9**)

Data supplied by businesses are largely complementary to those captured in household surveys and can fill in some information needs. Establishment- and firm-level surveys are an underexplored source of data on AWAs, especially subcontracted work, that could yield vital information about the prevalence and nature of firms' contracting-out activities.

Another set of questions in the CWS asks each respondent what they or other household members were doing prior to becoming an independent contractor, a temporary agency worker, an on-call worker, or a contract company worker. Because of the retrospective nature of the question, the data quality is likely to be poor. The CWS also asks respondents in AWAs or temporary jobs if they have looked for other types of work. Although searching for another type of job may be an indicator that workers in alternative or temporary arrangements are dissatisfied with their jobs, questions on respondents' job satisfaction and reasons for working in a particular arrangement, discussed above, are a more direct way of obtaining this information:

> BLS should consider dropping questions on respondents' job history (except possibly for asking about job tenure), on their transitions into their current employment arrangements, and on whether they have looked for employment in another type of job. (**Recommendation 3.14**)

In general, panel datasets already exist that are much better at tracking job history and worker transitions, although samples tend to be small.

THE ROLE OF MULTIPLE DATA SOURCES IN MEASURING ALTERNATIVE WORK ARRANGEMENTS

No single data source is capable of informing all research and policy questions regarding AWAs. Fortunately, surveys other than the CPS/CWS also add to the knowledge base. They have done so by (1) demonstrating how varying definitions affect measures of work arrangements and, closely related to that, how question wording and respondent interpretation affect estimates; (2) testing the sensitivity of measurement constructs used in surveys, including things like time-reference periods; and (3) covering different outcomes associated with various work arrangements, such as worker safety measures, not all of which are within the purview of a single survey.

Nonsurvey data, both public and private, are also valuable sources of information. Reflecting the potential of a multipronged data strategy, researchers have used surveys, data from the Internal Revenue Service and Social Security Administration, and data on individual-level bank transactions to measure participation in online platform work and to shed light on the range of jobs from which individuals and households earn income.

While there are valid concerns about nonsurvey data—for example, regarding the representativeness of the people who are covered—such data also have some distinct advantages over survey data. Some commercial data sources feature administrative-level quality for measures of income, spending, and liquid assets. Also, such data are often continuous and high-frequency, based on transactions posted daily, which means that trends can be ascertained on a weekly or monthly basis rather than for a single reference period. This is critical in the case of online platform work, where individuals have been shown to participate sporadically. Both commercial and public administrative data offer perspectives unfiltered by low (and falling) survey response rates and respondents' interpretations.

As numerous reports have documented—most recently and prominently the report of the Commission on Evidence-Based Policymaking (2017)—the use of administrative data can improve the overall efficiency of data programs by reducing agency expenditures, lowering respondent burden, encouraging the sharing of information across agencies, and potentially increasing the accuracy of the information collected. In some cases, administrative data may be used to replace survey data (NASEM, 2019).

Insights have been gleaned from research using data generated from tax records capturing payments by organizations to unincorporated individuals for nonemployee services. Tax data based on individual returns have generated evidence of significant numbers of workers combining W-2 and

1099/sole proprietor income. Among other findings based on such data, the expansion of independent contractor work in recent years appears to be driven primarily by online platform economy work—at least among tax-compliant workers.

The capacity to improve the measurement of AWAs, as well as other economic statistics, will be influenced by how effectively multiple data sources can be drawn from and combined. The limitations of any single information source underscore the value of commercial and administrative data as complements to government surveys. Their contribution consists not only in providing additional estimates with which to triangulate the measurement of contingent and alternative work arrangements, but also in informing efforts to improve the design of government surveys.

1

Introduction: Motivation for the Study

1.1. THE CHANGING NATURE OF WORK

Business structures, employment relationships, job characteristics, and worker outcomes have changed—in some ways, unpredictably—over the last few decades. The drive to be more flexible and to lower costs is often what motivates businesses to rethink their employment relationship strategies. In some cases, new technologies have enabled new arrangements. It was already apparent to researchers by the 1980s that changes were generating a need to develop new measures to track work and workers.

In response, the U.S. Bureau of Labor Statistics (BLS) developed the Contingent Worker Supplement (CWS), first administered in 1995.[1] At the time, one concern was that the growth in contingent and alternative work arrangements, driven by the flexibility and cost-savings goals of businesses, signaled less long-term commitment by companies to their workforce. It was feared that this in turn might lead to worse outcomes for workers (Polivka, 1996). Some evidence suggested that work was becoming more precarious—that there was something more unstable about the workplace than had been the case in the past (for example, see Osterman, 1999). However, how work arrangements are actually changing and what the implications of those changes are for workers are empirical questions that require high-quality data to answer.

[1]The economist and labor historian Audrey Freeman, whose original work helped motivate the CWS, first used the term "contingent" in 1985 as shorthand for the shift toward temporary or conditional employment with little or no attachment between the employee and the employer (Polivka and Nardone, 1989).

To begin addressing these questions, the CWS sought to measure key aspects of a worker's employment relationship. Specifically, it sought to find out (1) whether the worker's job was temporary (or contingent) in nature, and hence less secure; and (2) whether the worker's main job—defined by BLS as the job associated with the most hours worked—belonged to a selected set of alternative work arrangements (AWAs) that differed from traditional employment arrangements in important ways that seemed likely to matter to workers. Information on five categories of AWAs was collected in all six waves of the CWS: (1) employees of temporary help agencies, which act as intermediaries by contracting out workers on their payrolls to client organizations on a temporary basis; (2) employees of contract companies that, like temporary help agencies, contract out employees or their services to clients; (3) independent contractors, independent consultants, and freelance workers, who provide services for customers and are self-employed; (4) on-call workers, who must be available to work when called on; and (5) day laborers, who are selected by employers from among workers who congregate at particular spots to work for a day. In 2017, questions on work performed through mobile apps or online platforms, such as Mechanical Turk, Uber, and Lyft, were added to capture this new and rapidly growing type of work arrangement. The BLS does not label part-time work as an AWA, but instead measures part-time work through the questions asked on the monthly Current Population Survey (CPS) questionnaire.

Although much has changed in the 25 years since the first CWS, the broad measurement objectives as originally outlined are still relevant. Nevertheless, as this report argues, modifications to the survey are needed to meet today's policy and research needs. This report takes the position that improved and expanded measurements of the types of work arrangements covered in the CWS are needed, although research and experience with the CWS indicate that in some cases a household survey is not the ideal vehicle for collecting the information.

The work arrangements of particular interest may be broadly categorized into two types: those in which employers do not hire their workers as employees and those where work schedules are highly variable and unpredictable. With respect to the former, an organization or customer may contract directly with workers, in which case the workers are considered self-employed. Self-employed workers have at times been treated as a black box in economic statistics. This belies the reality that much diversity exists within the self-employment category. Self-employed workers, for instance, include owners of large and medium-sized businesses that have employees and substantial capital investment, independent contractors or freelancers working for an organization or through an online platform, and independent contractors or informal workers providing personal services directly to consumers.

It also has become apparent that workers' perceptions are far from uniform regarding their own work status. There are systematic differences between those who do and do not identify as self-employed even among those who are independent contractors.[2] For example, people who work at large distribution centers and are paid a piece rate often are independent contractors but may not see themselves as self-employed.

While organizations may engage workers as independent contractors instead of hiring employees to perform the same tasks, organizations also may contract out that work to companies whose employees perform it either at the client's worksite or off-site.[3] Temporary-help agencies are one type of contract company that acts as a labor intermediary. Temporary-help employment grew rapidly in the 1990s, accounting for about 10 percent of net employment growth in the economy during the decade, although the share of all wage and salary employment that is in the temporary-help employment sector has stabilized since 2000 at about 2 percent.[4]

Outsourcing, whether through independent contractors or contract companies, has always been a part of how U.S. corporations operate. Nonetheless, evidence suggests that among some leading corporations in the United States it has recently become more prevalent. Reports indicate, for instance, that temporary workers, contract employees, and vendors account for more than half of Google's workforce, while Amazon relies heavily on independent contractors to take orders and to process and deliver goods and on contract companies to staff its warehouses.[5] Moreover, the advent of online platforms and mobile apps such as Uber, Lyft, and Mechanical Turk represents a new, technology-enabled business model whereby the platform company, like a temporary agency, mediates the employment relationship by connecting workers to clients and handles their payment. Unlike the typical arrangement at a temporary help agency, at least under current law in most states, workers in these arrangements usually are not treated as W-2

[2]Evidence from a Gallup survey is provided in Abraham, Hershbein, and Houseman (2019).

[3]In some cases, the contracted company may hire workers as independent contractors, which it then assigns to clients (Weil, 2019).

[4]Weil (2019) presents estimates of employment in industries where contract work is important and discusses its importance to labor market and worker well-being issues.

[5]The *LA Times* ("UC outsources thousands of jobs to private contractors. Is that a good idea?" December 1, 2019) reports that these categories of workers make up over 50 percent of Google's global workforce, while also noting that outsourcing is a trend observed not just in the private sector but in the public sector as well. For example, The University of California system, the state's third-largest employer, "spends some $523 million a year on outside contracts for an estimated 10,000 parking attendants, security guards, custodians, cafeteria workers, groundskeepers and patient-care technicians" (https://www.latimes.com/business/story/2019-12-01/university-of-california-outsources-jobs).

employees of the platform company.[6] Although jobs carried out through online platforms and mobile apps still represent a small share of total employment, their number has grown rapidly, and continued growth could greatly increase the number of people working as independent contractors.

Both of the above categories of workers—independent contractors and people working for contract companies—may be subject to *unpredictable work schedules* at higher rates than the average across the labor market. Even in traditional employer-employee jobs, however, the nature of employment arrangements has changed in many industries and occupations. For example, the development of scheduling algorithms has transformed work in retail, restaurants, and other services industries. While using such technology may enable companies to better match workers with demand, it also means workers may be on-call or otherwise receive little advance notice of their schedules from week to week, and variable hours may translate into variable earnings.

Claims about upheavals in the way people now work notwithstanding, research is mixed regarding the *extent* of change in employment relationships in the United States in recent years. Two measurement problems are particularly important: (1) trends in independent contractor relationships vary considerably as measured across different datasets; and (2) levels of self-employment are higher in tax data than in household survey data, which appears to be accounted for mainly by independent contracting (Abraham et al., 2020; Collins et al., 2019; Lim et al., 2019). Cases of workers holding multiple jobs complicate the measurement of workers in both instances.

The CPS Annual Social and Economic (ASEC) Supplement should be measuring essentially the same construct of self-employment as tax records in the Social Security Administration's Detailed Earnings Record. As Abraham and colleagues (forthcoming) found, however, "there is a great deal of disagreement" between the two.[7] For the period 1996–2015, the researchers found that 66.7 percent of those whose tax data in the Detailed Earnings Record showed self-employment income reported no self-employment income in the CPS and, conversely, 51.5 percent of respondents indicating self-employment income in the CPS reported no self-employment income in the Detailed Earnings Record. Overall for the period, estimates of average annual levels of self-employment are much higher when based

[6]Telles (2016) posits the following list of features that characterize online platform, or "digital matching firms": (1) they use information technology to facilitate peer-to-peer transactions, (2) they rely on user-based rating systems for quality control, and (3) they offer workers flexibility in deciding their typical working hours and rely on workers to use their own tools and assets to provide a service.

[7]These records are provided to the Census Bureau by the Social Security Administration.

on the Detailed Earnings Record (16.4 million) than when they are based on the CPS (11.3 million).

Surveys conducted by the Federal Reserve Board offer a different perspective on the labor market than the CWS because they use a more inclusive definition of AWAs, one that incorporates work other than that carried out on the main job. The Federal Reserve's Survey of Household Economics and Decisionmaking[8] and its Enterprising and Informal Work Activity Survey[9] both reveal high shares of the workforce to be engaged in nontraditional work. The latter survey, for example, estimated that in 2015, 36 percent of workers did at least some freelance work. One of the justifications for expanding the CWS to cover secondary jobs is the high rates of independent contractor work found in that and similar surveys.

Findings based on administrative data or financial data have the potential to provide further complementary insights that may help in the design of household surveys. Tax data, for example, indicate that many people with wage and salary employment during the year also earn smaller amounts of money through self-employment (Collins et al., 2019). Personal financial accounts data indicate that participants in the online platform economy often are actively engaged in it for just a few months of the year but also that, between 2013 and 2018, transportation platforms have grown to dominate in both the number of participants and total transaction volume (Farrell, Greig, and Hamoudi, 2018).

The main point here is that different data sources uncover unique and sometimes contrasting portrayals of work activity in the United States. The contrasting results are not necessarily contradictory, however, as they are sometimes simply measuring different aspects of the changing work environment. Moreover, they can inform modifications to the CWS to better capture important aspects of the evolving nature of work.

1.2. INFORMING RESEARCH AND POLICY

Data collection should be driven by the research and policy questions that need to be answered, and because the questions change over time, data systems must be adapted to fill the information gaps that become exposed. Key policy measurement needs are identified and discussed in detail in Chapter 2, and solutions for improving measurement in the CWS are out-

[8]The survey, its sixth iteration conducted annually since 2013, was last fielded from October 11 through November 12, 2018. Available: https://www.federalreserve.gov/publications/2019-economic-well-being-of-us-households-in-2018-description-of-the-survey.htm.

[9]Available: https://www.federalreserve.gov/consumerscommunities/files/EIWA_Chartbook_2016.pdf.

lined in Chapter 3. Here, a few policy measurement needs are introduced in a preliminary way.

There is much interest among policy makers and researchers in addressing concerns about the future of work in the United States. These concerns are punctuated by the perceived fracturing of relationships between workers and employers, by the heightened importance of access to skills and education as the impacts of new technologies and automation are felt, and by the market-based pressure that companies face to produce short-term profits, sometimes at the expense of long-term value. Additionally, informal work, often done under the table, is not well captured in official statistics but is of interest for policy, since it may disproportionately be performed by the most vulnerable segments of the population—although data are needed to assess and quantify even this assertion.

Although problematic job characteristics such as insecure work hours and lack of access to benefits can be found in jobs across the labor market, various outsourcing and scheduling practices are of special interest. That is because evidence suggests their prevalence is high and growing, giving rise to new issues requiring attention from researchers and policy makers. Basic questions in need of answers include these: How many workers are in these arrangements? What is the impact on earnings of working in these arrangements? How many people engage in these work arrangements to supplement income from other employment? How do the compensation and benefits practices in these arrangements spill over and affect those practices in more traditional work relationships? In what industries are these workers engaged, and what is the demographic makeup of this worker population? And finally, what factors motivate people to pursue nontraditional work, including among people using AWAs to supplement income, and how do these motivations vary across income levels and other demographics?

Obtaining answers to the above questions requires more than measuring job categories. The real issues concern the nature and quality of modern jobs and how they are changing, whether people are on average worse off or better off in contract work arrangements than they are in traditional employer-based arrangements, and what characteristics of work most affect people's lives in terms of economic security and, in turn, health, stress, and family life. It is these characteristics of work (e.g., access to social insurance, to employer-provided benefits, and to stable hours and earnings) and their links to outcomes that should drive measurement objectives, rather than the labels given to the arrangement. The goals of policy are to improve the economic security and well-being of workers, whether they are active in traditional or nontraditional jobs.

The policy attention currently demanded to address changing labor practices coincides with a critical time for our economy. With unprecedented economic disruption not seen since the Great Depression, it is

crucial that the BLS work to better understand AWAs in the United States. The onset and now deepening impact of COVID-19 has exposed how vulnerable our society can be when workers are participating in the labor market without an adequate and well-coordinated social safety net. This report's recommendations are intended to improve policy makers' ability to address labor market vulnerabilities to prepare for future economic downturns. Several of the more urgent policy issues are especially relevant for two categories of AWAs highlighted above: *independent contracting* and *contract company work*. The key distinction regarding the former (including most of those who work for online platforms or mobile apps) is that such workers, because they are self-employed, do not typically receive the protections afforded by employment and labor laws, are excluded from many social insurance programs, and are not eligible for employee benefits. These characteristics of work as an independent contractor give rise to key policy questions: Should some or all of the protections afforded to employees under existing laws be extended to independent contractors? What are the implications for rethinking the social compact in anticipation of future work structures? And, as mandated by the recent AB-5 legislation passed in California, should certain independent contractors, perhaps including those who find work through platforms such as Uber and Lyft, be classified as employees?[10]

Policy prescriptions may depend on our understanding of why workers take jobs characterized as AWAs. Do they take them by choice, or due to lack of choice? How often is independent contracting work a main job and how often is it done on a short-term basis to supplement income from some other primary source? Data collection on independent contracting is complicated by the difficulties survey respondents often are observed to have in accurately reporting whether they are contractors or not, an issue addressed in detail in Chapter 3.[11]

Similar policy issues arise for contract company workers. Outsourcing of certain tasks has always been a business practice and, in some circumstances, workers as well as firms benefit from these arrangements. In other

[10]The enactment in California of Assembly Bill 5 (AB 5) tightens the definition of employment based on an "ABC" test, a guide for employers to determine if a worker should be considered an independent contractor or an employee. Its intended effect is to reduce the misclassification of employees as independent contractors and could affect the categorization of many workers—including ride-hailing drivers, construction workers, food-delivery couriers, nail salon workers, and franchise owners—in an effort to reduce insecurity associated with this kind of work. Similar legislation is currently being considered in a number of states including New York and New Jersey.

[11]Lack of awareness of employment status can have important consequences for affected workers. With respect to unemployment insurance (UI) or workers' compensation, for example, it may not be until people get laid off or injured on the job that they find out they are not employees and are not eligible for benefits.

circumstances, the literature shows that outsourcing may result in lower wages, reduced benefits, and compromised workplace safety.[12] The joint employment status of contract company workers—wherein control and supervision of an employee's activities are shared among two or more businesses—raises some significant questions: What are the obligations of a client firm to the workers it employs through an intermediary? Do these arrangements reap efficiencies? And, are there adverse consequences for workers in terms of wages, benefits, and job safety, and if so in what circumstances?[13]

Policy makers and researchers require information about worker preferences, such as why they work in various arrangements and what the implications of these arrangements are for their employment stability, wages, benefits, and other aspects of job quality. For example, having better data would be helpful to policy makers working on portable benefits plans, that is, plans that would be accessible to all workers regardless of work arrangement. Several states have introduced bills to create such plans and also to make existing programs, such as state paid leave programs and state auto-enrollment retirement accounts, more accessible to a wider range of workers. During the Obama administration, the U.S. Department of Labor identified independent contracting status and the misclassification of workers as major areas of policy concern (in a sense as a prelude to the state-level efforts described above).[14] Another layer of worker well-being is affected when workers are pushed to seek secondary or even tertiary jobs to supplement income. Workers often are independent contractors or in some nonemployee arrangement in such secondary work activities.

In addition to raising the issues noted above, independent contractor and contract company work is sometimes (though not always) temporary and irregular in nature. "Contingency," as measured by the CWS, is part of job insecurity; but other temporal aspects of work, such as flexible work scheduling and irregularity of hours, may also affect workers' sense of security. High week-to-week variability in hours, or inadequate notice about the timing of hours available, occurs in many contract work arrangements, but also in standard W-2 type employment. As noted above, technology has enabled growth in the use of scheduling algorithms that attempt to closely

[12]See Berlinski (2008), Dube and Kaplan (2010), and Litwin, Avgar, and Becker (2017).

[13]The U.S. Department of Labor has issued its interpretive rule (a form of regulatory guidance) under the Fair Labor Standards Act on determining joint employer status that provides a narrow definition of its application. Available: https://www.dol.gov/agencies/whd/flsa/2020-joint-employment/fact-sheet.

[14]See *Administrator's Interpretation No. 2015*-1 July 15, 2015, issued by the Department of Labor's Wage and Hour Division, concerning the Application of the Fair Labor Standards Act's "Suffer or Permit" Standard in the Identification of Employees Who Are Misclassified as Independent Contractors.

match worker hours to firm needs, but the resultant flexible or unpredictable scheduling also shifts income risk onto workers. Variability in hours, particularly if it is unpredictable, may not be job ending (in the sense that is built into a "temp job") but it may nonetheless lead to economic insecurity if a worker cannot count on enough hours to generate an income capable of meeting basic needs (Henley and Lambert, 2014).

Debate over the need for new worker protections, such as minimum advance-scheduling requirements, has led to legislation being passed in some cities to help offset negative impacts.[15] To inform such efforts, key job characteristics need to be monitored through regular data collection, including variability in timing and number of hours worked and any associated volatility in earnings.

Along with policies that recognize and address the challenges created by emerging AWAs, policies are also needed that recognize and nurture the positives created by innovative new employment models. For some workers, schedule flexibility may increase productivity and wages. For participants in online platform work, attractive features may include the way the platform allows them to choose when they work, learn entrepreneurship skills, or transition back into work after extended absences. These flexible arrangements may be especially beneficial to people with otherwise limited labor market options, such as students, retirees, parents of small children, or those who can only find part-time work.

From the perspective of businesses, companies may use independent workers not just to reduce costs, but also to tap into talent and skills pools with the agility required to maintain competitiveness. The new economy requires policies designed to make new employment models work well not just for workers, but also for the employers who engage them and for the markets in which they operate. University of California officials have argued (see footnote 5) that, in addition to saving money as a means of curbing further tuition hikes, contractors give them the flexibility required to meet complex hiring needs. One policy goal is to protect the lower-paid, lower-skilled workers who are vulnerable to abuse as part of a "race to the bottom" while simultaneously enabling on-shore economic growth for the higher-paid, higher-skilled jobs in which workers tend to have greater choice. Despite contrary positions on different sides of these debates, it remains an open question whether the platform model—with the wider use of contracting and flexibility for workers that arises from it—is incompatible with providing workplace protections like minimum wage or overtime.

[15]The following site tracks states and localities that have adopted "predictive scheduling" requirements with the idea of helping workers better plan their schedules and budgets: https://www.hrdive.com/news/a-running-list-of-states-and-localities-with-predictive-scheduling-mandates/540835.

For all the reasons stated above, policy makers are highly engaged in topics related to AWAs and, more broadly, in understanding how jobs are changing and what the future of work holds. A report issued by the Senate Committee on Appropriations on June 28, 2018, notes that "the Committee is pleased BLS is reporting on the contingent workforce during the current fiscal year. The Committee directs BLS to continue capturing data on contingent work and alternative work arrangements by conducting the Contingent Worker Supplement to the Current Population Survey on a biennial basis."[16]

At the same time, Congress and other policy makers will move forward on legislation and advocacy in some capacity with or without proper data-based evidence to replace the assumptions currently in vogue. This policy climate makes it all the more urgent to improve the data infrastructure for studying how employment relationships are changing and the implications for workers and firms. Reliable data are particularly important for policy makers as they attempt to develop a consensus on how to move forward in a way that is helpful to the population engaged in this kind of work. More is known now than several years ago, but there are still many unanswered questions and much confusion among policy makers and the general public about how work arrangements are changing. To improve the knowledge base, a range of sources will need to be tapped, including those from government, academia, and the private sector.

The type of data needed to address these policy concerns does not rely on formal, established categories of employment, because often the categories themselves are shifting or the terminology describing them is changing. Instead, what is most relevant are the characteristics of the jobs held by American workers, such as their level of earnings, whether they are working on an employee or nonemployee basis, whether the job is temporary, whether their work schedules are regular and predictable, and whether the jobs provide health insurance, retirement benefits, or time off. These are the characteristics most relevant to understanding and ultimately trying to improve the outcomes and well-being of workers engaged in AWAs. For example, having a count of the number of jobs categorized as "on-call" according to some specific definition is less important than knowing how many jobs have an unpredictable work schedule. Similarly, having a count of the number who consider themselves independent contractors is less useful than knowing how many are hired by an organization or client on a nonemployee basis, regardless of the term used to describe the arrangement.

[16]Available: http://src.bna.com/z3y.

1.3. THE MEASUREMENT ROLE OF THE CONTINGENT WORKER SUPPLEMENT

The CWS is designed, in part, to measure the temporary nature (contingency) of jobs.[17] BLS defines contingent workers as those "who do not have an implicit or explicit contract for ongoing employment."[18] To date, the CWS has been conducted in 1995, 1997, 1999, 2001, 2005, and 2017. As described above, the creation of the CWS was motivated by concerns during the 1980s about the changing nature of employment and the implications for work policies. Today's concerns about the changing nature of employment are therefore not new. The characteristics of alternative work have evolved since the 1980s, however, and some of the issues of concern also have changed since the CWS was conceived. Although the panel recognizes the value of maintaining consistency across surveys and believes that the broad measurement objectives of the original CWS are still appropriate, the survey requires updating to continue to be relevant for policy and research purposes. For example, as alluded to above, the modern labor market dictates that more attention be given to measuring the irregularity and unpredictability in workers' hours.

Of course, no single survey or survey supplement can measure all aspects of the changing nature of work. As noted above, a central focus of the CWS has been on measuring jobs that are temporary, or contingent, along with measuring work arrangements whose characteristics differ from those of standard employee jobs in ways that likely would matter to workers. The latter cluster includes the work of independent contractors, contract company workers, on-call workers, day laborers, temporary help agency workers, and, in the 2017 survey, electronically mediated work (that is, work obtained through online platforms or mobile apps that mediates the payment from the customer to the worker). For the most part, the categories of work arrangements are defined as mutually exclusive, although there is a small overlap between on-call and contract company work in all CWS waves, and in 2017 information on electronically mediated work was collected for all jobs and could be associated with any arrangement on workers' main jobs.

When the BLS received funding to field a new round of the CWS in 2017, a primary objective was to assess how the number of workers in

[17]The CPS, of which the CWS is a part, is a monthly survey of about 60,000 households that provides data on employment and unemployment in the United States. Special supplements to the CPS have been used as an efficient way to collect additional targeted data. The statistics produced from the supplements, and from the CPS in general, are often considered to be the gold standard. Currently, supplemental questions are asked on a wide range of topics, including veterans' employment, displaced workers, and students' employment.

[18]Available: https://www.bls.gov/cps/wlf-tables24.pdf.

BOX 1-1
2017 CWS Questions about Electronically Mediated Work

Q1: Some people find short, IN-PERSON tasks or jobs through companies that connect them directly with customers using a website or mobile app. These companies also coordinate payment for the service through the app or website. For example, using your own car to drive people from one place to another, delivering something, or doing someone's household tasks or errands. Does this describe ANY work (you/NAME) did LAST WEEK? (If a respondent answers "yes" to Q1, they are asked a follow-up question)

Q1a: Was that for (your/NAME's) (job/(main job, (your/NAME's) second job)) or (other) additional work for pay?

Q2: Some people select short, ONLINE tasks or projects through companies that maintain lists that are accessed through an app or a website. These tasks are done entirely online, and the companies coordinate payment for the work. For example, data entry, translating text, web or software development, or graphic design. Does this describe ANY work (you/NAME) did LAST WEEK? (If a respondent answers "yes" to Q2, they are asked the follow-up question)

Q2a: Was that for (your/NAME's) (job/(main job, (your/NAME's) second job)) or (other) additional work for pay?

alternative employment arrangements had changed since 2005, the previous time the supplement was fielded. Another objective was to "measure an emerging type of work—electronically mediated work, defined as short jobs or tasks that workers find through websites or mobile apps that both connect them with customers and arrange payment for the tasks" (BLS, 2018). Four questions, listed in Box 1-1, were added to the 2017 CWS for this latter purpose.[19]

As currently constructed, the CWS is well positioned to help researchers answer questions about the number of workers in temporary jobs and the AWAs covered by the survey, various characteristics of those jobs, workers' job tenure, and workers' reasons for being in a particular work arrangement. In considering how the CWS could be reshaped to better measure additional aspects of AWAs, in the chapters that follow the panel addresses a number of questions, which are previewed next.

Within the broad measurement objectives of the CWS, are the work arrangements or characteristics of work covered in the survey the most rel-

[19]Full documentation of the CWS survey, including the development and results for the four questions about independent work done through online platforms, is provided in Current Population Survey Staff (2018).

evant ones, or should some new questions be added and others be dropped to make space?

In other words, what is it that policy makers and researchers most need to know about work arrangements and work characteristics to better understand the modern labor market?

Information about work categories and job characteristics is needed from the statistical system, although it is possible that some can be better captured through administrative data or surveys other than the CWS. As argued above, the changing nature of employment arrangements has created a measurement need to collect more comprehensive information about specific job characteristics faced by workers than is currently done in the CWS. A clear example is unpredictable work schedules. Evidence from other surveys and research (presented in Chapter 3) indicates a high prevalence of schedule unpredictability, giving rise to a highly salient policy issue. Collecting this information in a large nationally representative survey would help to inform regulatory policy decisions.

Many issues of interest to policy makers and researchers hinge on the distinction between employees (W-2 workers) and the self-employed, which includes independent contractors. Thus, it is important to accurately classify workers as employees or self-employed/independent contractors or other nonemployees. For many questions, however, it is necessary to capture the characteristics of jobs rather than capturing only a *type* of work arrangement (e.g., working on-call rather than identifying someone as an "on-call worker").

The current CWS collects information only on the main job. Should this be expanded to include secondary work activities?

This question relates to the appropriate scope of work to be covered in the CWS. Throughout this report, the panel considers the merits (and pitfalls) of collecting information on more than one job or work activity. Several studies suggest that independent contractor or informal work arrangements, including work for online platforms, are often secondary work activities that are important to household income (Abraham and Houseman, 2019; Farrell, Greig, and Hamoudi, 2018; Robles and McGee, 2016). More fully understanding the various sources of income for households is important for research and has potentially important implications for whether and how policy makers should respond to changing work arrangements.

The current CWS collects information on work that has occurred only during a very recent time period. Should this reference period be expanded?

This question also relates to the appropriate scope of work to be covered in the CWS, which asks respondents who identified as employed

"last week": "Did you do ANY work for pay (either pay or profit)?" This report's recommendations address the benefits of asking about work for a different reference period—for example, to capture work done by participants only sporadically—as well as the potential negatives, which include considerations about the ability of respondents to report accurately about activities that took place further in the past.

Is the CWS, a household survey, the best vehicle for collecting the various pieces of information needed to inform policies related to work arrangements? And if not, what are alternative data sources?

Because space for questions in the CWS is limited, it is always worth assessing whether resources could be shifted to maximize its value for the purpose of measuring AWAs. In some cases, topics could be deemphasized not because they are unimportant but because other data sources have a comparative advantage over household surveys in their collection. An example, alluded to above, is the case of temporary agency and contract company workers. Workers often may not be fully informed about the complicated nature of the business relationships underlying their "employment." For example, an individual being paid by a staffing firm and assigned to a distribution center of a major retailer may report being employed by the retailer. The difficulty household survey respondents have in accurately reporting such intermediated work arrangements is well documented, and information about these arrangements may be better collected through other means.

For data that should continue to be collected in the CWS, does the current survey instrument fully and accurately capture the desired information or are there ways the data could be improved?

In Chapter 3 of this report, the panel identifies situations for which cognitive testing and altered question wording could improve the accuracy of information collected in the CWS, including for questions about temporary, independent contractor, and online platform or mobile app work.

Recognizing resource limitations, how should the information collected in the CWS be prioritized?

Although BLS has decided to reshape the CWS to accommodate the measurement needs created by new labor market dynamics, the agency also recognizes that there is value to fielding a supplement over time that maintains a fixed set of core questions, so that valid time-series comparisons can be made. Almost immediately after BLS released estimates from the May 2017 CWS, it received feedback from users (academics, business leaders, politicians, and other government researchers) who agreed that the capacity to compare estimates from the May 2017 and earlier iterations of

the CWS was helpful. Users also expressed the view, however, that there were important questions that were still not possible to answer and that needed to be addressed.

Much of the current survey instrument is devoted to measuring the temporariness of the respondent's job in order to produce statistics on contingency. While contingency is an important job characteristic, the panel recommends (in Chapter 3) simplifying this set of questions to make room for asking about other aspects of the employment relationship. To allow room for higher-priority questions, the panel also recommends that BLS consider dropping questions that have been little used by researchers or the policy community or that might be better measured using other sources.

The Value of Multiple Data Sources

Going forward, the data strategy for measuring AWAs will not be compartmentalized in one survey or even necessarily one statistical agency. The Foundations for Evidence-Based Policymaking Act of 2018 urges statistical agencies to seek opportunities to innovatively combine data sources with the goal of improving measurement.[20] In this spirit, while the first part of the measurement strategy is to improve the BLS surveys, a second part, described in Chapter 4, involves exploiting and improving coordination among complementary data sources.

Reflecting the potential of a multiple-source data approach, economic researchers have used surveys, tax reports to the Internal Revenue Service, data from the Social Security Administration, and transactions information from commercial banking accounts to measure different aspects of AWAs and, in particular, web platform work activity and income. Although new measurement challenges have arisen, especially with the use of "organically" generated commercial data—for example, issues regarding their representativeness and their transparency[21]—there are also distinct advantages. Commercial data, for example, offer detailed, high-frequency information based on transactions posted daily. This data characteristic can allow

[20]The law requires, among other things, that statistical agencies become more transparent with their data and share their datasets internally and with other government agencies for research purposes to the maximum extent possible under the law. Available: https://www.congress.gov/bill/115th-congress/house-bill/4174/text.

[21]Unlike survey data, whose properties are well understood as the result of decades of methodological research, use of administrative and commercial data is relatively recent. But approaches are being developed to assess the quality of new types of data. Japec et al. (2015), for example, outlines a "Total Data Error" framework which includes traditional methods (which parse potential sources of bias and error into sampling and nonsampling errors) but expands the sources of nonsampling error to include measures of error capturing how commercial or organic data are generated, extracted, transformed, loaded, and ultimately analyzed.

researchers to identify even work that is performed sporadically. Elsewhere, insights gleaned from research using tax data have been generated from records capturing payments by firms to unincorporated individuals for nonemployee services (e.g., Collins et al. [2019]). For example, tax data indicate that most 1099 online platform work supplements primary W-2 jobs.

1.4. CHARGE TO THE PANEL

During the first meeting of the panel, held March 29, 2019, BLS leadership outlined their goals for the study and their motivation for commissioning it. Presentations by BLS experts described the history, measurement objectives, and past performance of the CWS. Strengths and weaknesses of household surveys, and the CPS in particular, for the purpose of measuring contingent and alternative work arrangements were identified. Time was also allocated for a discussion among panel members and sponsor representatives to sharpen the project statement of task. Box 1-2 lays out the scope of the study, which was refined collaboratively during the first meeting of the panel.

In addressing that charge, this panel report is organized into three chapters (beyond this introductory chapter). Chapter 2 assesses the measurement needs for monitoring the changing employment landscape and broader economy and for informing policy designed to mitigate negative effects while preserving the benefits from these changes. The chapter stresses the need to measure all work-based sources of income, not necessarily just income from "primary" jobs. The chapter also emphasizes the importance of monitoring key job characteristics, which often reveal more about effects on worker outcomes and well-being than does a sorting of categories of alternative work.

Chapter 3 addresses the role of the CWS within the spectrum of measurement needs. There are many potential sources of information about changing work arrangements. Some sources, like the CPS/CWS, are government household surveys, but other kinds of surveys, as well as administrative and commercial data, can play complementary roles. Within this context, the comparative strengths and weaknesses of the CWS are assessed so that an optimal role for the survey can be considered. Here, recommendations about the conceptual and content scope of the CWS are presented, as well as guidance regarding CWS questionnaire design.

Chapter 4 describes in detail the role of complementary (non-CWS) survey and nonsurvey data sources in measuring AWAs and the characteristics of workers in these arrangements. Findings emerging from these other sources—which include non-BLS household surveys, firm/establishment surveys, government administrative data sources, and commercial data sources—are reviewed, and lessons for the CWS are drawn. The promise

BOX 1-2
Statement of Task

The Committee on National Statistics of the National Academies of Sciences, Engineering, and Medicine will appoint an expert panel to review the Contingent Worker Supplement (CWS) of the Current Population Survey (CPS) for the Bureau of Labor Statistics (BLS) in the U.S. Department of Labor. The CWS provides key measures of temporary (contingent) work, alternative work arrangements, and the "gig" economy. Disagreements, however, exist among researchers, policy makers, and other stakeholders about the definitions and measures of these concepts and priorities for future data collection.

The expert panel's work and consensus recommendations will be guided by the current research and policy questions that need to be answered. Many of these questions arise from concerns about the economic and health impacts of modern work arrangements on the population, which are rapidly evolving in response to emerging technologies, the changing sectoral composition of the economy, and the shifting boundaries of where, how, and by whom work is performed.

The expert panel will carefully review measures of employment, earnings, and worker well-being in temporary and alternative work arrangements that can be estimated using household survey data, such as those generated by the CWS, as well as measures that can be produced using administrative, commercial, and combined data sources. The comparative advantages and complementarities of different data sources will be assessed. In addition, the expert panel will review methodological issues underpinning BLS's measurement objectives. As part of its information-gathering activities, the panel will conduct a workshop to hear the perspectives of data users, stakeholders, and both survey and nonsurvey data experts.

The panel will produce a consensus report, which will include rapporteur-authored proceedings of the workshop along with conclusions and recommendations for BLS to guide continued improvement of the CWS.

of combining multiple data sources to leverage the strengths of each source is also explored.

An appendix to the volume provides a summary of an open meeting of the panel, which included presentations highlighting the perspectives of data users and policy makers concerned with the issues created by changing work arrangements in the modern economy.

2

Measurement Needs for Understanding the Changing Nature of Work

Driven both by business needs and by the desire of workers for a broader set of work options, work arrangements have changed dramatically in recent decades. External factors having to do with the macroeconomy, such as fallout from the Great Recession, and changing technology have also played roles in shaping the emerging models of employment. Internet platform-mediated work, at this point only a small component of the overall labor market, is but one example of the flux now being experienced. Better data are needed to fully understand these ongoing labor market transitions and to inform new policies being called for to enhance the positive aspects of these changes and mitigate the negative impacts. Specifically, data are needed to support analyses connecting changes in business structure and employment relationships with job and worker outcomes.

In this chapter, we discuss the changing nature of jobs—whether it is the contingency emphasized in the early Contingent Worker Supplement (CWS) to the Current Population Survey (CPS) or the broader job security and employee protection issues that have emerged since—along with the measurement implications. We identify the kinds of information about modern work arrangements needed for policy and research purposes and consider the priorities for collecting this information. We discuss the scope of work and income sources that are important to measure (section 2.1); how different categories of work factor into policy strategies (section 2.2); and, most importantly, how job characteristics affect worker outcomes and well-being, as well as employer hiring practices (sections 2.3 and 2.4). The strengths and shortcomings of existing data sources in meeting these information needs are also noted. Those sources include but are certainly

not limited to the CWS. We leave it to subsequent chapters, however, to build on the conceptual discussion here and advance recommendations for improving measurement capacity—both through a revised CWS (Chapter 3), and by building on other, potentially complementary data sources (Chapter 4).

Periodic, cross-sectional household datasets such as the CWS can shed light on some important policy questions related to alternative work arrangements (AWAs):

— *Among people engaged in AWAs, what is the relationship between worker age, education, and other characteristics (gender, race/ethnicity, immigration status) and job opportunities?*
— *Why do workers participate in AWAs? To what extent does participation reflect worker preferences for flexibility or other AWA attributes, and to what extent would those in AWAs prefer a standard employment arrangement?*
— *Is engagement in AWAs more likely among multiple job holders or as a secondary work activity? And what is the impact of multiple job holding on worker well-being and on work/life balance?*

For other research and policy questions, panel datasets or (as discussed in Chapter 4) high-frequency nonsurvey data, such as commercial and administrative data, can be instrumental in helping to understand emerging labor force dynamics. Examples of such questions include these:[1]

— *Does participation in AWAs increase (due to personal financial needs) or decrease (due to reduced demand for services) during economic downturns?*
— *How do AWAs help workers smooth their income and consumption over time?*
— *What are the career paths that lead into and out of AWAs?*

Recognizing the value of longitudinal data collection, Chapter 4 discusses the value of adding job questions to surveys such as the Census Bureau's Survey of Income and Program Participation (SIPP) and the National Longitudinal Surveys.

[1]Although the CWS is a supplement to the CPS, which has a limited longitudinal structure, researchers have used the CWS to examine some of the employment dynamics associated with AWAs. For discussion on using the limited longitudinal structure of the CPS together with the CWS to study the stability of AWAs, see Addison and Surfield (2009) and Houseman and Polivka (2000). For discussion of worker paths into AWAs, see Addison and Surfield (2006) and Farber (2017).

Other kinds of questions may be best addressed by analyses using business-sourced data:

— *What kind of firms use AWAs and why?*
— *How have the activities and occupations where AWAs are used changed over time?*
— *What determines the diffusion of AWA usage in an industry and occupation?*
— *How does growth in the use of AWAs relate to the increasing separation of firms between high-productivity / high-wage and low productivity / low-wage firms?*
— *Are AWAs a first-order result of employment restructuring or a second-order effect of business restructuring?*
— *How do businesses view their relationship with AWA workers? Do they think of themselves as traditional employers? Indirect employers? Supply contractors?*
— *To what extent is the use of AWAs a reflection of more efficient ways to organize production, given new technology, versus a method to thwart workplace protections and social insurance protections?*

Finally, the changing business structures affecting employment arrangements come into play, at least indirectly, for an even broader set of social and economic questions affecting the well-being of individuals and households:

— *What role, if any, is the trend toward AWAs playing in polarizing high-skill and low-skill jobs (and the disappearance of "solid" middle class jobs) and in the growth of earnings inequality?*
— *What is the relationship between AWAs and the trend toward declining labor mobility and opportunities for career progression?*[2]
— *Is the changing structure of work related to declining labor force participation among certain demographic groups (e.g., white males)?*[3]
— *Do AWAs draw people into the workforce who would otherwise be nonparticipants?*
— *Are certain types of AWAs replacing other types?*

[2]Davis and Haltiwanger (2014) provide empirical evidence for a decline in labor market mobility.

[3]If the earnings, benefits, and conditions of work associated with an occupation or industry decline as a result of AWA utilization, the pool of workers in those jobs could decrease, affecting labor force participation for particular segments that were once attracted into the workforce by those types of jobs.

Addressing these questions will require many kinds of data and involve many research threads. Nevertheless, if we are to gain a better understanding of the future of work, development of the right kinds of data instruments is crucial.

2.1. EMPLOYMENT: MEASURING ALL "SIGNIFICANT" SOURCES OF WORK INCOME

Which Work Activities Are in Scope?

In its role measuring the nation's labor market activities most pertinent to research and policy, BLS cannot attempt to capture *all* sources of income. The agency's focus rightly is on income generated from market work. Work activity associated with individuals' primary jobs therefore is clearly within scope, while work conducted for family or friends (e.g., household production) or for a neighbor in a barter-type agreement is just as clearly out of scope.[4] But much work that routinely takes place—ranging from selling used items on eBay or at a flea market to earning income from working a second or third job, perhaps sporadically—falls between these extremes. Currently in the CWS, deciding what to include as "work for pay" is largely up to respondents' interpretations.

AWAs are of course not new. Examples of inside contracting systems as well as networks of outside contractors could be found in 19th century U.S. factories. The growth of standard employment relations in the post–World War II period reflected efforts by employers to create strong internal labor markets wherein employers could invest in workforce training and expect to retain those human capital investments. This made sense for employers during the three decades after World War II, as the economy grew and the strong position of companies in domestic markets allowed them to negotiate with unions in a way that increased wages and decreased wage inequality. Subsequently, the relationship between workers and firms weakened. Beginning in the mid-1970s, macro trends such as globalization and international competition, technological change, and the decline of unions led employers in the United States to seek the flexibility to more readily adjust the size of their workforces (National Academies of Sciences, Engineering, and Medicine, 2017).

[4]Several surveys—such as the Federal Reserve Board's Survey of Household Economics and Decisionmaking, described in Chapter 4—are oriented to pick up informal work. Specialized surveys—for example, a national-level household survey of informal work conducted by Jensen, Tickamyer, and Slack (2019)—have even included questions about informal work that is done on a barter or other nonmarket/nonmonetary basis. Some of these surveys indicate relatively small amounts of income being generated, but very high participation rates, in informal work.

Temporary agency employment grew rapidly during the 1970s and continued growing all the way through the 1990s, although it still represented a relatively small portion of the overall labor force. As described in Chapter 1, by the time the BLS sponsored the first Contingent Work Survey in 1995, trends in the temporary help services industry, and in outsourcing generally, were readily apparent. However, the share of the workforce engaged in temporary help agency work, as measured in the CWS, has been fairly stable over the survey's history, including the most recent 2017 wave.

Since 1995, other forms of work have evolved and grown in relative importance, garnering the attention of policy makers and researchers. More prominent in today's economy than temporary help agency work—and more salient from the point of view of policy—is independent contracting, which includes platform work. Under this arrangement, individuals are self-employed rather than being employees of the organizations or individuals for which they perform work. Of the AWAs measured in the CWS, independent contracting is the largest group, although the percentage of all employment accounted for by this category as measured in the CWS changed little between 1995 and 2017.

As described in detail in Chapter 3, however, the CWS estimates likely underestimate the proportion of persons who work as independent contractors. In large part this is because the survey asks only about a person's main job, and many people work as independent contractors on a second or third job. Research evidence also suggests that many people working solely in these nonemployee arrangements are not captured in household surveys like the CWS. The independent contractor group is critical for policy, as these individuals typically cannot rely on employing organizations for benefits and security, and they are not covered by employment and labor laws that provide basic protections to workers (such as minimum wages) and access to social insurance programs (such as unemployment insurance and workers' compensation).

One question of appropriate measurement scope that comes into play conspicuously in observing independent contracting concerns the distinction between "work-based" income and income derived from a combination of work and capital-generated activity. As quickly becomes clear in thinking about some of the newer platform companies, the line between these two activities can sometimes be blurry. For example, renting out rooms through AirBnB often is thought of as deriving income from a capital asset, but it also has a work- (time-) based component; in fact, a person operating several AirBnB properties may be occupied full-time in the enterprise. On the other hand, even ride-share workers, ordinarily considered to be engaged in labor-platform work, must have capital in the form of a car that passes

the company's equipment standards.[5] It is an open question how far apart on the labor/capital spectrum the work is through platforms such as, say, AirBnB and Uber.

There is a conceptual arbitrariness about drawing the line of inclusion for measurement in labor statistics somewhere between the two kinds of jobs, labor- versus capital-based. Furthermore, this distinction is a problem that is pervasive for all types of self-employment, not just AWAs. Income from traditional self-employment also may combine returns to labor and capital. Further complicating measurement is the fact that, for most purposes, the relevant concept is *net income* (essentially what a person would report on a Schedule SE), but it may be difficult for households to separate out the costs associated with the work they did "last week" (a point reiterated later in this chapter). As discussed below, in the CWS, hours may be the best measure of the intensity of the activity.[6] We address this issue of demarcating returns to capital and labor in later chapters, where we also discuss nonsurvey data approaches to measuring the extent of independent contracting and other self-employment work and its contribution to the economy.

In recent decades, business restructuring has affected the prevalence of AWAs across the economy, and in a way that extends far beyond the comparatively recent emergence of the internet platform-based work alluded to above. Profound organizational changes have found major businesses focusing on integrating available resources into their value creation process to best provide value to customers and investors; this often involves concomitantly contracting with other entities to carry out those efforts (Appelbaum and Batt, 2014). The organizations undertaking these activities for lead businesses are guided by exacting standards and high-powered incentives to ensure that core competencies are met. These take the form of detailed subcontracting and supply-chain requirements; franchise agreements; and, most recently, the highly calibrated incentive systems created by platform algorithms. Such restructuring includes but is not limited to the AWAs captured in the CWS.[7]

[5]There is a growing list of jobs requiring a car that are clearly income-generating—Amazon Flex, Uber Works, Doordash, etc.—that are relevant to many of the preamble questions to this chapter. These platforms reflect activities previously done as work by workers (as opposed to the AirBnB example, which is less clear).

[6]An option used in some data collections, such as the Survey of Informal Work Participation sponsored by the Federal Reserve Bank of Boston, is to take a "time for income" approach as opposed to the current work for income approach. Regarding platform work, an approach whereby respondents are asked whether they *spent time* providing services or selling goods for pay could be considered.

[7]Weil (2019) argues that the wider definition of "fissuring" implies that the part of the workforce affected by these changes is much larger than is implied by household measures of AWA.

Multiple-Job Holders

Changes in the structure of employer-worker relationships in recent decades have given rise to a different set of individual and household choices. These changes require rethinking the meaningfulness of terms like "primary job" and "supplemental work" and of the factors contributing to decisions by people to take different kinds of jobs. Data sources such as the CWS are needed to better inform questions about how changes in primary job characteristics are affecting worker outcomes. Similarly, information is needed about the prevalence of additional work beyond the primary job—much of which is likely to be in AWAs—and the reasons, including financial reasons, for taking on additional work. In many cases, secondary jobs are critical sources of income for households, and thus information on all jobs is necessary to understand how people combine different work activities to earn a living. For these reasons, it is necessary for policy purposes to collect information about additional work beyond the respondents' primary job. Because secondary work activities are often engaged in sporadically, the CPS reference period "in the past week" would not capture them comprehensively. This issue of the length of the reference period used in the survey and its potential impact on various estimates of AWA activity is discussed in Chapter 3.

It is not practical for a single survey (or nonsurvey data source for that matter) to generate a profile of the full characteristics of all work activities in which people engage. Information about hours and earnings on all jobs is essential. Additionally, it would be valuable and within scope for the BLS to include questions on *why* respondents have a second job. Policy discussions regarding implications for the well-being of people who engage in AWAs often make assumptions about workers' underlying motivations and whether the AWA is their primary or a secondary job. For example, some independent contractors may prefer greater job flexibility and a desire to pursue entrepreneurial opportunities. This characterization may be most accurate when describing workers who seek out AWAs as their main source of income. In other cases, AWAs may reflect hard choices made by individuals and households to make ends meet, particularly when they are engaged in the work to supplement income earned in a traditional job.

Nevertheless, even when they are second jobs, AWAs may be an attractive means of fulfilling a desire for supplemental income or satisfying targeted savings goals. Probing the assumptions about preferences should be combined with mapping preferences against other worker characteristics, such as educational background, age, and experience, as well as job characteristics, such as occupation, skill requirements, and industry. A deeper understanding of the patterns of preference among workers taking on multiple jobs is critical to framing future policy choices. Achieving such

an understanding will require both accurate data and sound approaches to measuring the full range of market work in which people are engaged.

2.2. JOB TYPES: CATEGORIES OF ALTERNATIVE WORK ARRANGEMENTS

The CWS provides key measures of temporary (contingent) work and of the AWAs often associated with temporary work, with outsourcing in its different forms, and with unpredictable schedules. Disagreements exist, however, among researchers, policy makers, and other stakeholders about the definitions and measures of these concepts and priorities for future data collection.[8] As previously discussed, the CWS collects information on the following five major types of AWAs:[9]

- *Temporary agency work*. In this case, the worker is an employee of the temporary help agency and is assigned to work *for* clients, typically at the client's worksite. As discussed in Chapter 3, employer survey data indicate that the share of the workforce in temporary agency employment is understated in the CWS. In May 2017, according to the CWS, about 1.4 million workers (0.9% of total employment) were paid by a temporary help agency.[10]
- *On-call work*. On-call work is a type of on-demand work in which the worker is called to work at the job only when needed. In on-call work, like other types of on-demand work, the number or the timing of hours worked varies and, importantly, the hours are controlled by the employer, not the employee. These characteristics are not necessarily unique to on-call work. In May 2017, according to the CWS, there were 2.6 million on-call workers (accounting for 1.7% of total employment).
- *Independent contracting*. Independent contracting is a type of self-employment. The term typically refers to the work of those who are self-employed and do not own or run a business or do not have a sizable capital investment in a business. Independent contractor arrangements are often complex, involving tiers of subcontracting that may lead to misreporting and undercounting on tax forms. Independent contractors also include most types of work on platforms and other informal, nonemployee work arrangements. As

[8]For a detailed discussion of these definitional issues, see Allard and Polivka (2018).

[9]The CWS also collects information on day laborers but, given their small number as captured in the survey, the BLS does not report this category in its data summaries.

[10]This figure, and the parallel estimates for other AWA categories, are available: https://www.bls.gov/news.release/pdf/conemp.pdf.

is discussed in Chapter 3, research evidence also suggests that independent contractors are underreported in household surveys. In May 2017, according to the CWS, there were 10.6 million independent contractors (6.9% of total employment).

— *On-demand, platform-intermediated work*. Platform-intermediated work, sometimes referred to as "gig" work, may cover personal service activities, such as child care, house cleaning, or ride sharing, as well as goods-related activities, such as selling goods online or renting out property—though each of these activities is often not mediated by a platform. As noted above, many people who engage in platform work use it to supplement their income, but some rely on it as their main source of income. Some platform-intermediated activities are done occasionally and do not take much time, and thus may not fit neatly into a standard concept of what is considered to be "work" (see Abraham and Amaya, 2019; Farrell, Greig, and Hamoudi, 2018). In some cases, internet intermediary companies have formalized the arrangements for certain types of work previously done on an informal basis. For example, a neighborhood dog walker who previously had operated by word of mouth might now use Rover.com, or a person who had previously rented out a spare room through classified advertising might now use AirBnB. For May 2017, BLS estimated that about 1.0 percent of total employment was accounted for by electronically mediated workers.

— *Contract company work*. This category refers to workers, besides temporary agency workers, who are employees of a company but whose services are contracted out to clients. As discussed in Chapter 3, it can be difficult to measure this category of work because it is unclear how accurately contract company workers are able to report their status as such. The narrow BLS definition may capture that particular part of contract company work with reasonable accuracy—those who work for a company that contracts out their services and who primarily work for one client at the client's worksite—but it misses much of the network of contract activity that is also of interest. In May 2019, according to the CWS, 933,000 workers (or 0.6% of total employment) were engaged in contract company work.

Even with a blurring of work categories, a key measurement objective remains to track whether workers are employees or independent contractors. The policy relevance here is obvious. By virtue of the fact that they are self-employed, independent contractors are not covered by a host of worker protections, including minimum wage, overtime pay, health and

safety rules, sexual harassment laws, and rights to organize and collectively bargain, all of which apply only to employees. Nor are they covered by social insurance benefits, such as workers compensation and unemployment insurance, or by employer-provided benefits, such as health insurance and retirement plans.

In addition, the earnings of an independent contractor, net of expenses, may in some cases be substantially below those of workers undertaking similar work as employees. For example, it has been estimated that when fully accounting for vehicle fuel, amortization, insurance, maintenance, tolls, and other costs, drivers working as independent contractors for Amazon Flex (the next-day delivery arm of Amazon) received estimated net earnings of $5.30 per hour—significantly below the federal minimum wage. This compared to average earnings of $23.10 for UPS drivers and $14.40 for FedEx drivers (Vernon, 2018; also see Zaleski, 2018). Similar outcomes may arise in certain franchise relationships prevalent in industries like janitorial services and home care, where the franchise agreement may put the franchisee in a situation akin to employment rather than running a business (Weil, 2014, Chapter 6). Higher rates of violations in health and safety, labor standards, and other workplace requirements have also been documented for those in subcontracted or franchised relationships.[11]

The implication of these differences between employees and independent contractors is that, if work continues to migrate toward a nonemployer structure, there will be a need to adjust social safety net and employment laws in order to mitigate the potential negative side effect of this trend while realizing its potential benefits. From a policy perspective, it is critical to capture the distinction between employees and nonemployees. The current CWS attempts to do this by asking whether respondents are independent contractors, independent consultants, or freelance workers, but the wording of the question may not pick up everyone who is working but not as an employee. We return to this issue in Chapter 3 to recommend a modification to the wording of relevant questions.

Another data collection implication of these complexities in organizational and legal relationships, and of possible misunderstandings by workers concerning their status, is that administrative data can provide an important complement to survey data for measuring self-employment, including independent contractor work. As discussed in Chapter 4, it also may be possible to advance the measurement of independent contract work using combinations of survey and nonsurvey (administrative) data.

A final point about categorizing types of work is that, along with the evolution of AWAs, standard work arrangements also have experienced

[11]See, for example, Grabell, Larson, and Pierce (2013); Jamieson (2014); and Ji and Weil (2015).

change. Relative to the more manufacturing-based economy of the past, many employer-based jobs now offer fewer benefits (e.g., pensions, health care) and may offer less stability. Studies have also documented reductions in earnings and benefits for workers whose jobs were subcontracted to third parties. These developments serve to lessen the distinction between, say, W-2 jobs and some of the AWA categories listed above.

Reiterating the discussion above, a critical distinction for policy discussions about work arrangements is whether a person is considered an employee or not. Among the self-employed, it also is useful to know if the individual owns or operates a business, or if the individual is an independent contractor or other worker in a nonemployee arrangement. Among employees, it would be valuable to know whether the worker is in a *bilateral* or *trilateral* employment relation. Bilateral employment relations encompass standard employment relations as well as direct-hire temporaries. Trilateral employment relations involve those who work in intermediated arrangements, such as for temporary help agencies, leasing agencies, or other contract companies. Including descriptions of different types of workplace intermediaries would also be a useful path forward and allow some continuity with earlier CWS categories, while acknowledging the problems detailed in this section. The important types of distinctions that would be missed under such a realignment include franchised relationships and subcontracted (and possibly third-party managed) arrangements, but those can be more accurately measured through business-focused surveys.[12]

2.3. KEY JOB CHARACTERISTICS AFFECTING WORKER OUTCOMES AND WELL-BEING, EMPLOYER STRATEGIES

The primary research and policy goal motivating the collection of data about AWAs in the CWS has been to understand the nature of the work, how it is changing, and the implications for worker (and employer) outcomes. Most AWA measurements in the CWS were intended to capture situations in which workers are not employees of the organization using their labor and where there is a weakening of the attachment between workers and firms (as in firms' use of temporary help workers, independent contractors, contract company workers, or day laborers). The CWS also measures other work arrangements that are characterized by a high level of

[12]The specific type of subcontracting referenced here is similar to outsourcing: It reflects a decision by a business to take some activity and purchase it as an outside service rather than doing it internally. The work itself could still be done by W-2 workers in the business the subcontracted work is going to (or it might be to a business that is hiring its workers on a 1099 basis). The point is that this is work that has been affected by fissuring but would not be classified as an AWA even though the impacts of such arrangements still need to be measured for the reasons discussed in the report.

precarity, such as work that is temporary or on-call. Yet work arrangements are not always easily labeled. Terminology may not be well understood by many respondents, and it may change over time.

The nature of "employment" itself has become complicated because of the impact that this business restructuring has had on the employment relationship. Even "employee" is a contested concept. Workers may not always know who their employer(s) is (are) because of the multitiered, fissured nature of business relationships and legal complexities. For similar reasons, they may not know if they are actually employees or independent contractors (self-employed).[13] Independent contractors may accurately report working for an employer, particularly if the worker is reliant on one business for work (independent contractors are not necessarily hustling for clients).

Given the goals of the CWS and other BLS data programs, a reasonable strategy would be to place less emphasis on questions asking respondents to classify their job into one of several categories and, instead, ask questions that elicit information on the organizational arrangement(s) under which people work, specifically job characteristics and work outcomes. This section identifies the key job characteristics and work outcomes on which measurement should focus and clarifies why that focus matters. The key job characteristics are hours, scheduling variability, and contingency. The key work outcomes are earnings, benefits, and workplace safety.

Job Characteristics

Hours and Scheduling

To support the nation's basic employment statistics, there is clear value in collecting information on total hours from a main job and, in cases where a person has more than one job, total hours from all employment. As pointed out above, however, variability of schedules and reliability of hours are also of considerable interest, given their relationship to job and economic insecurity (Henley and Lambert, 2014).[14] Collecting this kind of information requires going beyond asking respondents only about a "typi-

[13] As discussed in Chapter 3, there is also an important distinction between whether people know if they are independent contractors or employees and whether the questions on the CPS/CWS elicit accurate responses. One conclusion of Abraham, Hershbein, and Houseman (2019) is that the latter is a problem, too. Household surveys, including the CWS/CPS and American Community Survey, do not ask whether an individual is an employee—only whether they work for an employer/organization.

[14] Indicative of the current policy interest in unpredictable work schedules is U.S. Senator Elizabeth Warren's inclusion of the issue (her "Fair Workweek" plan to give workers more advanced notice of their schedules) as part of her presidential platform. Available: https://elizabethwarren.com/plans/part-time-workers.

cal week." Chapter 3 proposes some alternative approaches to generating data that capture the extent of scheduling and income variability.

When work hours are unpredictable and variable, it is important to know who sets the schedules—Is it the worker or the employer?—and with how much advance notice. A self-employed person who chooses to work 20 hours a week represents a very different scenario from a person who is limited to the same number of hours but would prefer to work more to meet household economic needs. The policy implications are clearly different if the trend toward irregular or reduced hours is being driven by workers' desire for flexible scheduling as opposed to being driven by lack of opportunities to acquire "steady work." In any case, for workers who seek flexible work, flexible scheduling may not be an inferior arrangement.

To take an example, it might turn out that many jobs are characterized by week-to-week variability in hours. The growth of scheduling algorithms in retail and other service sectors, where workers may not receive much notice about work schedules, suggests that the "predictability" distinction/advantage of W-2 work may be eroding (Henley and Lambert, 2014). It is therefore important to collect data on and measure variability in hours for all but self-employed workers. As discussed in the next chapter, because of the growing importance of these issues, yielding room in the survey from the old contingent-work questions and providing additional questions on worker preferences regarding hours may be a worthwhile tradeoff.

Job Insecurity

An essential aspect of work arrangements measured using data from the CWS is the "contingency" or, perhaps more accurately, the temporariness *and* insecurity of certain jobs. As noted at the outset of this chapter, the need to measure the perceived expansion of temporary work drove the specifications of the CWS initially. The survey is well constructed to pick this up, with the caveat that it can be difficult for individuals to accurately report how temporary their job is. Compared to many other countries, however, the percentage of workers identified as "temporary" is relatively low in the United States. This renders the category less important than some others, such as independent contracting.[15]

The characteristic of temporariness is only one factor contributing to the sense of job security a worker feels. Job security is more complex than simply having a job or not; moreover, rather than being defined as either secure or insecure, jobs have aspects that make them more or less secure *in certain respects*. For example, many jobs—including many standard

[15]In other countries, temporary workers often have explicitly temporary contracts, so that they are a clearly identifiable category; in the absence of these types of contracts in the United States, the distinction is less clear-cut.

employer-employee jobs, especially in retail and other service sectors—have an on-call dimension that leads to high variability in the timing and even quantity of hours of work. Work variability of this variety leads to a different kind of job insecurity than does temporary work, but nonetheless it is important to measure and understand.

People do not think uniformly about temporariness, and it is an open question how relevant this job dimension still is to policy. Viewed from a positive perspective, temporariness means greater employment fluidity, and for some people new temporary work arrangements have added a welcome dimension of flexibility to their earning activities. Technologies have emerged in the past decade that enable workers to earn extra money on the side simply by turning on an app, such as Uber (or any of at least 128 others[16]), when they have a free hour or two. This means that some workers, such as those whose preferred approach is to pursue a variety of short-term jobs, are predisposed to be less concerned about the longevity, or "security," of a job. By their nature, these jobs are not permanent in the conventional sense; they are flexible. If an Uber driver works for a month, then does something else, and then returns to Uber driving later in the year, the concept of temporariness may not be terribly relevant—or at least, in that worker's thinking it may not be an automatic negative.

On the other hand, for workers who would prefer a more stable commitment by a job provider, temporariness may well be considered a negative to their sense of security and well-being. How, then, should job insecurity or reliability be measured to take into account these divergent impacts on outcomes? Because of these nuances in the ways people view job flexibility and job security tradeoffs, it is important to gain a better understanding of worker preferences regarding the kinds of work in which they engage or that they are pursuing.

An additional concern arises if, as some evidence suggests, *all* work has increased in precarity over time and workers' ability to assess insecurity is limited and affected by changing expectations (Howell and Kalleberg, 2019; Kalleberg, 2011). The approach of identifying preferences in work type is one useful way to get at this, and it could certainly be pursued in household surveys like the CWS. Since many jobs (both standard and AWA) are likely to be insecure and hence "temporary" to some extent, a potentially useful approach to measuring the insecurity aspect of work arrangements is to directly ask respondents about the likelihood that they will lose their job and, if they did lose it, how difficult it would be to find a new one. These approaches, used in several European surveys, are discussed in Chapter 3.

[16]Farrell, Greig, and Hamoudi (2018) identify 38 million payments directed through 128 different online platforms to 2.3 million distinct Chase checking accounts.

As explicitly recommended in Chapter 3, the BLS should continue to collect data that helps researchers understand why people engage in multiple jobs—including why they pursue platform work on the side. Questions on motivation for working a second job (work activity) are crucial for understanding people's work patterns. Relatedly, questions about job satisfaction for all workers may also provide insights into how respondents view the relative desirability of different work arrangements.

Work Outcomes

Earnings

The positive relationship between people's earnings and their well-being is obvious. Much attention has been given to the lack of growth in earnings experienced by workers over recent decades and the negative economic, health, and social impacts this has had on families. But how does this relate to changing work arrangements, an expansion of AWAs, and the potential ripple effects back on the conditions in standard employment settings? Whether changes in workers' employment arrangements account for the growth in earnings inequality, for example, is an open question.

Recent research (e.g., Howell and Kalleberg, 2019) argues that the growth of AWAs does not account for the decline in job quality, which is due more to the decline in the quality of standard jobs. This distinction, however, is difficult to make, especially when there is interdependence between AWAs and employer jobs. An important issue for further study is whether AWAs also create spillover effects that influence earnings and conditions in traditional work relationships. Additionally, some AWAs are not well identified in the existing data and may appear as traditional employment arrangements. Outside of certain industries, like temporary help, it is notable that contract work, outsourced work, and other fissured work arrangements are simply not measured, so workers in those arrangements may appear to be in regular wage and salary employment.

It is difficult to generalize about differences in earnings between workers in different arrangements. For example, some highly skilled independent contractors in high tech and other professional occupations earn higher wages than their counterparts in standard full-time jobs, although they are still less likely to have fringe benefits (Kalleberg, 2011; Kalleberg, Reskin, and Hudson, 2000). On-call workers, day laborers, and part-time workers, however, tend to earn consistently lower pay and have fewer benefits; except for part-time workers, they also tend to express a preference for not working in these jobs (Barley and Kunda, 2006).

To accurately compare people working in independent contracting arrangements with those working in wage and salary jobs, due to the

expenses connected with self-employment it is important to make a distinction between gross earnings and net earnings.[17] An example is fuel and auto depreciation for platform drivers and delivery workers. As discussed in Chapter 3, the CWS ideally would collect information on expenses so that both gross and net earnings could be reported. In practice, however, it is likely that many independent contractors would find such information difficult to report. While it would not be possible to ask occupation-specific questions in the CWS, specialized surveys have been used to probe into some jobs—such as those connected with driving or auto ownership, where the dominant platform models rely on cars for their production process—to follow up with questions about expenses. Such a question, for example, might ask, "On average, how many miles did you drive for this work?" or "How long have you owned the car for which you undertake this work and how much did you pay for it?"[18]

Jobs in various work arrangements may also systematically differ not just in terms of the level of earnings but also in the variability of earnings. In the CWS, earnings variability could be captured indirectly by questions about variability of hours. As with predictability and reliability of work hours, predictability of earnings has direct implications for people's economic security.

Benefits

Given the employer-delivered nature of many U.S. social welfare protections, workers in alternative arrangements are also likely to be disadvantaged with respect to retirement plans, medical care plans, paid time off, and other benefits. This is another case in which it is important to delineate information about primary jobs and secondary jobs and determine whether the worker has benefits from any job or through the job of someone else in the household.

Data are needed to inform policy initiatives, such as the recently passed California legislation known as AB 5,[19] which seeks to help miti-

[17]Asking tax-related questions carries with it the danger of potentially harming survey response rates and accuracy. One alternative source that researchers (e.g., Collins et al., 2019; Lim et al., 2019) have explored for such information on contract workers is tax returns. A perfectly completed tax return (Schedule C) subtracts costs from the gross earnings reported on, say, a 1099-K form. A survey could ask respondent if they had expenses, and then, if data linking were possible, these records could triangulate to tax data. This possibility is further developed in Chapter 4, which underscore how administrative tax data could complement data collected in household surveys.

[18]See for example: https://www.ridester.com/2018-survey.

[19]The AB 5 law tightens the definition of employment and is intended to reduce the misclassification of employees as independent contractors—common in such sectors as ride-hailing drivers, construction workers, food-delivery couriers, nail salon workers, and franchise owners—in an effort to reduce the insecurity associated with this kind of work.

gate the negative side effects being created by shifts in certain sectors toward increased use of independent contracting. Basic information on the incidence of benefits being offered, even if it is generated from data without much nuance on the level of benefits, would be useful for these discussions.

Other Job / Work Outcomes

Workplace health and safety can be affected by factors linked to AWAs. An analysis of the Census of Fatal Occupational Injuries found that, in 2017, about 12 percent of fatal workplace injuries were experienced by independent workers (defined as workers with short-term jobs that involve a discrete task and have no guarantee of future work). This represents a disproportionally higher propensity of death attributable to a workplace incident than that experienced by their employee counterparts (Pegula and Gunter, 2019). Health and safety risks arising from fissured employment relationships can also spill over to other parties; for example, Litwin, Avgar, and Becker (2017) find that outsourcing hospital cleaners increases the spread of health care-associated infections. As noted above, employment protections, rights, and social safety net protections may be negatively affected for workers who are in AWAs (e.g., have unstable hours or are on-call) and, if there are spillover effects, even for workers who are designated as employees.

The CWS cannot be the data source to provide statistics about all of the above as they relate to work arrangements. Data collection will need to be prioritized according to the value the various types of data have in addressing policy issues as well as what it is feasible to collect on a household survey. Among the most important kinds of data are those that illuminate the following:

- Distinctions of employee versus self-employed/independent contractor;
- Categories of AWAs, such as temporary agency work and platform-based work;
- Job characteristics, starting with earnings and variability in earnings (which the CWS is well suited to address), for primary and secondary jobs;
- Multiple job holding (primary and one secondary job);
- Control over work schedule;
- Health insurance support; and
- Preferences for AWA versus more standard work arrangements.

2.4. INFORMATION ABOUT ALTERNATIVE WORK ARRANGEMENTS THAT COULD BE PROVIDED BY BUSINESSES

Underlying structural relationships have emerged that affect work and worker outcomes, and the CWS was created to study the role of AWAs in these changes. Workers may not be in the best position, however, to report on the sometimes complex work arrangements they have.[20] For example, workers often are employed by firms that are in contract or subcontract arrangements with other firms that, research suggests, may impact the worker outcomes. The CWS only tries to measure workers whose employers contract out their services if they primarily work for one client at the client's worksite; otherwise, the contract relationship is deemed too complex to ask about in a household survey.

Information from business surveys, ideally linked with information from employee surveys or administrative data, is needed. In many of these situations, some work that was once done internally in large businesses has now been entirely subcontracted to other firms on a permanent basis, and not through a staffing agency, third-party management company, or platform. In these arrangements, the workers may be "traditional employees," but they have been affected by an earlier outsourcing decision. It is important for policy makers to be able to track such trends in the use of subcontracting, which may involve W-2 employment but that "operate under very different economic constraints and incentives than had those jobs remained inside their original organizations" (Weil, 2019). Although such trends would not be captured within the question structure of the CWS, they certainly are important in measuring changes in the contracting relationships between companies and to the overall labor market landscape of compensation, benefits, and work conditions.

Business data also are needed to understand broader changes that have taken place in recent decades, whereby economic activity has been increasingly dominated by a select group of highly productive and profitable firms. Despite sluggish aggregate productivity growth, these leading firms have continued to experience steady growth in their productivity and financial returns (Furman and Orszag, 2018). As a result, industry sales are increasingly concentrated in firms with higher productivity. Correspondingly, the share of sectoral income arising from wages (the labor share) has been decreasing (Autor et al., 2017). Thus, as leading firms pull away from the pack of other companies in terms of revenue, jobs are not following them at the same pace, leading to diverging fortunes for workers who work in those firms as compared to those who do not.

[20]See discussion of this problem in Weil (2019).

Meanwhile, other analyses have found that growth in earnings inequality can be primarily explained by growing differences *between* firms rather than *within* firms (e.g., Barth et al., 2016; Song et al., 2019). In particular, the firms that pay the most are becoming less likely to hire low-wage workers (Song et al., 2019). At the same time, these studies find that very large firms are less likely to be the ones that pay the most. One common view is that these trends primarily reflect the growing economic dominance of "superstar" firms, which increasingly differ from other firms in their sectors in their efficiency, technological sophistication, and dynamism (Autor et al., 2017). In this view, recent technological innovations, particularly in the digital economy, have enabled top firms to reap the benefits of scale to outstrip the efficiency of their competitors. As these firms learn to do more with less, they increase their productivity and capital returns but reduce their reliance on workers.

A critical question is whether the various AWAs and related changes in business structure may contribute to explaining the same set of facts. In this alternative view, these changes are not simply the result of changes in the technology used in production tasks; rather, they largely reflect "fissuring," that is, the shifting of tasks performed within the firm to other parties through outsourcing or related forms of contracting (Weil, 2014). The rise in measured profitability and productivity of lead firms reflects not only that these firms are getting better at what they do, but also that they are making changes in choosing which functions to carry out in-house. As firms focus on core activities while shifting other activities to outside businesses within their industries or in other sectors, lead firms may improve their productivity and profitability on paper without fundamentally changing the work being done.

Additional data are needed to understand the extent to which the observed divergences between firms directly reflect the standard "superstar" view, in which technology contributes to observed changes (such as by providing lower-cost means of monitoring the performance of other entities) or the fissuring view. In the fissuring view, rising profits and productivity at lead firms may be fully decoupled from trends in aggregate productivity growth if firm boundaries change without major changes in overall activity. Growth policies for the economy geared to capital investment would play out differently depending on which of the two views, and therefore scenarios, is more accurate. Whereas the superstar story would imply a tradeoff of greater productivity enhancement but increased inequality, the fissuring story would imply that such policies can be expected simply to result in greater inequality with little benefit to overall growth.

3

Role of the Contingent Worker Supplement in Fulfilling Measurement Needs Related to Alternative Work Arrangements

Although a number of data sources contribute to the measurement and monitoring of labor market trends involving alternative work arrangements (AWAs), the Contingent Worker Supplement (CWS) to the Current Population Survey (CPS) is the key instrument within the portfolio of federal economic statistical programs. This chapter presents recommendations intended to help guide future iterations of this important survey. It includes higher-level, conceptual recommendations as well as more detailed recommendations for improving the survey instrument.

This chapter's subsections address the universe of workers and jobs covered in the survey (3.2); the categorical distinctions among work arrangements it is most important for the survey to make (3.3); and the characteristics of AWA jobs it is important to identify (3.4). In the existing survey, the CWS respondents are asked only about their main jobs, as identified in the basic CPS questionnaire. As detailed in this chapter, the panel recommends broadening that scope to include other activities a person may have engaged in for pay. Whereas the current survey measures several different AWAs, the most important work-arrangement distinction to make is that between independent contractors and other self-employment arrangements, on the one hand, and traditional employee arrangements on the other. In addition, it is important to capture key characteristics of jobs, most notably the predictability of workers' schedules as well as the contingency or temporary nature of jobs. Focusing on the characteristics of jobs—and the preferences of workers in relation to those characteristics—would yield more valuable information than attempting to assign jobs to labeled categories. Survey design issues are discussed throughout the

chapter. We begin with an overview of the current structure of the CWS, which is helpful to have in mind when considering what to keep and what to change in the survey.

3.1. OVERVIEW OF THE CONTINGENT WORKER SUPPLEMENT

This section briefly describes the purpose and current structure of the CWS.[1] The CWS collects information from individuals identified as employed in the CPS concerning their main job and accepts both self-reports and proxy responses. Administered by the Census Bureau using a probability sample of about 60,000 households, the CPS asks respondents about activities that took place during the week including the 12th of the month, which for most respondents is the week prior to the survey interview. The interviews are conducted by well-qualified field staff either by phone or in person. The CPS continues to achieve relatively high response rates, although they have declined from roughly 92 percent a decade ago to roughly 83 percent currently.[2]

Households participate in the CPS for 4 consecutive months, then drop out for 8 months, and finally return for another 4 months before being removed from the sample.[3] To be eligible to participate in the survey, individuals must be 15 years of age or over and not in the Armed Forces. People in institutions, such as prisons, long-term care hospitals, and nursing homes, are ineligible to be interviewed in the CPS. A strength of the CPS is that it collects extensive demographic information for respondents—e.g., on age, gender, education, race, marital status, and family income—which can be used to describe characteristics of different groups for whom monthly labor force data are also collected.

The most recent CWS was conducted as a supplement to the May 2017 CPS. As usual, it asked questions about persons who held a job for pay or profit during the reference week, with a single question also asked of people who did not have a job during that week but looked for work during the last year and were available for work during the reference week. As described in Chapter 1 and as suggested by its name, a central purpose of the CWS is to measure the *contingency*, or temporary in nature, of the respondent's main job. The precise questions asked about this differ

[1]In so doing, it elaborates on the description of the CWS and its role in measuring AWAs in Chapter 1. The description here draws in part on a presentation to the panel at its first meeting (March 29, 2019) by Anne Polivka and Julie Hatch Maxfield and on results from the CWS provided by BLS in an article titled "Electronically Mediated Work: New Questions in the Contingent Worker Supplement" (Current Population Survey Staff, 2018).

[2]Available: https://www.bls.gov/osmr/response-rates.

[3]Available: https://www.census.gov/programs-surveys/cps/technical-documentation/methodology.html.

depending on whether the individual in question is identified in the basic monthly CPS as an employee or as self-employed.

In addition to characterizing whether jobs are temporary, the CWS classifies the respondent's main job into one of several largely exclusive work arrangements (although they are not entirely exclusive, as on-call workers also can be contract company workers):

- Temporary help agency work
- On-call work
- Day laborer
- Contract company work
- Independent contractor

In principle, independent contractors are by definition self-employed, but the survey's questions about independent contractor work are asked in the basic monthly CPS both of those who are coded as employees and those who are coded as self-employed (although the questions are worded somewhat differently). For each category, if the respondent (or other household member[4]) is reported to be in the given type of work arrangement, a series of follow-up questions is asked about it. Workers not assigned to one of the alternative work arrangements can be categorized either as employees not in an alternative arrangement or as self-employed but not an independent contractor. Questions were added to the 2017 edition of the supplement to collect information on whether any job (not just the main job) held in the reference period was intermediated by a mobile app or online platform.

After asking about a person's current job, the CWS asks about the pathway taken into that job. Depending on the person's job, these can be pathways into independent contractor/self-employment work, into other AWAs, or from AWAs into a current (regular) job. The CWS also includes a set of job satisfaction questions. For the most part, these are cast as "work preferences" and focus on an indicated characteristic of the respondent's job.[5] Understanding workers' motivations is valuable for understanding the implications of AWAs for worker well-being, specifically understanding whether workers are engaged in AWAs as a fallback because standard

[4]The CPS allows proxy reports for other members of the household.

[5]For example, question PES25a, administered to people whose jobs were characterized as contingent, asks, "Would (you/NAME) prefer to have a job that is permanent rather than temporary?" And question PES25aR follows up with: "People have temporary jobs for a variety of reasons. For example, some people have temporary jobs because it is the only type of work they could find. Others have temporary jobs because they enjoy the flexibility or for other personal reasons. What is the MAIN reason (you/NAME) (have/has) a temporary job?" Available: https://www2.census.gov/programs-surveys/cps/techdocs/cpsmay17.pdf.

employer work is unavailable or because the flexible job characteristics of the contract (or other kind of) work are attractive to them.

Finally, the CWS includes detailed CPS-type questions about whether respondents are looking for other work and what has been done to find other employment. It also asks about other characteristics of their jobs, including employee benefits (health insurance, retirement accounts), earnings, hours, and membership in labor unions/associations.

The supplement interview averages 3 minutes, 38 seconds in length for each person who completes it, and 5 minutes, 42 seconds in length for households with at least one person who completes it. An intended 10-minute maximum was exceeded by 12.5 percent of households.

As a supplement to the CPS, the CWS has a number of important strengths. The sample is carefully designed to be representative of the U.S. population, the data collection is undertaken by well-trained interviewers, it has a relatively high survey response rate, and a significant amount of demographic information is obtained about survey participants as part of the basic monthly survey. The fact that the CWS is a survey means that it can be used to collect information about how people feel about their jobs and the reasons for working under particular arrangements, something that cannot be learned from administrative or financial records data. As such, the CWS is well suited to collecting information on important policy-relevant features of jobs and job characteristics, as described in Chapter 2 (section 2.3).

Like any data source, the CWS also has limitations. There are some concerns about the use of household survey data generally, including data from high-quality federal surveys such as the CPS and its supplements. One of these concerns is over the use of proxy reporting. For the CPS, this is a practical necessity, because CPS responses must be obtained during the 10 days following the survey reference week, and it would be difficult if not impossible to interview all household members directly on that schedule. The BLS acknowledges this and notes that, ideally, all respondents would be self-reporters, but given the data collection environment and constraints, eliminating proxy responses simply is not feasible.

Proxy reporters can provide high-quality information about others' activities and behaviors if they are visible and known to the proxies (Moore, 1988). This may not always be the case, however, with occasional or irregular work. Even when a proxy reporter knows about it, another person's work activities may be less salient to the proxy reporter than to the person doing the work, so stronger cues may be required to prompt accurate reporting (Abraham and Amaya, 2019). Katz and Krueger (2019) found that in the 1995 and 2005 versions of the CWS, reported participation in AWAs was about 2 percentage points lower among proxy reports than among self-reports. This difference widened to about 2.9 percentage

points lower in 2017. Although these differences could reflect real differences between the people for whom proxy and self-reports were obtained, the fact that they persist even after controlling for respondents' educational attainment, experience, race, and sex may suggest that proxy reporters have been failing to report some AWA work. All of this suggests that it would be worthwhile for BLS to carry out additional cognitive testing on the ability of proxy respondents to report about AWAs for other members of their households and on the best way to pose questions about this to proxy reporters.

Another factor that may be affecting the accuracy of estimates from the CPS and CPS supplements such as the CWS are the above-noted waning response rates. Falling response rates raise concerns about the representativeness of the CWS sample, because nonresponders are not likely to be randomly distributed throughout the population.[6] Through 2010, nonresponse rates for the basic CPS were consistently under 10 percent, but that figure has risen substantially in the last 10 years. Even among those who respond to the basic CPS questions, some do not respond to supplements such as the CWS, and supplement nonresponse has grown. In 2005, the overall nonresponse rate to the CWS supplement was 15.5 percent, taking into account both nonresponse to the basic CPS and nonresponse to the additional supplement; in 2017, using the same measure, nonresponse was 23.0 percent.[7] All of this raises concerns about bias as well as lack of precision in estimates. The CWS response rates are still much higher than those for most other surveys, especially nongovernment surveys, but falling response rates do create a compelling motivation for thinking about ways to complement the CWS with data from other sources.

Issues related to proxy reporting and generally falling household survey response rates across the statistical system are largely beyond the control of the BLS, and they are far from unique to the CWS. Much has been written about both issues in other contexts. In the next section of this chapter, we focus on concerns that are specific to the CWS measurements of AWAs and ways in which those can be addressed. These issues include (1) the short reference period (the prior week), which leads to the strong likelihood that work, especially sporadic work, is missed; (2) the near-exclusive focus on respondents' main jobs; and (3) uncertainty over whether people can reliably answer some types of questions, such as about the nature of the employment arrangement (e.g., when the employment arrangement is mediated by another party as in the use of temporary help or contract com-

[6]The U.S. Census Bureau routinely publishes nonresponse rates, but typically only for a recent 12-month period. Available: https://www.census.gov/programs-surveys/cps/technical-documentation/methodology/non-response-rates.html.

[7]See http://data.nber.org/cps/cpsfeb05.pdf and http://data.nber.org/cps/cpsmay2017.pdf.

pany work). These characteristics of the CWS limit its capacity to measure alternative work in a way that is satisfactorily comprehensive for informing employment policy.

3.2. CWS SCOPE: UNIVERSE OF WORKERS AND WORK ACTIVITIES

Before workers and work can be categorized, job characteristics identified, and trends in work arrangements measured, the universe of respondents (workers) and work activities for which information is requested must be determined. The CWS measures work arrangements concerning the main job of each person who reports having worked during the survey reference period in the basic monthly CPS. By design, it does not capture any work a person may do to generate income that is not reported in response to the core CPS employment questions.

In this section, we consider whether the universe of workers and work activities is appropriately defined in the CWS to capture the information on work in contingent and alternative work arrangements that is needed for policy and research. Specifically, we discuss issues related to the survey reference week, work activities that may not be reported in the main CPS, and secondary work activities.

CWS Universe: Survey Reference Period and Difficult-to-Identify Work Activities

In considering whether the universe of respondents to the CWS is appropriate, two issues deserve discussion. First, we consider whether the survey reference period of 1 week is too short to provide the data needed to understand the role of contingent and alternative work arrangements in Americans' lives. Second, we consider whether the CWS should allow for the possibility that some work done during the survey reference period is missed in the main CPS—work that is likely to be disproportionately in a contingent or alternative work arrangement.

With regard to the first issue, the designation of the reference period—typically the week that includes the 12th of the month (data collection occurs the following week)—is perhaps the most obvious survey design feature in the CWS affecting the way respondents are sorted by work status. Unlike the work status of people who work a regular weekly schedule or who do not work at all, the work status of a person who, for example, works sporadically throughout the year will depend on the timing of work performed in relation to the reference period.

The issue is that people who report being unemployed or not in the labor force may nonetheless periodically engage in work activities to sup-

plement their household income. Even if respondents always accurately report their work activities during the reference week, this type of periodic work may be missed because of its timing. There is evidence of the potential importance of such supplemental income in both survey data and proprietary sources. The Survey of Household Economics and Decisionmaking (SHED), sponsored by the Federal Reserve Board, asks respondents about their primary work status during the prior month.[8] All respondents, including those who report "not in the labor force" or "unemployed" as their primary status during the previous month, are asked whether they have worked in any of a variety of side jobs during that month. Estimates from the SHED suggest that holding such side jobs is very common among these two groups: in 2016 and 2017, 20 percent of those who were not in the labor force and 42 percent of those who were unemployed reported having at least some informal work activity or side job during the prior month (Abraham and Houseman, 2019).

Analyses of financial account data indicate that most individuals participating in platform work do so for just 3 months or fewer out of the year, so that the number of platform participants in any particular month is considerably below the number who participate over the course of a year (e.g., Farrell, Greig, and Hamoudi, 2018). Similarly, participation in platform work in any given week is apt to be notably lower than participation over a month or longer period. Again, using financial account data, Farrell, Greig, and Hamoudi (2018) also find a spike in work done for online platforms among those who recently became unemployed, as determined by receipt of unemployment checks. Although such work is often sporadic, it can be an important source of income, particularly for households experiencing financial hardship (Abraham and Houseman, 2019).

Additionally, even if such work is done during the reference week, it may be missed in the CWS. Under the current CWS design, other than a single question asked of unemployed and discouraged workers, the questions on the supplement about current work arrangements are asked only

[8]The SHED was administered by GfK, an online consumer research company. In order to create a nationally representative probability-based sample, the survey methodology selects respondents based on both random-digit dialing and address-based sampling. The cumulative response rate for the survey was approximately 4.0 percent for the SHED in 2016, 2017, and 2018. A post-stratification process was used to adjust for any survey nonresponse as well as any noncoverage or under- or over-sampling resulting from the study's specific sample design. The variables employed in the adjustment of weights for that study comprised gender, age, race/ethnicity, education, Census region, residence in a metropolitan area, household income, and access to the Internet.

of those who are identified as employed in the basic monthly CPS.[9] Recent research suggests that the basic CPS employment questions may miss certain types of work that are in scope for the survey. Evidence of uncaptured market work done by individuals who may not be categorized as employed in the monthly CPS pertains primarily to what is sometimes termed "side" or "gig" jobs and other informal, nonemployee work activities. In the CWS, this type of work would fall under the category of independent contractor work, broadly defined. Examples of such work *could* include driving for Uber, tutoring students on the side, doing housekeeping or yard work, providing child care, eldercare, or dog-walking services, or earning income from YouTube video postings.

Robles and McGee (2016), analyzing data from the Enterprising and Informal Work Activities (EIWA) survey fielded by the Federal Reserve Board, report that during the 6 months prior to the survey in 2015, 36 percent of the adult population had participated in informal work that involved either selling or renting property or providing services. Abraham and Amaya (2019) report the results of a study in which a nonrepresentative sample of respondents recruited through Amazon's Mechanical Turk platform were asked the standard CPS employment questions followed by additional questions about their engagement in various types of independent contractor or nonemployee work. Depending on how the latter questions were phrased, including those who reported such work raised the estimated employment rate by 3 to 5 percentage points. Similarly, results from two waves of the Federal Reserve Bank of Boston Survey of Informal Work Participation (SIWP)—which replicates the basic CPS questions to determine whether a person is employed and also asks separately about participation in informal work activity—show that accounting for informal work raised the employment rate estimated for those age 21 and older from 65.1 percent to 69.6 percent, a 4.5 percentage point increase (Bracha and Burke, 2018).[10]

In an analysis of the American Time Use Survey (ATUS), which provides a detailed accounting of individuals' daily activities, Allard and Polivka (2018) examine the incidence of "income-generating activities" that are not part of any main or secondary job reported. Although they do not find evidence of growth in such activities over time, on average, about

[9]The question for those who were unemployed or laid off is about what type of work these people were looking for. Specifically, the survey introduction asks: "I have a question about the type of employment you looked for in the last 4 weeks . . . Were you looking for temporary, short-term employment or more long-term employment?" (with the option of the answer being coded as "either/anything I can find"). There is also a question for discouraged and marginally attached workers, but they do not figure in the weighting scheme and thus a weighted estimate cannot be derived for them.

[10]The SIWP attempts to account for informal paid activity or side jobs, exclusive of selling property, renting property, or responding to surveys.

1 percent of the population reported doing such income-generating activities on a given day from 2012 to 2016. Under the assumption that selected categories of these income-generating activities were in fact "work," they estimate that correctly classifying as employed individuals who were coded as unemployed or not in the labor force but who engaged in such labor income-generating activities would raise the employment rate for those age 15 and older 0.3 to 1.8 percentage points.[11]

A possible explanation for these findings from various surveys is that people engaged in nonemployee work or other AWA may think of themselves as unemployed or not in the labor force, especially if they have held a standard employer-provided job in the past. In the existing CWS, however, if such work is not reported in response to the basic CPS employment question respondents are not asked about the arrangements under which it occurs.

The CWS *could* address these issues—a short reference period and potential underreporting of certain AWAs—by asking CPS respondents who did not report any work in the main CPS a set of initial screener questions.

RECOMMENDATION 3.1: At the beginning of the CWS supplement, screener questions should be asked of those who did not report any work in the basic monthly CPS. The questions should probe into work activities for pay that individuals sometimes do to supplement household income when they are unemployed and looking for a steady job or when they are retired or otherwise not steadily employed. The questions should ask about such work over a longer reference period, such as 1 month, as well as during the CPS reference period (the prior week).

Secondary Work Activities

The scope of the CWS is limited by the fact that it has been concerned only with a respondent's main job. As discussed in detail in Chapter 2, it would be useful to know about all the work activity of those reporting work, not just about the work associated with one job. Often, secondary work activities are in contract or other AWAs, or they may be held by workers whose main job is in an AWA (Abraham and Houseman, 2019). For various policy-related reasons, it is important to understand when and why people engage in secondary work activities. Particularly important is understanding the circumstances in which people take on second jobs to supplement household income and make ends meet.

CPS data indicate that the share of workers who held more than one job averaged about 5 percent during 2017, the year of the most recent

[11]These results are based on data presented in Allard and Polivka (2018), Table 3.

CWS. In the study described above, Allard and Polivka (2018) also use the ATUS to examine the possibility that the CPS underestimates the prevalence of multiple job holding. Allard and Polivka find evidence of a significant understatement of multiple job holding, concluding that "if workers misclassified as single jobholders were classified correctly, the estimate of multiple jobholders would be between 3.0 percent and 20.7 percent higher in 2012–16 than the current figure." It is also notable that the base level of multiple job holding in the ATUS is about double that estimated in the basic CPS.

Research based on other sources has generated additional evidence suggesting that secondary work activities are far more common than suggested by the CPS/CWS data and that much of this work takes the form of AWAs. Moreover, the same evidence suggests that income from these activities can be important to households experiencing a reduction in income from a main job, unusually high expenses, or some other type of financial distress.

Data from the above-referenced SIWP produced an estimate of the multiple-job-holding rate that was 11 percentage points higher than the survey's baseline estimate of 19 percent (Bracha and Burke, 2018). Estimates based on data from the 2016 and 2017 SHED, which included similar questions, were that 28 percent of adults had earned money from informal work or side jobs outside of a main job during the month prior to the survey. Among those adult respondents, roughly one-third, or about 11 percent of the employed, reported that money from their side job was an important source of household income (Abraham and Houseman, 2019). Consistent with those findings, in data collected using a survey module on the nightly Gallup telephone survey, responses to questions designed to capture all work activity, including work involving very low hours, indicated that about 20 percent of workers held multiple jobs (Abraham, Hershbein, and Houseman, 2019).

The results from these surveys suggest that probing for other income-generating work activities substantially increases estimates of multiple job holding. This is a significant finding about the U.S. labor market and, if confirmed in a larger, more representative survey, such as the CWS, is something that would be desirable to have reflected in official economic statistics.

RECOMMENDATION 3.2: For respondents reporting only one job in the basic CPS, the CWS should begin with a set of questions about additional work activity. Respondents would first be asked if they did anything for pay (to supplement income) beyond what they have already reported for their main job. The questions would ask about such work over a longer reference period, such as 1 month, as well as about the CPS reference period (the prior week).

Although the evidence from other surveys showing high rates of secondary work activities is compelling, it is possible that the same result might not hold in the CPS sample. Although they were designed to be representative of the population as a whole, several of the surveys cited earlier were administered through an online panel, and people willing to participate in such panels could be more likely than other people to participate in secondary work activities as well. Nonetheless, cognitive testing for the 2017 CWS uncovered a similar problem. Specifically, the cognitive testing for electronically mediated work indicated that there were multiple paid activities that respondents did not think of as "jobs," leading the CWS to revise questions for electronically mediated work to include "any work" (Kopp and Edgar, 2016). Thus, the 2017 implementation of the CWS already asked respondents with only one job about additional work for pay using electronic means. The recommendation above simply expands this line of inquiry to include other kinds of work.

Querying respondents about work activity over two time horizons will yield a new estimate of the rate of secondary job holding during the reference week, one that captures second jobs missed in the basic CPS, and an estimate of the rate of secondary job holding over a longer time horizon. As was the case with the employment rate, the estimated rate of secondary job holding over the longer time horizon should be higher than the rate computed in the basic CPS, both because it captures work that is sporadic or interrupted and because the question wording will be designed to better capture work activity that is sometimes missed by standard household survey questions.

A subset (at least) of the work-arrangement questions asked about primary jobs also should be asked about secondary jobs, whether identified in the basic monthly CPS or in response to the new questions about additional work asked on the CWS.

RECOMMENDATION 3.3: It would be desirable to ask the full battery of CWS questions about all secondary jobs held either during the reference week or during the longer 1-month time frame. At a minimum, the CWS should collect information, where applicable, on selected characteristics of one secondary job (when there is more than one secondary job, selecting the one with the most hours worked). These characteristics should include: whether the job is a self-employment or independent contractor arrangement, hours variability, and main reason for holding the secondary job. If not already collected in the basic monthly CPS, information on hours, earnings, industry, and occupation also should be collected.

Cognitive Testing of Screener Questions

Implementing the previous recommendations will require the development of screener questions to identify work activity that may have been missed in the basic CPS interviews. As is always the case when new questions are added to the CPS or its supplements, careful cognitive testing will be required, in this case to determine the optimal reference period and wording to solicit work that was not reported in response to the standard monthly CPS employment questions.

RECOMMENDATION 3.4: Implementation of the new questions proposed for the CWS (in recommendations 3.1 through 3.3) will require extensive cognitive testing to determine the optimal reference period and wording to solicit responses about work that was not reported in the main CPS.

Regarding the reference period, the panel acknowledges that there may be risks in deviating from the standard reference period for a subset of the CWS questions. In testing new questions for the survey, potential risks will have to be weighed against the value of questions about a longer reference period for providing a more complete picture of employment activities. Another concern is that questions about a longer period may be more subject to recall bias. For these reasons, it will be important to pilot the approach recommended above.

Testing can be guided by two hypotheses regarding underreported AWAs. One hypothesis is that AWAs are common but sporadic, so the CWS reports about respondents' main jobs are correct for the reference week in question. The other hypothesis is that some people engaged in an AWA misreport it (or do not report it). Much of the other work measuring AWAs has used longer reference periods and also has provided respondents with more specific examples of different types of work activity that might be performed under an AWA. This means there are multiple factors that might account for the higher rates of AWA participation in those surveys, making it difficult to directly evaluate the likely impact of asking about a longer reference period. If people are reporting accurately but their work is infrequent or sporadic, then it would be better to ask about the recent week first, and then expand to the 1-month time frame. On the other hand, if there are concerns that revising the survey questions to encourage more complete reporting of AWAs may lead to "telescoping"—unintentionally including in their report activity that occurred prior to the reference period—it will be preferable to start with the longer period and then ask about the shorter period. Asking in this latter order (longer period first, then shorter) puts a boundary around the

answers and reduces the chance that people will misreport activity in the last week when it really occurred earlier.

Aside from the choice of reference period, testing also will need to address how best to obtain complete reporting of primary or secondary work activities not reported in the main CPS. One strategy would be to include examples of the types of work that prior research indicates may be missed in the basic CPS, such as the provision of personal services to households and work obtained online. In addition, it may be worth emphasizing that "even one hour" of work constitutes work for pay. For instance, the American Community Survey asks, "LAST WEEK, did this person do ANY work for pay, even for as little as one hour?"[12] The Gallup survey discussed in Abraham, Hershbein, and Houseman (2019) uses the phrasing, "Thinking about your WORK SITUATION over the past seven days, have you been employed by an employer—even minimally like for an hour or more—from whom you receive money or goods?"

The goal of providing examples is to better convey to respondents the kinds of income-generating work activities about which users of the data would like to know. Following this strategy, the SHED asks about being paid for specific activities, including "child or elder care services; dog walking, feeding pets, or house sitting, house cleaning, yard work, or other property maintenance work" and so on.[13] Jensen, Tickamyer, and Slack (2019) ask about "additional kinds of work—other than the more formal types of employment we've already discussed—that many people do to make ends meet" and list 19 different activities. Abraham and Amaya (2019) test questions about informal work that provide detailed examples compared to a simpler question without examples; they find that among those reporting for others in their household, providing detailed examples produced a larger number of reports of that sort of work.

Given budget and time constraints, any examples given in the CWS will need to be more limited than those found in other surveys such as the SHED, which probes participation in about a dozen different work activities. While mentioning some specific company names, such as the names of platform companies, could help to jog respondents' memories, the relevant company names can be expected to change over time, making that an unattractive strategy for a survey intended to provide information that can be compared over time. For that reason, examples should be framed in terms of the types of work involved (e.g., "ride share work") and not in terms of specific employers (e.g., Uber or Lyft).

[12]Available: https://www2.census.gov/programs-surveys/acs/methodology/questionnaires/2019/quest19.pdf.

[13]Available: https://www.federalreserve.gov/consumerscommunities/files/SHED_2018codebook.pdf.

Finally, while using examples in surveys may improve data quality (e.g., Tourangeau et al., 2014), there are many outstanding issues regarding the selection and presentation of examples in survey questions (see Schaeffer and Dykema, 2020). Therefore, as with the other survey changes proposed in this chapter, the inclusion of examples to help define the constructs under consideration and facilitate recall should be thoroughly tested, because the examples chosen can broaden or narrow what respondents consider in unintended ways.

The BLS naturally may be concerned about asking questions that might affect the CPS responses in subsequent waves. The agency has recognized that some kinds of work may be missed in the basic CPS, and it considered expanding the universe for the questions about electronically mediated employment (EME) arrangements to include unemployed respondents. In the end, the BLS did not modify the survey this way, partly out of concerns that doing so could be seen as challenging people about whether they were really unemployed, potentially affecting reports of unemployment in subsequent waves and causing some disruption to the time series of statistics on employment and unemployment.[14] The BLS also was concerned that asking such questions might appear redundant and frustrate people who thought they already had answered the questions.

There are ways to frame questions about additional work to capture activity that the basic monthly CPS might have missed while mitigating any impacts on subsequent responses to the standard CPS employment questions. For example, in the main CPS a question asked of people who are coded as unemployed or not in the labor force might note that sometimes people do some work on the side to supplement their income (or "while looking for work" if the person is unemployed) and give examples of such work. Similarly, in querying people who report only one job in the main CPS, questions could first note that sometimes people do some work on the side to supplement their income from a primary job, giving examples. Respondents then could be asked if they had done this type of work over the indicated reference period(s).

Particularly for people who report being unemployed or not in the labor force in the main CPS, there is the possibility that the screener questions would capture a primary job held before the individual entered this job status. This possibility could be minimized by wording the question to ask about a job that supplements household income. Further, for those indicating that they held such a job, a follow-up question could directly ask if the job was a primary job that they lost or left prior to becoming unemployed or leaving the labor force.

[14] "Question universe" section, available: https://www.bls.gov/opub/mlr/2018/article/electronically-mediated-work-new-questions-in-the-contingent-worker-supplement.htm.

Before committing to adding questions about additional work on the CWS, the BLS may wish to test how much additional work activity such a question is likely to uncover. This applies to new questions asked of both those reporting no work and those reporting a single job. The BLS could perform such a test by asking those in the outgoing CPS rotation groups—month-in-sample (MIS) 4 and 8—about work activity not already reported in answering the basic CPS employment questions. Restricting the sample for this test to those in MIS4 and MIS8 would greatly reduce if not eliminate the risk of contaminating later CPS responses while still informing the decision about whether the work activity in question is significant enough to warrant asking about it in the CWS. If additional work activity turned out to be relatively unimportant among CPS respondents, that would create a solid justification for deciding not to ask about it on the CWS. If, on the other hand, consistent with evidence from other sources, a significant number of people report other work activity that the CPS is not currently capturing, that would create a compelling rationale for including questions about that work and the arrangements under which it occurs on the CWS.[15]

While the potential to disrupt the historical continuity of the responses to the basic CPS is a legitimate concern, it is critical for policy purposes that BLS endeavor to capture all market work activity. Moreover, as already noted, there are ways to eliminate or minimize any impacts that further probing in the CWS might have on CPS responses in subsequent waves. It is worth disrupting the CWS (and perhaps the CPS) in the ways recommended above, given that the survey addresses profound policy questions about modern employment and how people are piecing together their income. The CWS revision will set a standard for work in this area for a long time to come.

3.3. CATEGORIZING WORK AND WORKERS

All six waves of the CWS measured the contingency of employment—that is, whether a person's job is temporary in nature—and selected types of AWAs, including independent contractors, temporary agency workers, on-call workers, day laborers, and contract company workers. For all but on-call workers, these AWAs are defined as being mutually exclusive. This section focuses on these mutually exclusive categories, which capture

[15]One caveat to drawing conclusions based on questions asked in MIS4 and MIS8 is that possible month-in-sample bias may affect reports of employment in the CPS in those waves. For instance, Halpern-Manners and Warren (2012) found that there were significantly lower reports of having a second job among self-reports in the second month-in-sample than there were in the first month-in-sample, for every single first versus second month-in-sample comparison between January 2007 and July 2010. The finding holds even after accounting for changes in mode of interview (see their Figures 6 and 8). If month-in-sample bias is material, then the universe for the CWS questions should be everyone.

instances where a worker is not an employee of the organization for whom he or she is performing work.

The set of AWAs that follows distinguishes between those who are not employees (independent contractors) and those who are in an intermediated arrangement (temporary agency workers and contract company workers). In the latter, workers are employees of a temporary help agency or other type of company that contracts their services to other organizations. Day laborers, hired on a daily or very-short-term basis, most likely are independent contractors. On-demand platform work, captured only in the 2017 CWS, is a hybrid of these two types; while payments to these workers are mediated by the platform company, the workers are usually classified as independent contractors and so may be thought of as a subset of that category.

It is important that a revised CWS continue to collect information on independent contractors, including platform workers, although the panel has some recommendations for modifying the questions that query respondents about these work arrangements. It is also important to collect information on temporary help workers and contract company workers, even though the value of surveying workers about such intermediated arrangements in the CWS is less clear. As discussed in the next section (3.4), rather than attempting to attach a label to on-call and other workers with unpredictable schedules, we recommend collecting information on these job characteristics, which would allow data users to categorize work arrangements as appropriate for their needs.

Independent Contractors

As discussed in Chapter 2, there is strong policy and research interest in distinguishing between those who are W-2 employees and those in various self-employment or nonemployee arrangements. The latter are not covered by employment and labor laws, such as wage and hours laws and laws giving workers the right to form a union and collectively bargain. They generally are not covered by social insurance programs, such as unemployment insurance and workers' compensation. Finally, they do not have access to benefits that many employers provide their employees, such as paid sick leave, health insurance, and retirement benefits. The large number of people in nonemployee work arrangements and the possible growth in these arrangements' prevalence has raised concerns about the adequacy of social protections in the United States. It is therefore critical that the CWS try to distinguish between those who are W-2 employees and those in independent contractor and other self-employment arrangements.

Among those identified as self-employed, the basic CPS differentiates only between the incorporated and the unincorporated self-employed. The

CWS also differentiates between those who are independent contractors, independent consultants, or freelance workers and other self-employed individuals. A challenge in household surveys in measuring self-employment and subcategories of self-employment such as independent contractors is that respondents may have quite different understandings of what these terms mean. For example, while some respondents may understand that self-employment means that they are not employees of an organization, others may understand self-employment to mean that they own and operate their own business. Those who work for an organization but are not a W-2 employee may not think of themselves as self-employed, and in common parlance may still refer to themselves as employees. Similarly, usage of the term "independent contractor" may carry different connotations and vary across occupations. In some occupations, for instance, distinctions are made among nonemployees between independent contractors and *subcontractors*. Idiosyncratic differences in the use and understanding of such terms may significantly affect how people respond to questions in household surveys about their independent contractor status.[16]

In the current CWS, respondents who identified both as self-employed and as employees in the main CPS are asked whether they are an "independent contractor, independent consultant, or freelance worker" on their main job. Those who identify as working for an organization in the main CPS (and hence are coded as employees) are also told that independent contractors, independent consultants, and freelance workers obtain customers on their own to provide a product or service. Although independent contractors should not be identified as employees in the CPS, recent research evidence provides compelling evidence that many likely are, which is consistent with the widespread confusion over these terms. Whereas the share in self-employment has not grown in the CPS, research using administrative data shows a sizable growth in the share of individuals with self-employment income as reported to the tax authorities and higher levels of self-employment than found in the CPS (Abraham et al., 2020; Abraham et al., forthcoming; Jackson, Looney, and Ramnath, 2017; Katz and Krueger, 2019; Lim et al., 2019). Some of this reflects work activity that is not mentioned in household survey responses, but some of it reflects self-employment work activity that is miscoded as wage and salary work.

One potential reason for the undercount of self-employment in the CPS is that the survey may be prone to misidentifying independent contractors as employees (Abraham, Hershbein, and Houseman, 2019). In the CPS, individuals who indicate that they did work for pay are asked: "Were you

[16]Abraham, Hershbein, and Houseman (2019) provide a thorough discussion of definitional issues in measuring independent contracting.

employed by government, by a private company, a nonprofit organization, or were you self-employed or [if applicable] working in the family business?" Individuals responding that they are employed by the government, a private company, or a nonprofit organization are coded as employees. It would be reasonable and accurate for a respondent working on a contract basis for a company or organization to report being employed by that entity, particularly if the term self-employment carries certain connotations, such as running one's own business.

In a Gallup survey module on contract work, Abraham, Hershbein, and Houseman (2019) found that a sizable share (about 10%) of Gallup respondents who reported being employed by an employer, and so were coded as employees, also indicated upon further probing that they were an independent contractor, independent consultant, or freelance worker. Linking tax records to data from the Annual Social and Economic (ASEC) supplement to the CPS for the period from 1996 through 2015, Abraham et al. (2020) and Abraham et al. (forthcoming) find substantial growth in self-employment in the tax data that is not reported in the CPS-ASEC. Their findings are similar to those from other research using administrative data. Consistent with the findings reported by Abraham, Hershbein, and Houseman (2019), about a third of this growth was accounted for by people who reported only employee work in the CPS-ASEC and only self-employment work in the tax data.

Given this evidence, a broad approach is needed for measuring independent contract work. Questions pertaining to independent contractor work in the CWS should be designed to capture individuals who (a) are not employees of an organization and (b) do not own or operate a business or have significant capital investment in their business. Currently, no definition of independent contractors, who are also commonly referred to as consultants or freelance workers, is provided for those identified as self-employed in the CWS. Many of those who are in informal work arrangements—such as providing child care, elder care, cleaning, or maintenance services directly to households or providing services through online platforms or mobile apps—also should be captured in the independent contractor category.

Moreover, the definition of independent contractors given to those identified as wage and salary workers in the CWS—"someone who obtains customers on their own to provide a product or service"—may be misleading because this is not a defining characteristic of independent contractor work. Many who work as independent contractors do so primarily for one organization and are commonly termed "dependent" contractors to reflect that reliance on a single client. Individuals in this arrangement might not think of themselves as obtaining customers on their own in the same way as, say, a self-employed business owner might. Those who report being employed by an organization in the main CPS but say in the CWS that they

are independent contractors—between 1 and 2 percent of those identified as an employee in the main CPS—may be especially likely to work primarily for a single client. This may mean that the CWS data understate the share of CPS employees who are in fact independent contractors. We recommend removing the definition of independent contractors as people who obtain customers on their own from the question.

RECOMMENDATION 3.5: The CWS should continue to ask those identified both as self-employed and as employees in the main CPS about their status as independent contractors. A broad definition of independent contractor should be given in both questions, and the current definition of independent contractor used for those identified as wage and salary workers should be replaced.

For those who are identified as self-employed in the main CPS, the goal of the question is to identify those who do not own or operate a business or who do not have a significant capital investment in their business. The goal of the question asked of those identified as wage and salary workers in the main CPS is to distinguish between W-2 employees and nonemployees; the measure for independent contractor work should include the types of informal work activities captured in the SHED and other recent surveys in which the individual is not an employee.

RECOMMENDATION 3.6: Cognitive testing should, among other things, determine how well respondents distinguish between employee and nonemployee concepts and explore ways to improve the accuracy of responses. To this end, BLS might clarify for respondents that independent contractors are not employees of the organization or customers for whom they provide a good or service and/or do not have any taxes taken from their pay.

The first step in testing is for BLS to evaluate how respondents understand the CWS questions about independent contracting, especially for proxy reports. Errors may arise, either because respondents do not understand the questions as written or because the nature of independent contracting or freelance work has changed over time and respondents cannot easily align their work into these categories. Even someone who has reported their work activity in the basic monthly CPS—someone who sells jewelry on Etsy and at the local flea market, for example—might not think of him- or herself as an "independent contractor" or "freelance worker." As noted above, people who work on a nonemployee basis for a single firm may be an especially problematic group. Another possible source of error is interviewers who do not administer a question as intended. Initial work

on the administration of these questions in the 1995 CWS indicated that interviewers often changed the question wording during administration, especially in households with multiple adults (Polivka, 1996). All of these potential issues should be evaluated.

For those identified as wage and salary workers in the main CPS, one option, tested by Abraham, Hershbein, and Houseman (2019), is to ask respondents if their employer withheld taxes from their pay. At a minimum, payroll taxes should be withheld for everyone who is a wage and salary worker, but firms do not withhold taxes from payments to independent contractors. BLS could perform cognitive testing on the approach used by Abraham, Hershbein, and Houseman as one way of distinguishing between employee and nonemployee work.

Platform Workers (subset of independent contractors)

Work mediated by web platforms still represents a small percentage of independent contracting, but its rapid growth has raised the profile of policy issues that more generally concern independent contractors. As discussed in Chapter 2, some people engage in web-platform work to supplement their income, but others rely on it as their main source of income. This raises concerns about workers' ability to access basic benefits such as medical care and retirement savings. Additionally, Internet intermediary companies have formalized many work arrangements previously considered informal, and there is some evidence that web- mediated options are displacing more traditional job arrangements. One example is Jitjatjo, a "human powered contingent labor platform and staffing marketplace" that seeks to intermediate between businesses in the service and hospitality industry (primarily restaurants) needing to hire on short notice and stopgap workers willing to step in.[17] Another example is Pared, an app used by restaurants (including many high-end establishments) to make on-demand hires of chefs and other culinary professionals.[18]

Such developments have spillover effects on wages in employer-provided jobs. So, even if these platform companies account for only a small share of jobs, these new ways of engaging with workers can lead to outsized impacts in the broader labor market. For these and other reasons, BLS has prioritized improved measurement of web-platform work. As noted earlier, new questions introduced in the 2017 CWS were designed to capture work obtained through platforms and mobile apps where payment was coordinated by these

[17]Available: https://www.jitjatjo.com/index.

[18]Available: https://www.washingtonpost.com/lifestyle/food/apps-have-turned-restaurant-work-into-a-gig-economy-hustle-heres-how-one-cook-chases-a-paycheck/2020/02/24/1f02ee5c-54a8-11ea-9e47-59804be1dcfb_story.html.

companies. However, the new questions did not work as intended and resulted in unrealistically high estimates of the number engaged in this type of work. Following a detailed examination of the data, the BLS recoded many of the answers to these questions that were deemed likely to have been wrong.

RECOMMENDATION 3.7: The CWS should continue to ask about work mediated by platforms/apps. These questions will require extensive modification and further testing.

Additionally, a decision must be made about what kinds of web-mediated activity to consider within the scope of the CWS. One key distinction that is often drawn is that between "work-based" income and income derived from a combination of work and capital. This distinction is somewhat blurry, however, as many web-mediated jobs combine capital and labor inputs. An illustrative example, described in Chapter 2, is renting out rooms through Airbnb, which entails both labor and nonlabor inputs. Although renting out an Airbnb home is typically thought of as a capital-based income-generating activity, a person operating several properties may spend substantial time in the enterprise. How far apart Airbnb and Uber are on the labor/capital continuum is an open question.

RECOMMENDATION 3.8: For purposes of measuring web-platform work, BLS should test the option of not making a capital/labor distinction. The survey could simply ask self-identified platform workers which company (or companies) they work with, and then allow the data to be sorted depending on the question at hand. If the concern is over what motivates people's efforts to generate income, the distinction regarding the extent to which income is a return on labor or capital may not be crucial.

Another point is that respondents may have difficulty differentiating between platform work that is capital-based and that which is labor-based, or where on the spectrum their activity falls. An advantage of simply including *all* income-generating activities, whether they are slightly more labor-based (Uber) or slightly more capital-based (Airbnb), is that doing so avoids requiring respondents to make this difficult, subjective call.

Another distinction that may be important to make in order to meet future measurement needs is between work that is provider/client-based and work that is mediated through another company. In some cases, the two arrangements may involve an almost identical type of work. Consider, for example, a person who walks and boards dogs through his or her own neighborhood business, dealing directly with customers, while another person provides the same services but does so through the Rover.com app.

Again, the distinction is between serving a customer (final demand) and working through an intermediary business such as a platform company. The CWS should aim to provide data to help researchers and policy makers understand where—in what sectors, locations, and so on—platform work is expanding and how this work may be changing labor market patterns.

Finally, given the difficulty that respondents had in understanding questions pertaining to platform work on the 2017 CWS, these questions should undergo much cognitive testing. Having the name of the platform company will potentially be valuable for conducting a quality check on data from these questions in a future survey.

Temporary Help Agency Employment and Contract Company Work

Some questions in the current CWS have proven less useful than others, either because evidence indicates the quality of the resultant data is poor or because for other reasons the data are little used. Such cases present an opportunity to create survey space by streamlining parts of the survey. The temporary help agency component of the survey is one such candidate. While tracking temporary help agency employment is important, the incidence measured in the CWS is well below that indicated by employer surveys and administrative data (Polivka, 1996). Respondents appear to confuse their employer, which is the temporary help agency, with the client for whom they are performing work.

Another candidate for CWS streamlining pertains to information on contract company workers—those who perform work for a client on or off the client's worksite. Although information about contract work is needed, household surveys may not be the best vehicle for collecting it. Partly because BLS determined that respondents cannot reliably report on the contract arrangements of their employer, the CWS focuses on measuring a narrow subset of contract company work: individuals who work primarily for one client company at the client's worksite. This narrow definition misses a lot of contract work that is relevant for policy, such as contract workers who work remotely. Further, BLS reports that its contract company worker measure is little used. For these reasons, measuring this category of AWA is not a comparative advantage of the CWS.

RECOMMENDATION 3.9: BLS should consider dropping questions on temporary help agency employment and on contract company work from the CWS to make room for other, higher-priority questions.

If the BLS opts to continue to ask about temporary help agency employment in a future CWS, it should consider revising the question wording to use terms like *staffing agency* in lieu of, or in addition to, *temporary help*

agency. The industry has long used the terms *staffing firm* and *staffing agency* instead of *temporary help agency*; use of the older term may contribute to the undercount of these workers in the CWS.

Data supplied by businesses are largely complementary to those captured in household surveys and can fill in some information needs. Establishment- and firm-level surveys are an underexplored source of data on alternative work arrangements, especially subcontracted work, that have the potential to yield vital information about the prevalence and nature of firms' contracting-out activities.

On-call Workers and Day Laborers

The current version of the CWS asks respondents if they are on-call workers. A key attribute of both on-call and day laborer work is that hours are unpredictable—the person works only when he or she is called in or someone offers them work. The predictability of hours is an important dimension of a person's work activity that the CWS should ask about. As described in the next section, however, the panel recommends that this be done by asking directly about work scheduling and the predictability of hours, within the context of inquiring more generally about the characteristic of the person's job or jobs, as opposed to asking whether the person identifies as an on-call worker or day laborer.[19] Depending on the arrangement, a day laborer also may be identified through questions pertaining to independent contractors or temporary help workers.

3.4. INSECURITY IN HOURS, JOBS, AND EARNINGS

Capturing the security of workers' jobs has been a primary focus of the CWS over its history. The concept of contingency in the CWS measures whether a worker's job is temporary because the position is expected to last for a limited time. This concept of contingency captures job insecurity that, in cases where loss of the job results in employment gaps, may lead to

[19]Early testing of the CWS indicated that the questions for on-call workers, contract workers, and independent contractors/consultants/free-lance workers were "too long," resulting in a notable number of interruptions and, in some cases, failure of interviewers to read definitions to the respondents (BLS, 1995). In the current questionnaire, the information defining these job categories is in parentheses, presumably indicating that it is not to be read to persons in the household beyond the first respondent. This questionnaire structure is notably difficult for interviewers to deal with, however, as each one must decide how to implement the parenthetical information. This may lead to increased interviewer-driven variation in answers and potentially different distributions of answers for those who are exposed versus not exposed to information in the parenthetical statements (Dykema et al., 2016; Olson, Smyth, and Cochran, 2018).

employment and earnings instability. Job insecurity is one factor that may result in earnings insecurity.

Even if the job itself is not temporary, the hours and hence a worker's earnings may be variable. In addition to on-call work, other types of scheduling practices also may be associated with unpredictable hours and earnings insecurity. While the alternative work arrangements described in the preceding section are mutually exclusive, job contingency and unpredictable schedules are characteristics of jobs that may be present in all or most work arrangements, including when workers are employees of the organization for which they perform work.

Schedule Variability and Predictability

As noted above, the CWS asks wage and salary workers whether they work on an on-call basis or whether they work as day laborers. These forms of on-demand work are associated with variable hours and unpredictable schedules that may result in earnings insecurity.

RECOMMENDATION 3.10: As opposed to the current approach of classifying workers into the categories of on-call workers or day laborers, the CWS should focus on simply describing the characteristics of these and other work arrangements with variable hours.

Subsequently, analysts can sort workers by scheduling arrangement, but respondents do not need to be asked directly to label the category into which their employment falls. This job-characteristics-based approach will mitigate confusion over terminology and hence potential misreporting on the survey. For example, an individual may not think of herself as being an "on-call worker" even if she must report to work when called.

While the current version of the CWS only asks about hours variability and uncertainty as they pertain to on-call and day laborer work, because they represent an issue of growing importance variability in hours and scheduling uncertainty need to be measured more comprehensively. As noted in Chapter 2, the widespread adoption of scheduling algorithms in the retail sector and other services industries has meant that firms are better able to match workers' hours to the company's needs. The resulting variability and unpredictability in work hours shifts scheduling and income risk from the firm onto the workers. Even if the total number of hours a worker is offered remains constant, if a worker's schedule is so erratic that she does not know when she will have to come in to work that in itself can take a toll—for example, by making it difficult to arrange child care.

Research on work scheduling issues[20] provides ample justification for adding question about scheduling in the CWS. National surveys are typically limited in capturing this dimension of work; since question wording is often about "usual or typical hours," by design, the resultant data smooth rather than reveal variations in work hours.

By contrast, some specialized surveys have allowed researchers to estimate the magnitude and direction of fluctuations in weekly work hours. For example, looking at scheduling variability in the National Longitudinal Survey, Lambert and colleagues (2014) find that 83 percent of respondents age 26 to 32 who are hourly part-time workers give a different number for the greatest and fewest hours they worked in a week. The average difference between those two is 13 hours, which amounts to 37 percent of their reported usual hours. For these estimates, the researchers developed a survey, the Work Scheduling Study, which asks: "In the last month (past three months), what is the greatest number of hours you've worked in a week at this job? Please consider all hours, including any extra hours, overtime, work you did at home, and so forth" and "In the last month (past three months), what is the fewest number of hours you've worked in a week at this job? . . . Please consider all hours, including any extra hours, overtime, work you did at home for your job, and time you spent on work that may not have been directly billable or compensated." These analyses provide models of how to move forward on measuring work schedule variability.[21]

High schedule variability often brings with it a lack of predictability, which can create additional problems for a household and should therefore be tracked. Using data from the SHED and the 2016 General Social Survey (GSS),[22] Fugiel and Lambert (2019) find that the number of workers reporting that they receive less than 7 days' notice regarding their work schedule is 15 percent. For those receiving less than a day's notice, the figures for the two surveys are 6.4 percent (GSS) and 5.1 percent (SHED).

Although surveys such as the SHED and the GSS have measured hours or schedule variability, they rely on small samples. Given the prevalence of erratic and unpredictable worker schedules, this aspect of employment and earnings instability should be measured with a much larger, nationally representative survey.

[20]See, for example, Henley and Lambert (2014) and Schneider and Harknett (2019). Another article by Miller (2019), "How Unpredictable Work Hours Turn Families Upside Down," provides case studies.

[21]Lambert et al. (2019) provides a full set of statistics on the prevalence of schedule instability, unpredictability and lack of schedule control using data from the General Social Survey.

[22]Available: https://gss.norc.org/.

RECOMMENDATION 3.11: For employees, the CWS should inquire into the following aspects of schedules and hours:

- **Usual hours worked and hours worked last week (on primary and secondary jobs);**
- **Schedule autonomy—who determines the schedule, the employer or the worker?**
- **Schedule predictability—whether the schedule is generally the same from week-to-week or, if it varies, how much notice the worker typically receives;**
- **The amount by which weekly hours vary; and**
- **Whether a worker must be available if called (here, BLS can model its questions on those from other surveys where testing on similar questions has already been done).**

In addition to questions attempting to get at workers' lack of control over when and how much they work, it may also be worth asking about more favorable work arrangements, such as whether the worker is allowed flexibility in his or her hours.

As stated in Recommendation 3-10, with this kind of detailed information about workers' schedules it should not be necessary to ask respondents to self-identify their work category. Appropriately identified characteristics capture the aspects of being, say, an on-call worker that are most salient to workers' well-being and to the policies designed to safeguard it. Likewise, "on-call" workers may have regular work, or they may not be called in to work very often or very predictably. Some workers, for example those in retail, may be called in to work and then given no hours. The key policy question is, "which (primary) jobs are providing insufficient income, or highly unpredictable income?" Including a set of scheduling questions (restricted to people working for employers)[23] focused on hours and earnings variability at the core of the new CWS would get at the kind of variability that is likely a common motivation for pursuing a second job.[24]

A number of surveys offer options for question wording related to characteristics of jobs rather than labels of AWAs. For example, the 2017 American Time Use Survey Annual Leave Module asked respondents about the availability of a flexible work schedule, since sometimes an inconsistent—though probably not unpredictable—work schedule is what a worker

[23]Ideally, in order to generate information on how schedule instability and unpredictability vary across today's employment arrangements, one would like to measure scheduling patterns of independent workers as well. Asking nonemployee workers about scheduling and hours, however, would require another battery of questions—an expansion of the CWS that, while desirable, may not be feasible.

[24]Asking about variability in hours (and not earnings) may be sufficient for the wage and salary group.

needs or prefers. The module also asked about the reasons for being in a flexible work schedule, about days usually worked (including an "it varies" answer), and about working from home. Cognitive testing revealed issues with respondents' answering that yielded changes in the question wording for the implemented module (Mockovak and Kaplan, 2015).

Contingency

The current CWS focuses on measuring contingency—that is, whether the job is temporary in nature. Indeed, concerns that temporary, or contingent, jobs were a growing share of employment motivated the initial development of the CWS in the 1990s. A high percentage of questions in the current version of the CWS are devoted to measuring the contingency of work, and the BLS publishes three measures of contingency based on the survey results. In the May 2017 CWS, BLS reported that 5.9 million people, or 3.8 percent of the employed, held contingent jobs, according to the broadest measure of contingency.[25]

Over its history, the CWS has uncovered no growth trend in contingent jobs. Instead, there has been a small but steady decline over time in the estimated percentage of the employed holding contingent jobs, and BLS's measures of contingency have not gained currency among policy makers and researchers (see, for example, the wide-ranging definitions of contingency used in U.S. Government Accountability Office, 2015). Moreover, the BLS definitions sometimes relied on people's expectations about future employment, which BLS's own cognitive testing found to be problematic. Respondents struggled to answer how long they expected their job (or the job held by another household member) to last, which resulted in data that were likely of low quality. Quality assessment research on the CWS indicated that respondents did not know how to answer the questions, "How much longer do you expect to work in your current job/to be self-employed?" and "Do you think it will be more than a year?," resulting in nonspecific answers, such as, "Well, I don't know" or "It depends on the economy and GM's future hiring plans" (BLS, 1995, p. 5). In addition, there was notable interviewer variation in addressing these difficulties. Although there are options to select "something else," including "Until I retire" or "As long as I want," interviewers did not appear to select these to summarize respondents' answers very often.

In the U.S. economy, many jobs are temporary in some sense. The country has an "employment at will" doctrine such that, except for certain reasons and protected classes, workers can be fired by their employer at any

[25]Available: https://www.bls.gov/opub/ted/2018/3-point-8-percent-of-workers-were-contingent-in-may-2017.htm?view_full.

time for any reason. Unlike many other economically advanced countries, the United States does not have a strong legal system of employment protections. Key exceptions are that employers cannot fire workers on the basis of gender, religion, ethnicity or race, or age. In this employment environment, many workers might view their jobs as temporary.

Seasonal work may or may not be considered temporary by respondents, especially if they return to the job each season. Similarly, many people work from project to project and, while projects end, people may be reasonably assured of a pipeline of work going forward. It is therefore unclear (including to respondents) what the concept of temporary means in the modern labor market. These concerns argue for deprioritizing the contingency questions in the CWS.

RECOMMENDATION 3.12: While the temporary nature of some jobs is a key characteristic that should continue to be measured in future CWS surveys, the number of questions on contingency should be pared back and the questions that remain should be simplified.

In summary, the panel recommends against classifying workers as on-call workers or day laborers and instead recommends expanding questioning about job characteristics to include a broader set of arrangements associated with unpredictable work schedules. Some questions pertaining to contingent work should be maintained, although the panel recommends paring and simplifying these questions.

3.5. OTHER INFORMATION NEEDED FOR UNDERSTANDING ALTERNATIVE WORK ARRANGEMENTS AND THEIR IMPLICATIONS FOR WORKERS

Key goals of the CWS involve not only measuring the number of people in contingent and alternative work arrangements but also facilitating an understanding of the relationship between specific work arrangements, worker characteristics, and worker outcomes. Because the CWS is a supplement to the CPS, detailed information about the demographic characteristics of respondents is available. The CWS adds measures of key worker outcomes that are not collected in the main CPS: earnings[26] and benefits as well as indicators of individuals' preference for or satisfaction with their work arrangements. The CWS also collects information on workers' job histories and their transitions into and out of selected work arrangements.

[26]The main CPS collects information on earnings for the outgoing rotation groups (MIS4 and MIS8). The CWS collects information on earnings for other individuals, primarily for those who indicate being in a contingent or alternative work arrangement.

Wages and Benefits

The linkage between people's income and their well-being is clear; for this reason, it is essential to include questions about earnings in the CPS/CWS. As discussed in Chapter 2, researchers and policy makers have been keen to understand how changing work arrangements, including the expansion of AWAs, may relate to the flat earnings growth experienced by workers over recent decades. The CWS collects information on earnings from those identified as being in a contingent or alternative work arrangement and selected other workers. These data may be supplemented with earnings data collected in the main CPS for those in the outgoing rotation groups (MIS4 and MIS8). So that the earnings of those in alternative work arrangements may be compared to those in traditional arrangements, it is important that the sample for the latter be representative of that population; the BLS should provide weights appropriate for use in analyses of earnings, including analyses that compare the earnings of those in alternative work arrangements with the earnings of other workers.

The interaction of an employer-delivered worker benefits system and emerging AWAs with limited or no access to employer-provided retirement plans, medical care plans, and other benefits is also of great concern. The possible link between contingent and nonstandard work, wages, and access to critical benefits such as health insurance and retirement benefits is of strong policy interest. The onset of a global pandemic has underscored the need for policy makers to be more aware of the economic vulnerabilities present in the labor market. The CWS will continue to shed light on these trends since it includes questions that ask about wages and benefits. Additional information will be obtained by asking about the wages and hours associated with respondents' second jobs (as proposed in recommendations 3.2 and 3.3).

Capturing net earnings—gross revenues less costs—is important for independent contractors. In a study of earnings from driving for Uber and Lyft in the Denver area, for example, Henao and Marshall (2019) find that, whereas gross hourly earnings averaged $15.87, earnings less costs ranged from $5.72 to $10.46, and most drivers earned less than the minimum wage. For independent contractors, asking about earnings on an annual basis may be most practical, because expenses tend to accrue unevenly over the course of the year. Questions about earnings posed to independent contractors should clearly instruct them to report net rather than gross earnings, to the best of their ability.

Job Satisfaction and Reasons for Choosing a Work Arrangement

The CWS includes a set of questions about workers' preferences for specific job characteristics in Section 2, "Worker Satisfaction with their

Current Employment Arrangement." The questionnaire is structured such that workers with particular arrangements—temporary help agency workers, on-call workers, day laborers, and self-employed/independent contractors—are first asked a tailored question about whether they would prefer a job with a different arrangement (e.g., on-call workers are asked if they would prefer a job with regularly scheduled hours). Next, workers are asked for their main and secondary reasons (if their main reason is "for the money") for working in their current job arrangement. Temporary workers are also asked if they would prefer a job where they could stay as long as they want. These questions for different categories are summarized in Table 3-1.

Measuring the degree to which workers are satisfied with AWAs is important for understanding the extent to which people take alternative jobs by choice or out of necessity. It is unclear, however, how the current set of job preference questions should be interpreted. It can be difficult for respondents to specify preferences unless a set of tradeoffs is provided. For example, if a survey interviewer asked a person if they "would prefer to not work most nights and weekends?", many would reply, "Yes." But it also may be the case that most of these respondents would not want to change careers, so the more informative answer is no, given the tradeoffs (Mas and Pallais, 2017). In the context of the CWS, most respondents who are in on-call arrangements report that they would prefer regularly scheduled hours. Yet, these individuals may nonetheless prefer this arrangement if, for example, it pays a relatively high wage.

Moreover, the wording of the preference questions varies across contingent and alternative work arrangements, and job preference questions are not asked of those in traditional wage and salary arrangements. To provide a basis for comparison, it is desirable to use the same question wording to measure how workers across various work arrangements view their jobs. Instead of asking the current set of job preference questions for workers in selected arrangements, the CWS could ask all respondents a question about their overall satisfaction with their job. For example, the General Social Survey's Quality of Working Life Module asks, "All things considered, how satisfied are you with your (main) job?"[27]

The existing line of questions on the reasons individuals work in alternative arrangements provides potentially valuable information, but the fact that they are "field coded" makes these questions problematic as well. For a field-coded question, the respondent is asked to provide a narrative response that the interviewer codes using a set of predefined, categorical options. A number of studies indicate interviewers vary in their ability to

[27] Available: http://gss.norc.org/Documents/codebook/QWL%20Codebook.pdf.

TABLE 3-1 Structure of CWS Job Preference Question

Temporary Workers	Temporary Agency Workers	On-call Workers	Day Laborer	Self-employed/ Independent Contractor
Prefer job that is permanent rather than temporary	Prefer job with different type of employer	Prefer job with regularly scheduled hours	Prefer job with regularly scheduled hours	Prefer to work for someone
Main reason for having temporary job	Main reason work for temporary help agency	Main reason for being an on-call worker	Main reason for being a day laborer	Main reason for being self-employed / independent contractor
Main reason other than "for the money"	Main reason other than "for the money"	Main reason other than "for the money"	Main reason other than "for the money"	Main reason other than "for the money"
Prefer job where could stay as long as wished				

SOURCE: Current Population Survey (2017). Available: https://www2.census.gov/programs-surveys/cps/techdocs/cpsmay17.pdf.

code these types of responses accurately (see review in West and Blom, 2016). For example, Smyth and Olson (2020) find that in one national telephone survey, interviewers accurately coded only 49 percent of answers into nominal categories. The challenge of accurately classifying respondents' narrative responses is likely compounded when the categories are not comprehensive (when they do not include the range of possible categories) or when the labels for the categories are difficult for interviewers to use. Cognitive testing of field-coded questions can help ensure that the labels for the categories included in the questionnaire accurately reflect the range of likely responses and use appropriate language. An alternative to field coding the questions is to narrow the options to a short list of possible reasons and ask the respondent to select the most important.

As discussed throughout this report, it is also important to know why people are engaging in multiple jobs—including why they are doing web-mediated work on the side. Questions on job satisfaction and on the motivation of individuals to work a second job/work activity would be extremely useful for understanding people's work patterns.

RECOMMENDATION 3.13: BLS should ask questions on job satisfaction for all workers in lieu of asking job preference questions for selected workers. The BLS should continue to ask about reasons for working in selected alternative work arrangements, but it should consider moving away from field coding the responses and instead provide a preset list of reasons and ask respondents to identify the most important. In addition, for those with a second job or work activity, BLS should ask about their motivations for holding multiple jobs.

Job History and Work Transitions

The CWS asks a series of questions about people's history in their main job. The primary item collected concerns job tenure, with the question wording differing according to the reported employment arrangement. Information on job tenure can be useful for some research and policy purposes. If retained in a future CWS, the structure of the questions could be simplified to ask about tenure on the primary and, if applicable, secondary job, regardless of whether the job is in self-employment or as an employee.

One could make an argument for dropping the job tenure questions. Early cognitive work on the CWS indicated that the questions about how long an individual has worked for their current or former employer yielded highly imprecise answers from respondents: More than 35 percent of respondents answered with a qualified answer, or with an answer that did not match the question task (inadequate), or else said they did not know. Most of these imprecise answers were given when this retrospective question was proxy-reported (discussed further below).[28] On balance, however, even if respondents find it difficult to give a precise answer to the job tenure question, the responses are likely to contain valuable information.

Asking about other aspects of respondents' job histories, however, seems both more problematic and less likely to be valuable. The current version of the CWS asks those who report working for an employer whether they previously worked for the employer under a different work arrangement. Although this information potentially provides interesting background, the question is retrospective in nature and subject to recall bias; data quality is likely to be particularly poor for proxies. For this reason, and because the information collected in prior years has been rarely used, these questions are candidates for dropping in future iterations of the CWS.

Another set of questions in the CWS asks respondents about transitions into their current employment arrangement; specifically, what they or other household members were doing prior to becoming an independent contrac-

[28]Quality Assessment Research on the CWS, 1995, p. 8.

tor, a temporary agency worker, or an on-call worker or contract company worker. These questions also are likely to be subject to recall bias and have been little used, and thus are candidates for dropping as well.

An additional section of the CWS asks respondents in AWAs or contingent/temporary jobs if they have looked for other types of work in the last couple of months (since the beginning of December for the CWSs conducted in February and since the beginning of March for the May 2017 CWS). If they answer yes, respondents are asked for details on their job search. Searching for another type of job may be a good indicator that workers in alternative or temporary arrangements are dissatisfied with the job. The line of questioning in this section, however, is not a high priority, and BLS should consider dropping these questions as well. Also, since only the people in AWAs are asked these questions, there is no benchmark against which to compare their responses. One could imagine that it would be useful to know whether the share of people engaged in on-the-job job searching is higher among those in AWAs than among those in other types of jobs. Perhaps this could be asked without then going into detail about exactly how they had searched.

RECOMMENDATION 3.14: BLS should consider dropping questions on respondents' job history (except, possibly, those concerning job tenure), on their transitions into their current employment arrangements, and on whether they have looked for employment in another type of job.

Researchers have effectively exploited the longitudinal structure of the CPS to study transitions into and out of the contingent and alternative work arrangements (Addison and Surfield, 2006, 2009; Farber, 1999; Houseman and Polivka, 2000; Katz and Krueger, 2017). In general, as discussed in Chapter 4, there are panel datasets that are better at characterizing people's job histories. Also, every 2 years, BLS fields a Job Tenure Supplement of the CPS (also known as the Employee Tenure and Occupational Mobility Supplement) that includes questions about respondents' type of work, industry, and occupation from 1 year earlier and on how long respondents have worked for their current employer.[29] This supplement, therefore, duplicates coverage on some aspects of job history. Hyatt and Spletzer (2016) use these data to show the distribution of jobs in terms of duration held. Likewise, the CPS Displaced Workers and Job Tenure Supplement may provide a home for some question areas. The stated goal of that supplement is to "measure the severity of job displacements and assess employment stability

[29]Available: https://cps.ipums.org/cps/jt_sample_notes.shtml.

during a period of downsizing at many firms, and increased use of temporary and contract labor."[30]

In summary, in addition to basic information on wages and benefits, BLS should ask CWS respondents a question on job satisfaction. The question should be asked of all workers, including those who do not fall into any alternative work, contingent work, or unpredictable scheduling arrangement. Understanding the degree to which workers are satisfied with (or prefer) their arrangement is important, but a comparison is needed to assess whether workers in various alternative arrangements are more or less satisfied than those in regular employment. Other surveys could be consulted to guide question wording. Questions about main and secondary reasons for having a job would be retained but revised as appropriate for the work characteristic. Questions on respondents' job history and employment transitions could be eliminated or cut back to create survey space for the new questions.

[30]Available: https://catalog.data.gov/dataset/current-population-survey-displaced-workersjob-tenure-supplement.

4

The Role of Other Data Sources in Measuring Alternative Work Arrangements

No single source can meet all demands for data needed to describe, monitor, and analyze alternative work arrangements (AWAs) in the U.S. labor market. Chapter 3 cited selected evidence, based on a wide range of data sources, to support recommendations for designing future iterations of the Contingent Worker Supplement (CWS). In this closing chapter, we give a brief overview of how other data sources have added to our understanding of the prevalence and characteristics of AWAs and the workers who engage in them—sometimes in ways that would not be possible or practical for a Current Population Survey (CPS) supplement.

The range of other data sources from which insights can be drawn includes household and business surveys, government administrative records, and commercial data. In some cases, these data sources allow researchers to measure dimensions of AWAs that are beyond the scope of the CWS, such as the relationship between work arrangements and health outcomes. In other cases, data sources such as administrative and commercial data may allow more accurate or detailed measurement of some aspects of AWAs, such as the prevalence of some forms of on-demand platforms.

Over the long term, there may be potential for linking the CWS with other data sources to enhance our understanding of AWAs. Continued exploration of this broader ecosystem of data sources will be an important strategy if we are to generate the most comprehensive statistical information about AWAs possible given budgetary constraints.

4.1. OTHER HOUSEHOLD SURVEYS

Chapter 3 already identified specific questions from non-CWS surveys that could be adapted for the CWS or at least provide insights into how to improve the CWS. Comparing results based on data from different household surveys can generate insights into the ways definitions, question wording, and respondent interpretations may affect estimates. In this section, we provide some examples of household surveys that can inform research on AWAs as well as others that, while focused on topics largely beyond the scope of the CWS, can complement our understanding of the nature of work. The goal here is to illustrate the importance to research and policy of being able to draw from multiple data sources; it is not to comprehensively catalog the data that could be used for this purpose.

For example, although worker safety is of significant policy interest because of its direct link to job quality and worker well-being, the CWS is not positioned to collect data on this outcome. One instrument that provides rich information on workplace safety is the Occupational Health Supplement to the National Health Interview Survey (NHIS), a major data collection program of the National Center for Health Statistics of the Centers for Disease Control and Prevention (CDC). This supplement, which so far has been fielded in 1988, 2010, and 2015, generates evidence of the impact of work schedules on health, among other things. The most obvious effects are on sleep quality and quantity, which in turn are linked to a wide range of outcomes. In addition, impacts on exercise, diet, smoking, substance use, and work-life balance and conflict are also important considerations. An example of a finding from this survey is the distinctly higher injury rates found among temporary help agency workers relative to direct-hire employees; after adjusting for occupational differences, the injury rates of temp agency workers have been estimated to be about twice as high. Temp agency workers actually tend to have less frequent exposure to workplace health and safety hazards, but on average they also have less safety training and less experience for the jobs to which they are assigned (Fabiano et al., 2008).[1]

Another reason data sources beyond the CWS are needed is that some research questions require longitudinal estimates. Longitudinal datasets are needed, for example, to accurately measure people's transitions into and out of different kinds of work, which is important for understanding the implications of these work arrangements and the underlying reasons people engage in them. Despite the strengths of longitudinal analysis, the opportunity to employ it is limited in the CPS. Household members are

[1]See, also, the Appendix B summary of a presentation to the panel by Tim Bushnell and Toni Alterman of the National Institute for Occupational Safety and Health, who covered this issue.

observed for only 8 months over a 16-month period. Although the CWS has asked retrospective questions about workers' entry into and exit from AWAs, as discussed in Chapter 3, there are concerns about the ability of respondents to answer such questions accurately. For data that span longer time periods, researchers typically rely on longitudinal surveys, such as the National Longitudinal Surveys (NLS), which are sponsored by the BLS.

The NLS have gathered information at regular time intervals on the labor market experiences and other significant life events of several nationally representative cohorts of men and women. For the past four decades, the NLS79 has collected labor force information for a cohort of individuals who were ages 14 to 22 when they were first surveyed in 1979. These individuals, currently ages 54 to 62, were interviewed annually through 1994 and have been interviewed biennially since then.[2] The NLS97 has collected labor force information since 1997 for a cohort currently ages 34 to 39; this group, containing individuals who were ages 14 to 22 when they were first surveyed, was interviewed annually through 2011 and has been interviewed biennially since then.[3]

From the beginning, the NLS interviews have attempted to identify whether workers are self-employed. The precise question sequence has varied somewhat over time, but since 2006 in the NLS97, if workers do not say they are self-employed, they are asked if they are independent contractors, freelancers, or independent consultants. Wage and salary workers who are not independent contractors, freelancers, or independent consultants are asked if they are temporary help workers, on-call workers, or contract company workers (with questions akin to those in the CWS). Similar changes were made beginning in 2002 in the NLS79 to better identify workers who are not in traditional wage and salary jobs.[4] The longitudinal structure of the survey makes it possible for researchers to analyze transitions into and out of different employment arrangements—for example, when studying topics such as determinants of women's entry into self employment (Taniguchi, 2002) or the "relative importance of family financial and human capital in the transition into self-employment" (Dunn and Holtz-Eakin, 2000).

[2]Available: https://www.bls.gov/nls/nlsy79.htm.

[3]Available: https://www.bls.gov/nls/nlsy97.htm.

[4]Changes included a clarification of what defines self-employment: "On the basis of answers to the job classification questions, the respondent is classified as self-employed if he or she owned at least 50 percent of the business, was the chief executive officer or principal managing partner of the business, or was supposed to file a form SE for federal income taxes. Respondents also are classified as self-employed if they identify themselves as independent contractors, independent consultants, or freelancers. A job is classified as nontraditional employment if the respondent is paid by a temp employment agency." Available: https://www.nlsinfo.org/content/cohorts/nlsy79/topical-guide/employment/class-worker.

The Survey of Income and Program Participation (SIPP), the statistical system's premier source of information on individuals participating in government assistance programs, is another example of a dataset that allows career histories to be followed—something that, again, is largely outside the scope of the CWS. Beginning in 2014, the interview structure of the SIPP was changed so that households were now to be interviewed annually for 4 consecutive years.

The SIPP asks several questions of those who identify as employed and, in particular, collects information about what might be considered "informal" work. The 2014 SIPP asks people who reported performing work for pay the following: "Was that for an employer, self-employed or did you have some other arrangement? Other arrangements include odd jobs, on-call work, day labor, one-time jobs and informal arrangements like babysitting, lawn mowing or leaf raking for neighbors." Answers are recorded as self-employed, employee, or other arrangement. Drawbacks to this question include its 1-year reference period, which again is likely to result in recall error, as well as the lack of detail regarding both self-employment and "other" arrangements.

A final example of a complementary household survey data source is the Quality of Worklife module, included in the 2002, 2006, 2010, and 2014 editions of the General Social Survey (GSS). The GSS is a biennial, nationally representative, personal interview survey of U.S. households conducted by the National Opinion Research Center and funded by the National Science Foundation. In addition to questions about earnings and benefits, the GSS module asks respondents how often they are allowed to change schedules and how often they are allowed to change their starting and quitting times on a daily basis.[5] As discussed in Henley and Lambert (2014),[6] the GSS also includes questions about unpredictable and unstable scheduling. Instead of asking about usual hours, the GSS asks how many hours respondents worked during the week prior to the survey. These questions have allowed researchers to study the impacts of these job characteristics on such outcomes as work-family conflict and work stress (Golden, 2015).

4.2. ESTABLISHMENT AND OTHER BUSINESS SURVEYS

Data supplied by businesses can provide important information for policy makers and researchers that is largely complementary to that captured in household surveys such as the CPS and CWS. Key areas where business data may be called on to fill gaps include capturing contract

[5]Available: http://gss.norc.org/Pages/quality-of-worklife.aspx.

[6]See also, in Appendix B, the summary of the presentation given to the panel by Susan Lambert.

company work, including use of temporary help services. These work categories were identified in Chapter 3 as areas where household surveys are deficient because respondents have difficulty reporting reliably on the contract arrangements of their employers.

Experience from various household surveys suggests that additional probing may be needed so that independent contractors can correctly identify their status. Reporting about subcontracting relationships may be especially difficult for household survey respondents. Bernhardt, Spiller, and Theodore (2013) attempted to identify subcontracted jobs in their in-depth, long-form survey of low-wage workers, but they abandoned the effort because of workers' inability to accurately identify whether their employer was a contractor or not. As discussed in Chapter 3, the CWS currently attempts to measure only a subset of subcontracted work (on-site, for one client), but the potential universe of subcontracted work arrangements is much broader and more varied. Subcontracted workers may work off-site, at multiple sites, for multiple clients, or with names on their paychecks that they do not recognize or that do not match who they think their employer is.

Establishment and firm-level surveys can provide an important source for measuring complex AWAs, such as subcontracting, that workers understandably have a difficult time identifying correctly. Firm-to-firm contracting arrangements for services within the United States—variously called subcontracting, fissuring, or domestic outsourcing—appear to be increasingly common in a wide range of industries. These arrangements likely affect many more workers than has been recognized, ranging from low-wage service workers such as janitors, security guards, warehouse workers, and hotel housekeepers to professional and technical workers such as programmers, health care technicians, and accountants (Bernhardt et al., 2016; Weil, 2014).

In response, researchers have harnessed a variety of datasets that include establishment- and firm-level data to begin to measure the prevalence of subcontracting (Dorn, Schmieder, and Spletzer, 2018; Goldschmidt and Schmieder, 2017). For example, the share of payroll employment in professional and business services, a sector composed primarily of contractor companies, nearly doubled from 1980 to 2016, rising from 7.3 to 13.9 percent (Bernhardt et al., 2016). Similarly, Yuskavage, Strassner, and Medeiros (2008) report that the share of gross domestic product (GDP) accounted for by domestic providers of outsourcing services—which they defined as purchased services excluding telecommunications and financial services—rose from 7 to 12 percent between 1982 and 2006. And Goldschmidt and Schmieder (2017) show that the outsourcing of cleaning, food, security, and logistics services accounts for a sizable share of the growth in wage inequality in Germany since the 1980s. Because subcontracting inherently involves two (or more) firms, the long-term promise

of this emerging research is the ability to identify and link the industry and firm characteristics of both user firms and contractor firms in order to study the impact of contracting on job quality outcomes such as wages, benefits, and other working conditions.

Bernhardt and Houseman (2017), Dey, Houseman, and Polivka (2010), and Foster and others (2019) provide detailed overviews and analysis of firm- and establishment-level surveys and potential measures of subcontracting. A comprehensive menu of surveys and recommendations for each lies beyond the scope of this chapter; here we briefly highlight several key opportunities afforded by existing business surveys.

Many of the efforts within the federal statistical system to collect data from U.S. businesses are spearheaded by the Census Bureau, which conducts a wide range of business surveys, including the quinquennial economic censuses, annual economic surveys, and quarterly and monthly indicator surveys. The full suite of annual surveys is currently being reengineered, which may create opportunities to implement changes that better capture trends and motivations regarding AWAs from the employer's perspective.[7]

For example, as suggested by a recent CNSTAT panel, the annual surveys could be expanded to more fully capture firms' expenditures on, and use of, contracted services. Currently only aggregate categories are used, such as transportation and warehousing services, or professional and technical services. But these are the areas where growth in contracting out is concentrated (Yuskavage, Strassner, and Medeiros, 2008). Berlingieri (2014) finds that sectoral reallocation toward the outsourcing of professional and business services accounts for a very high percentage of increases in service sector employment and a corresponding decrease in manufacturing employment. Greater detail in expenditure data would allow better estimation and tracking of the scale, scope, and growth of contracting out as a firm-level practice, especially since Economic Census data are the primary source of BEA's input-output tables, which could be leveraged to measure inter-firm contracting (see Bernhardt and Houseman, 2017).

[7]See National Academies of Sciences, Engineering, and Medicine (NASEM) (2018), which covers the scope, operation, and major uses of the following economic surveys conducted by the Census Bureau, listed here by topic area. *Manufacturing*: Annual Survey of Manufactures (ASM); Manufacturers' Unfilled Orders Survey (M3UFO); Management and Organizational Practices Survey (MOPS). *Trade*: Annual Retail Trade Survey (ARTS); Annual Wholesale Trade Survey (AWTS). *Services*: Service Annual Survey (SAS). *Multisector*: Annual Capital Expenditures Survey (ACES); Information and Communication Technology Survey (ICTS). *Demographic*: Annual Survey of Entrepreneurs (ASE). *Other surveys related to the Business Register (Sampling Frame)*: Business and Professional Classification Survey (SQ-CLASS); Company Organization Survey (COS). The NASEM (2018) report also provides a framework for redesign of the annual surveys.

The Annual Survey of Entrepreneurs (ASE) and the Annual Business Survey (ABS) are examples of Census firm-level surveys that shed light on businesses' use of various work arrangements. The ASE, which was administered in 2014 through 2016, and the ABS, which has been administered annually since 2017, ask firms if they use each of six categories of workers: full-time employees; part-time employees; temporary agency workers; day laborers; workers from professional employer organizations (PEOs); and contract, subcontracted, independent contractors, or outside consultants. A 2015 module to the ASE also asked firms to report the percentage of their workforce in each of these arrangements and the functions performed by each type of worker. Brown, Earle, and Lee (2019) use evidence from the employer-provided data to ask, "Who hires nonstandard labor?" with nonstandard defined as workers who are not on the firm's payroll. The resulting firm-based data allowed these researchers to determine, for example, that contract work is the most common type of nonstandard work; that the fraction of firms using contract workers is around 30 percent; that young firms are more likely to use nonstandard workers; and that larger firms tend to hire more temporary workers and contractors than do smaller firms. These types of insights into the use of AWAs require employer-based data. The types of questions on the 2015 ASE module could be collected in future business surveys.

The BLS also produces relevant statistics collected through employer surveys. In addition to the payroll employment statistics already mentioned, the BLS conducts the Survey of Occupational Injuries and Illnesses (SOII), which produces workforce health and safety measures. Although the injuries and illnesses suffered by subcontracted workers should in principle be counted in the survey, they unfortunately are not separately identified in the data.[8] Since 2011, however, the Census of Fatal Occupational Injuries (CFOI) has collected information on contractor status, including the industry of the firm for which a job was performed and the industry of the contractor firm. Although these data are limited to the most serious safety incidents faced by subcontracted workers, they could be used to investigate long-standing concerns that outsourcing, on average, may lead to higher rates of workplace death.

[8]The information reported on the SOII is drawn from OSHA Form 300. The OSHA form states: "The employer must also record injuries and illnesses that occur to workers who are not on the employer's payroll if the employer supervises these workers on a day-to-day basis (including employees of temporary help services, employee leasing services, personnel supply services and contractors)." There is evidence that employers are often confused by these instructions and do not report correctly. See, for example, the September 2016 issue of *Monthly Labor Review* at https://www.bls.gov/opub/mlr/2016/article/an-update-on-soii-undercount-research-activities.htm.

An example of a nongovernment survey that illuminates an aspect of contract company work is the American Staffing Association (ASA) Staffing Employment and Sales Survey (SESS). This survey,[9] conducted on a quarterly basis since 1992, collects information from staffing firms to estimate temporary and contract staffing industry employment, sales, and payroll. In a presentation to the panel (described in Appendix B to this report), Steve Berchem defined staffing companies as those that are employers of temporary and contract workers. A key indicator derived from the survey is the ASA Staffing Index, a weekly measure of changes in employment by staffing firms. Berchem reports that the index closely tracks and serves as a leading indicator of GDP. For example, in July 2009, at the end of the recession, the staffing index began to tick up, revealing the beginning of the subsequent expansion ahead of many other indicators.

In sum, establishment- and firm-level surveys are an underexplored source of data on AWAs. Especially in the case of subcontracted work, these surveys have the potential to yield vital information about the prevalence and nature of firms' contracting-out activities. Similarly, as discussed next, tax data are an important complementary data source to the CWS.

4.3 GOVERNMENT ADMINISTRATIVE AND COMMERCIAL DATA

While household and business surveys will continue to provide critical information on the changing nature of employment arrangements in the U.S. economy, surveys are limited to questions to which respondents know the answer and that they can answer relatively easily. Moreover, survey response rates, including in government surveys, have been falling, raising concerns about costs and the ability of the statistical system to rely solely on survey data in the future. In this context, nonsurvey data sources are being increasingly called on to fill the void. As has been documented in numerous reports—most recently and prominently by the Commission on Evidence-Based Policymaking (2017)—the use of administrative data can improve the overall efficiency of data programs by reducing agency expenditures, lowering respondent burden, encouraging the sharing of information across agencies, and potentially increasing the accuracy of the information col-

[9]The SESS is a stratified sample of about 100 companies of various sizes (encompassing about 10,000 establishments) that uses the Economic Census as a benchmark. The survey is now a web-based instrument of no more than seven questions; employment, sales, and payroll are measured from quarter to quarter within each company size strata. The length of the SESS used to be about 20-25 minutes, but the number of questions has been reduced so that in now takes about 10 to 12 minutes to complete. The SESS is based on the methods of the BLS's establishment surveys—for example, even collecting data for the week containing the 12th day of the month.

lected. In some cases, administrative data may be used to replace survey data (NASEM, 2019).[10]

Tax Data

Government administrative tax data are a key example of sources of information on AWAs that can complement the CWS. Researchers have recently focused on using tax data for measuring and tracking the scale and scope of independent contracting, including the use of on-demand labor platforms (Collins et al., 2019; Jackson, Looney, and Ramnath, 2017; Lim et al., 2019).

Tax data feature several advantages over survey data. They offer a relatively clear delineation between employees (measured by W-2 income) and independent contractors (measured by sole proprietor income and/or 1099 income). The 1099-K form can be used to identify work for on-demand labor platforms, which is of particular public policy interest. And tax data also can capture sources of income that some workers might not report through surveys such as the CWS.[11] As a result, tax data are valuable for estimating the prevalence of all sources of paid income and, importantly, how these income sources (including from on-demand labor platforms) are combined by workers.

The above-described features of tax data have allowed researchers to generate novel findings that would be difficult to generate using household survey data alone. For example, Lim and colleagues (2019) use tax data to study trends in independent contracting. They define independent contractors as tax filers who earned income reported on a form 1099-MISC or 1099-K and had less than $10,000 in non-car, non-travel-expense deductions (if filing as an individual) or less than $10,000 in total deductions (if filing as a business). Although the largest share of independent contractors are people whose Form 1099 earnings supplement their wage and salary incomes, until quite recently the rate of growth in independent contracting has been most rapid among those for whom those earnings are the primary source of labor income.

[10]The Evidence-Based Policymaking Commission Act of 2016 defines administrative data as data that are "(1) held by an agency or contractor or grantee of an agency (including a State or unit of local government); and (2) collected for other than statistical purposes" (Commission on Evidence-Based Policymaking, 2017, p. 9). Unlike survey data collected specifically for statistical purposes, administrative data are typically collected in support of an agency's or other organization's routine program operations.

[11]Presentations to the panel by Dmitri Koustas and by Mike Udell and Diane Lim, summarized in Appendix B, include a detailed description of the use of tax data in research—for example, to capture payments by firms to unincorporated individuals for nonemployee services.

Collins and colleagues (2019) examine the universe of tax returns "to reconcile seemingly contradictory facts about the rise of alternative work arrangements in the United States." They find that, among the tax-paying workforce—defined as workers who get a W-2 or a form 1099 and file a form 1040, or get a W-2 and do not file—expansion of 1099 work since 2013 has been driven almost exclusively by online platform work.[12] They also find that, for most people engaged in online platform work, that work is secondary, generating income that is supplementary to primary W-2 jobs.[13] Other findings show that, although most people who engage in this work do it as a secondary job, most of the work for platform companies is accounted for by people who do it full-time and as their primary source of income. While the research of Lim and colleagues emphasizes results for a longer post-2000 period, the focus of Collins and colleagues is on the past few years, during which patterns of independent contracting work have changed significantly.

Accurate information of this kind is difficult to attain using a household survey, where W-2 workers often neglect to report supplementary independent contractor income (Abraham et al., 2020; Abraham et al., forthcoming). Thus, even these early tax-based studies are contributing significantly to our understanding of trends in independent contracting, and online platform work in particular. Going forward, there is significant potential to learn more about how workers use independent contracting—for example, whether over the life course or to manage career disruptions. There is also potential to learn about how firms use independent contracting, for example, whether it is to supplement or substitute for their W-2 workforce, and how firms' use varies over the business cycle.

That said, tax data have their own shortcomings. While tax data may better measure the prevalence of independent contracting, they still do not capture the full universe of such activity. For example, they do not measure the presence of off-the-books and other informal work. Nor is measurement of sole proprietor income using tax data free from error, due to underreporting of income and/or overreporting of expenses (IRS, 2019; Slemrod, 2018). Additionally, the 1099-K form will likely be an unstable source for measuring on-demand platform work because of the current high reporting

[12]They find that "the share of the workforce with income from alternative, non-employee work arrangements has grown by 1.9 percentage points of the workforce from 2000 to 2016. More than half of this increase occurred over 2013 to 2016 and can be attributed almost entirely to dramatic growth in work mediated through online labor platforms."

[13]Collins et al. (2019) find that approximately 44 percent of the overall growth in the 1099 economy comes from people who do not file self-employment taxes. Examining the relationship between 1099s and self-employment tax records more generally, we find that the previously documented increases in self-employment tax filings since 2007 are largely driven by workers without 1099s.

threshold of $20,000 in annual gross income and 200 transactions.[14] In addition, tax data are available only on an annual basis, and when multiple sources of income are reported in tax filings, one cannot tell if work relationships were held at the same time (and so reflect multiple job holding) or were held sequentially.

In conclusion, recent research has demonstrated the utility of access to confidential tax data for measuring the prevalence of independent contracting activity, and in particular how that activity is combined with W-2 work. As such, tax data should be considered an important complementary data source to the CWS for AWA measurement purposes; it can also serve as an external source of information to help in the refining of CWS questions in the future. However, the quality and therefore value of tax data is determined by tax rules and by the extent of taxpayer compliance. An important example is the 1099-K form, which could serve as an accurate source of data on the prevalence of on-demand platform work over time were its filing threshold significantly lowered, but at the existing filing threshold it provides incomplete information and thus an imperfect picture.

Commercial Data

In addition to tax data, a number of researchers have begun using financial and other commercial data to reveal different aspects of AWA that are not often well understood. Koustas (2019) analyzes the income, spending, and liquid assets of rideshare drivers using personal financial service data;[15] Hall and Krueger (2018) study pricing in the ride-share industry using Uber data; and Parrott and Reich (2018) use Uber data to determine, among other things, that about two-thirds of ride-share drivers in New York City do this work full time.

Recent work from the JPMorgan Chase Institute (JPMCI) illustrates how administrative (commercial) datasets can contribute value in measuring labor market trends. Using JPMCI financial accounts data, Farrell, Greig, and Hamoudi (2018) estimate platform participation among all families regardless of labor force status, and expose the fact that people are particularly likely to turn to platforms for income when they are between jobs or when their income from other sources dips. The researchers find that platform work is a supplementary source of income for most people, suggesting that many workers engaged in this form of AWA may also hold more traditional jobs. Indeed, it is the flexible nature of contingent work

[14]For a detailed discussion of the use (and shortcomings of) 1099 data, see the summary of the presentation to the panel by Mike Udell and Diane Lim in Appendix B.

[15]A summary of research presented by Koustas to the panel can be found in Appendix B of this report.

that may make it possible for individuals to fit it in around their traditional work schedules. Some student-age (18 to 24 years) and older adults (65+), who might self-identify as not in the labor force, nevertheless generate income on platforms. Put differently, certain forms of work, such as platform work, might not fit into traditional concepts of labor force participation. Thus, conditioning our understanding on labor force participation might underestimate the share of the population engaged in contingent and alternative work arrangements.

As discussed in Chapter 3, defining the reference period as a week may miss many who sporadically engage in work activities and result in undercounting of contingent and alternative work arrangements. The JPMCI data reveal that most individuals who participate in platforms do so for no more than 3 months of the year. As a result, estimated platform participation rates are much lower if they are examined during a particular month (e.g., 1.6% in March of 2018) than when they are measured to include any point in the prior year (e.g., 4.5% for the 12 months leading up to March 2018). Another benefit of a quarterly or annual time frame, which some commercial data make possible, is the ability to make comparisons with government administrative datasets, such as unemployment insurance wage records or tax data, which are also collected on a quarterly or annual basis. Commercial data can provide alternative reference periods and more granular data with which to analyze work activity.

Sources such as the JPMCI Online Platform Economy dataset, which passively captures information from daily administrative operations used to manage customer accounts, offer some advantages as compared to existing survey datasets. First, these datasets are very large. The example from Farrell, Greig, and Hamoudi (2018) leverages a sample size of 2.3 million families who received income from 128 on-line platforms, allowing the construction of narrow confidence intervals around estimates over time. These data also permit analysis of differences across demographic and geographic subgroups, as well as subcategories of work, such as transportation platforms versus nontransport work. Second, they offer a continuous high-frequency lens over the observed period, such that trends can be ascertained on a weekly or monthly basis rather than only for a specific reference period. This is critical in the case of contingent work, since their research revealed just how sporadic work is in the online platform economy. In addition, the continuous lens paired with the large sample size is particularly valuable in picking up new trends and forms of work in their infancy when the prevalence of the activity may be very low.

Third, because commercial data are based on real transactions or operations, they offer an unfiltered perspective unaffected by low (and falling) survey response rates, by the respondents' interpretations, by recall bias, or by proxy reporting when answering survey questions. As described

above, respondents' varying interpretations of a question pose a particularly vexing measurement challenge when the question relates to new and rapidly changing concepts, such as *electronically mediated work*. Most recent attempts to measure electronically mediated work have yielded an unrealistically high level of participation due to affirmative responses that the BLS subsequently deemed to be false positives. Finally, administrative data often offer a view into a range of other outcomes and attributes. In the case of the banking data, Farrell, Greig, and Hamoudi (2018) are able to observe all income deposited to an account and thus measure how reliant families are on platforms.

For all of the promise of nonsurvey data sources, caution must be taken when interpreting them. The potential sources of measurement error and approaches to addressing error are very different in administrative (commercial or government) data compared to survey data. For example, rarely will commercial data sources be representative of the full target population. Reweighting can make them more closely approximate the general population, but it cannot assist in representing subgroups that are missing entirely. In the case of the JPMCI data, for example, the unbanked and those who chose not to bank with Chase will always be absent. Additionally, while the unit of observation often becomes a design choice of how to aggregate the data rather than how to ask the survey question, there are practical challenges in delineating concepts such as an individual, family, or household within the context of administrative data. In the case of banking data, Farrell, Greig, and Hamoudi (2018) aggregated linked accounts to approximate platform participation for an entire family, but we know that accounts held by family members are not always linked nor do individuals always funnel all their income through a single financial institution.

Similarly, while users of administrative data do not have to wrestle with ensuring that a question will be (or has been) interpreted correctly by a respondent, another critical design choice is which operations within an account to include as contingent or nonstandard work. The set of platforms included within the JPMCI Online Platform Economy data has expanded from 30 to 128 over time as new platforms have emerged, allowing for a window into not only labor platforms but also capital platforms. While these design choices can be applied uniformly across all accounts (families, if you will), there are judgment calls and practical challenges in defining and effecting such inclusion criteria. For instance, researchers will need to ask: Which platforms should we include? Can we identify transactions associated with such platforms?

Finally, while surveys are created for the purposes of measurement and designed to make observations comparable, commercial administrative data are a byproduct of operations that can change in ways that distort the perspective over time. For example, if online platforms change or expand the

ways in which they pay participants, measurements of participation solely based on direct deposits into checking accounts may miss an increasingly larger share of the activity.

These shortcomings underscore the value of commercial administrative data as a complementary source of information even while, for the foreseeable future, government surveys will remain an important part of the data collection infrastructure of statistical agencies. That said, there may be some domains where private sector data are intrinsically superior or where government data collection would be impractically expensive. In those cases, presumably, private sector data could even serve as a substitute for government surveys.

The contribution of commercial and administrative data is in providing not just additional estimates with which to triangulate measures of contingent work and AWAs, but also an additional perspective that can reveal the ways in which each lens, from surveys to administrative data, is filtering the information. The exercise in reconciling not just estimates but also lenses can help inform efforts to improve the design of government surveys. For example, Farrell, Greig, and Hamoudi (2018) note that, all told, the JPMCI and BLS estimates for participation in labor platforms were remarkably similar, both estimating that 1.0 percent of respondents were earning income from labor platforms through electronically mediated work in May 2017. The fact that the two estimates were so close gives us confidence that they are in the right ballpark, even while their similarity is striking in light of the very different approaches taken by JPMCI and BLS to measuring electronically mediated work. These differences in approaches reveal opportunities for improvement in measuring contingent and alternative work arrangements.

4.4. THE LONGER-TERM PROMISE OF COMBINING DATA SOURCES

Declining response rates—even for federal surveys with historically high response rates—and the multitude of data sources now available are leading to broad-based efforts to expand the statistical system beyond the survey-centric approach developed during the 20th century. The Commission for Evidence-Based Policymaking[16] advocated for expanded use of administrative data and improved data linkage across federal statistical and regula-

[16]The Commission was a 15-member group of experts charged by the U.S. Congress and the President with examining how government could better use its existing data sources to provide high-quality evidence for policy and government decision-making. The Commission was created in March 2016 by the Evidence-Based Policymaking Commission Act (P.L. 114-140), legislation jointly filed by Speaker of the House Paul Ryan (R-WI) and Senator Patty Murray (D-WA). Available: https://www.congress.gov/bill/114th-congress/house-bill/1831.

tory agency sources to help guide decision making. That work created a climate in which movement to this new paradigm may have the opportunity to flourish, including through legislative changes. Of course, policies and procedures are needed to ensure that access to restricted data is limited to qualified researchers and policy makers while protecting the privacy of people's records.[17] The capacity to improve measurement of social and economic phenomena, including trends in employment and work arrangements, will be largely driven by how effectively multiple data sources—survey and nonsurvey, national and local, public and private—can be drawn from and combined (NASEM, 2019). Redesigns of surveys increasingly will presume that these instruments will need to be linked to other data sources.

The emergence of a multiple-data-source paradigm will no doubt influence the way employment and other labor market statistics are generated going forward. Research is already being conducted in cooperation with the U.S. Census Bureau that successfully links survey and administrative microdata (e.g., Abraham et al., 2020; Abraham et al., forthcoming). One finding, among many, is that CPS-based and administrative data-based employment estimates, such as those for wage and salary employment, multiple job holding, and self-employment, differ, and some of these differences have grown over time.[18]

Even though this panel strongly supports ongoing statistical agency work of this kind, at this time we do not recommend linking CWS data to tax (or other administrative) data as a priority for the BLS. One reason for this is that the single-week reference period for most of the CWS questions cannot easily be compared to the annual reference period for tax data. In addition, there would be technical and legal barriers to carrying out such linkages.[19] We do, however, endorse the long-term goal of leveraging multiple data sources to better measure and understand the evolving nature of alternative work arrangements in the United States.

[17]One model for accomplishing this is provided by the Federal Statistical Research Data Centers (FSRDCs)—a partnership between federal statistical agencies and leading research institutions in which secure facilities provide authorized access to restricted-use microdata for statistical purposes only. FSRDCs (coupled with legislation) have allowed agencies and outside researchers to combine IRS data with existing statistical agency surveys, available: https://www.census.gov/fsrdc.

[18]For details, see the Appendix B summary of a presentation to the panel by James Spletzer.

[19]As described by Spletzer, CPS supplement data have been linked with tax data for various projects, but the personal identifier code needed to link the data are collected only in the March Annual Social and Economic Supplement and so would not be available for all CWS respondents since the CWS has been fielded in February and May.

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Appendix A

Biographical Sketches of Committee Members

SUSAN N. HOUSEMAN (*Chair*) is vice president and director of research at the W.E. Upjohn Institute for Employment Research. She also serves as research fellow at the Institute of Labor Economics (IZA), an international research organization based in Bonn, Germany, and as a member of the National Bureau of Economic Research, Conference on Research in Income and Wealth. Houseman is chair of the U.S. Bureau of Labor Statistics (Technical Advisory Committee), member of the American Economic Association (Committee on Government Relations), co-chair of the Labor and Employment Relations Association (ASSA Program Committee), and co-director of the IZA Program on Labor Statistics. An expert on temporary-help employment, outsourcing, and nonstandard work arrangements, her research has examined trends in employers' use of these arrangements and their implications for workers' wages, benefits, and employment stability. Houseman's research interests also include outsourcing, offshoring, older workers and retirement issues, and comparative labor market policies. She has written extensively on such topics as employment, worker compensation, and offshoring. She has a Ph.D. in economics from Harvard University.

KATHARINE G. ABRAHAM is professor of economics and survey methodology at the University of Maryland, College Park. She is also chair of the Conference on Research in Income and Wealth and coordinator of the Program on Labor Market Statistics at IZA. Abraham serves as a member of the Federal Reserve Bank of Chicago's Academic Advisory Committee, the Congressional Budget Office Panel of Economic Advisers, and the Bureau of Economic Analysis Advisory Committee. She formerly served as

chair of the Commission on Evidence-Based Policymaking, as a member of the President's Council of Economic Advisers, and as commissioner of the Bureau of Labor Statistics. Abraham is a fellow of the American Statistical Association and the Society of Labor Economists. Her published research includes papers on the contingent workforce, domestic outsourcing, work and retirement decisions of older Americans, student financial aid, unemployment and job vacancies, and the measurement of economic activity. She has a Ph.D. in economics from Harvard University.

ANNETTE BERNHARDT is director of the Low-wage Work Program at the UC Berkeley Center for Labor Research and Education, and senior researcher at the UC Berkeley Institute for Research on Labor and Employment. She sits on numerous advisory committees and boards for nonprofits, research projects, and foundation initiatives. Bernhardt was one of the principal investigators in the National Employment Law Project's landmark 2009 study documenting high rates of minimum wage, overtime, and other workplace violations in the low-wage labor market. Her current research focuses on domestic outsourcing, the gig economy, and the impact of new technologies on low-wage work. She is widely published in journals in the fields of sociology and labor economics. Bernhardt has a Ph.D. in sociology from the University of Chicago.

JENNIFER DYKEMA is distinguished scientist and senior survey methodologist at the University of Wisconsin Survey Center at the University of Wisconsin–Madison. Dykema's research focuses on issues related to questionnaire design, interviewer effects, interaction in the survey interview, and methods to increase response rates. Her research has appeared in numerous journals in the fields of sociology, survey methodology, and statistics, as well as major edited volumes on survey research, questionnaire design, and evaluation and testing. Dykema is on the American Association for Public Opinion Research (AAPOR) advisory committee for *Public Opinion Quarterly,* and holds memberships in the American Sociological Association, American Association for Public Opinion Research, Center for Demography and Ecology, and Midwest Association for Public Opinion Research. She has a Ph.D. in sociology from the University of Wisconsin–Madison.

DIANA FARRELL is founding president and chief executive officer of the JPMorgan Chase Institute. Prior to holding that position, she was a senior partner at McKinsey & Company, where she was global head of the McKinsey Center for Government and the McKinsey Global Institute. Farrell served in the White House as deputy director of the National Economic Council and as deputy assistant to the President on economic policy (2009–2011). During her White House tenure, she led interagency processes

and stakeholder management of a broad portfolio of economic initiatives, including financial reform, housing, and innovation. She currently serves on the boards of directors for eBay, The Urban Institute, and the National Bureau of Economic Research, and is a trustee emeritus of Wesleyan University. In addition, Farrell is a trustee of the Trilateral Commission and served as a co-chair of the World Economic Forum's Council on Economic Progress. She is also a member of the Council on Foreign Relations, the Economic Club of New York, the Aspen Strategy Group, and the Bretton Woods Committee. She has an M.B.A. from Harvard Business School and a B.A. from Wesleyan University.

ARNE L. KALLEBERG is Kenan distinguished professor of sociology at the University of North Carolina at Chapel Hill, where he is also chair of the curriculum in global studies and adjunct professor of public policy and management. Kalleberg also serves as distinguished research fellow in the Center for Strategy and Leadership at the Foundation for Research in Economics and Business Administration in Bergen, Norway. He has published extensively in the areas of the sociology of work, occupations, and organizations; economy and society; and social stratification and inequality. He is editor in chief of *Social Forces*, an international journal of social research, as well as serving on the editorial boards of numerous publications. His research has been supported by numerous foundations in the United States and abroad. Kalleberg is an elected fellow of the American Association for the Advancement of Science, the Labor and Employment Relations Association, the Association for Psychological Science, and The Royal Norwegian Society of Sciences and Letters. He has a Ph.D. in sociology from the University of Wisconsin–Madison.

KRISTEN M. OLSON is Leland J. and Dorothy H. Olson professor in sociology and vice chair in the Department of Sociology at the University of Nebraska–Lincoln. Olson's research includes examining interviewer effects, paradata, the intersection of nonresponse and measurement errors, within-household selection in self-administered surveys, and questionnaire design. Her work has appeared in numerous journals in the fields of statistics, public opinion research, and survey and other research methods in the social sciences. She serves on the editorial board of several publications, including *Sociological Methodology* and *The Sociological Quarterly,* and holds memberships in several organizations, including the American Sociological Association. Olson has been elected as conference chair for the American Association for Public Opinion Research and is an elected fellow of the American Statistical Association. She has a Ph.D. in survey methodology from the University of Michigan.

BARBARA R. ROBLES is principal economist in the Consumer and Community Research Unit for the Federal Reserve Board in Washington, DC. Her research interests include monetary policy, community economic development, Internet research, and regional economic development. Her professional affiliations include the American Economic Association, American Statistical Association, Urban Economics Association, and American Association of Public Opinion Researchers. Robles has served as referee for numerous publications, including *American Economic Review; Journal of Family and Economic Issues*; *Journal of Consumer Education*; *Sociological Quarterly*; *International Migration Review*; and *Journal of Consumer Affairs*. She has written and presented extensively on such topics as Latino employment and entrepreneurship, the gig economy, and low-income communities. Robles has a Ph.D. in economics from the University of Maryland, College Park.

MICHAEL R. STRAIN is Arthur F. Burns scholar in political economy and director of economic policy studies at the American Enterprise Institute in Washington, DC. He also serves as a research fellow at the Institute for Labor Economics. His research, which focuses on labor economics, public finance, and social policy, has been published in peer-reviewed academic journals and in policy journals. He is the author or editor of several books on the subjects of public policy and its effects on the U.S. labor market, political philosophy and economic freedom, and the American dream. Strain has a Ph.D. in economics from Cornell University.

DAVID WEIL is dean and professor at The Heller School for Social Policy and Management at Brandeis University. Prior to joining the Heller School, he served as administrator of the Wage and Hour Division at the U.S. Department of Labor under President Obama. Weil is an internationally recognized expert in employment and labor market policy as well as regulation, transparency policy, and the impacts of industry restructuring on employment and work outcomes and business performance. He has advised both international organizations and U.S. agencies at the state and federal levels on employment, labor, and workplace policies. He cofounded and codirects the Transparency Policy Project at the Harvard Kennedy School of Government, and he is the author of more than 125 articles and 5 books. He has received many awards, including the fall 2019 Frances Perkins Intelligence and Courage Award. Weil has a Ph.D. in public policy from Harvard University.

Appendix B

Summary of June 10, 2019, Workshop

On June 10, 2019, the *Panel on Measuring Alternative Work Arrangements for Research and Policy* held an open workshop to highlight perspectives of data users and policy makers related to the modern economy's changing work arrangements. This workshop complemented information learned during the panel's first meeting, which featured presentations by U.S. Bureau of Labor Statistics (BLS) experts about the history, measurement objectives, and past performance of the Contingent Worker Supplement (CWS) of the Current Population Survey (CPS). The CWS is designed to shed light on individuals working in nonstandard jobs.

The June 10 workshop covered several topics central to the panel's charge to review the CWS and other data sources, as well as methods surrounding the measurement of alternative work arrangements (AWAs). Workshop sessions included presentations on (1) the policy context for measuring alternative work, (2) measures of worker well-being, (3) employer and broader market issues, (4) insights about alternative work from other (non-BLS) surveys, and (5) use of administrative data that may substitute for or complement survey data. The sections of this summary correspond to the workshop sessions, in the same order as they were conducted.

B.1. THE POLICY CONTEXT FOR MEASURING ALTERNATIVE WORK

Following an overview of the study charge by the panel chair, **Susan Houseman**, Session 1 examined the policy context for measuring alternative work. Houseman reminded meeting participants that the CWS was created

in response to concerns during the 1980s about the changing nature of employment and its implications for workers and public policy. This means that concerns today about the changing nature of employment are not new, although the characteristics of AWAs have evolved, raising new issues.

During this opening session, presenters offered perspectives on what information policy makers need to know and what questions remain unanswered—for example, how many people engage in supplemental work and what their motivations are. Methodological considerations that allow data to be translated into policy (for example, collecting data that is representative at the state level) were also addressed; and definitions and boundaries for different categories of work were discussed, such as the categories of "contingent," "independent," and "web-mediated."

Carolina F. Young, policy advisor, Office of U.S. Senator Mark R. Warner, kicked off the session, discussing legislative developments relating to alternative work. Senator Warner is honorary co-chair of the Aspen Institute's Future of Work Initiative, and his office has been active on issues pertaining to gig work. Young updated the panel on her work in Senator Warner's office on relevant initiatives—such as proposed legislation that would direct the U.S. Treasury to study tax issues for gig economy workers—and the kinds of data needed to inform this work.

Young noted that Senator Warner has been actively engaged with such issues as the changing nature of work and the relationship between employers and workers for a long time. Recently, the senator's office has been focused on the rise of the gig economy, the impact of platform-based companies on flexible work arrangements, the opportunity for people to subsidize W-2 employment, and other issues related to the future of work in the 21st century economy. Warner has also expressed concern about the access that gig workers and other independent workers have to basic benefits, which are more typical of regular W-2 employment.

Young described three initiatives by Senator Warner's office of particular relevance to the panel's charge. The first stemmed from the fact that when the senator started working on these issues in 2015, the most recent CWS data were from 2005. Tax data, if accessible, would offer the potential for better year-to-year information about trends in wages and numbers of workers in nonemployer work. To explore this idea, the senator introduced legislation in 2018 to direct the U.S. Department of the Treasury to conduct a study of nonemployer business income.[1] The study was not to be limited to the gig economy or platform-based work but would look at a much broader universe of employment. The senator directed Treasury to include,

[1]The U.S. Census Bureau defines nonemployer businesses as businesses with no paid employees, having annual business receipts of $1,000 or more ($1.00 or more in the construction industries) and subject to federal income taxes.

in this study, a report for the Senate Committee on Finance and the House Committee on Ways and Means, to evaluate the following:

- Tax compliance from nonemployer business income, including whether there is significant overreporting of nonemployer business income from underutilizing allowable deductions and other tax benefits (if feasible, the study would break out the same information for income earned through online and mobile platforms);
- The current tax withholding reporting and tax-filing systems to identify how they should be updated to reflect the growing number of workers earning nonemployer business income; and
- How the earnings of wage income and nonemployer business income had changed over time, specifically dividing by income decile, and analyzing at least the most recent 10 years of available tax filing information.

The above-described kinds of information are not typically available to policy makers, Young noted, and this legislation was introduced to remedy that, providing insight into these different income streams. Moreover, policy makers would often prefer to work with federal agency data instead of having to rely on private proprietary data.

The second initiative by Senator Warner was a request that the U.S. Government Accountability Office (GAO) undertake a study of the platform workforce and how it deals with tax issues. Young noted that, for the workers engaged in this part of the labor force, complying with tax requirements or even understanding how to do so can be daunting. Senator Warner's office also wanted the study to address how employers and organizations, which include independent contractors, comply with the tax system. Complications may be especially acute for form 1099-K earnings (introduced through the 2008 Housing and Economic Recovery Act) which involve third-party payment or service processors such as PayPal, for example. To alleviate the burden of requirements for companies, the threshold for reporting on 1099-K forms was set at over 200 transactions and over $20,000 in sales over the course of a year. Since many people engage in platform or other kinds of contract work on an *ad hoc* basis, sometimes to supplement W-2 wages, many do not meet the $20,000 a year threshold, and these workers typically do not get a tax form for that work.

The requested GAO study would address several core issues. It would analyze the available information on tax compliance of the platform workforce to help understand the level of underreporting and overreporting from workers earning income through platforms. It was also hoped that the paper would analyze the reporting regimes for tax withholding, tax filing, and current taxation to identify how they could be updated to reflect the

growing size of the platform workforce and any additional challenges and costs faced by the platform companies in complying with potential updates. Young reported that GAO has accepted this study request and is moving forward.

The third initiative from Senator Warner's office seeks to address broader trends in the economy, such as how market forces encourage companies to prioritize short-term returns and, potentially, to have less loyal relationships with workers. Policy makers at the federal level are now trying to figure out what can be done about benefits such as workers' compensation, paid leave, and retirement accounts for people engaged in jobs ranging from Uber drivers, to freelancers, to domestic workers. According to Young, the senator is broadening the scope of his thinking to include ways policy can help the entire contingent of workers in the nonemployee workforce. He has introduced legislation to create an innovation seed fund at the U.S. Department of Labor that would award grants to states, cities, and nonprofits interested in experimenting with the delivery of worker benefits to the alternative workforce. This would allow the current patchwork system of benefits at the state level to encourage more innovation at the local level that, in turn, could be adopted and scaled as federal solutions. However, it is currently difficult for policy makers to know how best to proceed without the data needed to understand the issues.

Young concluded her presentation with this summary take-away: Policy makers are, in fact, engaged on this topic, and they will be moving forward with legislation and advocacy of various kinds. As they do this they are making a series of assumptions about what the alternative worker population looks like, either through a tax lens, a worker-benefits lens, or an employer classification lens. The data piece is particularly important for these policy makers, she believes, as they attempt to build a consensus on how to move forward in a way that is helpful to this population of workers.

Following Young's presentation, BLS Commissioner **William Beach** pointed out that his agency is fully engaged on this issue and would do all it could to be good partners in finding the necessary data to support research and policy. He asked Young which Senate committees would be dealing with the issues she discussed. She explained that finance questions around tax and compliance would be handled by the Senate Finance Committee, while benefits would fall within the purview of the Senate Committee on Health, Education, Labor, and Pensions.

Next, **Alastair Fitzpayne**, executive director of the Aspen Institute's Future of Work Initiative, and **Shelly Steward**, research manager for the initiative, updated the workshop on their initiative's plans. The Future of Work Initiative, which seeks to identify policy solutions to the challenges facing workers in the 21st century, has produced and maintains the Gig Economy Data Hub, in partnership with the New York State School of

Industrial and Labor Relations (ILR) at Cornell. This hub is an online resource that provides accessible summaries of data sources on independent and nontraditional work.

The initiative's taxonomy of "nontraditional work"—identified in terms of employment classification, U.S. Internal Revenue Service (IRS) and BLS designations, and a set of job characteristics—is summarized in Figure B-1. Within this taxonomy, it is apparent that nontraditional work includes a wide variety of job types and occupations. They fall under five BLS categories: part-time, on-call, temporary help agency, contract employee, and independent contractor. Recently, in order to address worker issues that arise, the institute's team has focused on portable benefits, tax simplification for independent workers, and worker training tax credits. They recently released a report on this subject, *Designing Portable Benefits: A Resource Guide for Policymakers.*

Fitzpayne noted that the Future of Work Initiative, which is nonpartisan, has been analyzing what changes in the nature of work could mean for our economy and labor market and what policies may be needed to prepare for the transitions. The project has focused on three trends: first, the fracturing relationship between workers and employers; second, the increased importance of access to skills and education as new technologies and increased automation change the world of work; and third, the market-based pressures that companies face to produce short-term profits rather than long-term value. Because the social contract between workers and employers has weakened, the initiative has proposed policy solutions aimed at improving economic security for both traditional and nontraditional workers.

Fitzpayne pointed out that well-designed policies require a better understanding of how our workforce is changing. With both the 2017 CWS data and recent academic research, more is known now than several years ago, but there are still unanswered questions and confusion among policy makers and the general public about how work arrangements are changing. Different sources, including those from government, academia, and the private sector, ask different questions and apply different definitions to the category of nontraditional work, and that makes it difficult to understand trends and identify solutions.

Echoing Young's remarks, Fitzpayne noted that one central challenge for nontraditional workers is their ability to access workplace benefits and protections. Given the instability inherent in much of their work, nontraditional workers have a great need for workplace benefits, yet they have some of the lowest rates of coverage. BLS's National Compensation Survey, conducted quarterly to collect information from establishments on pay and benefits provided to employees, has shown an overall decline in employer-provided benefits over the past two decades, most notably in

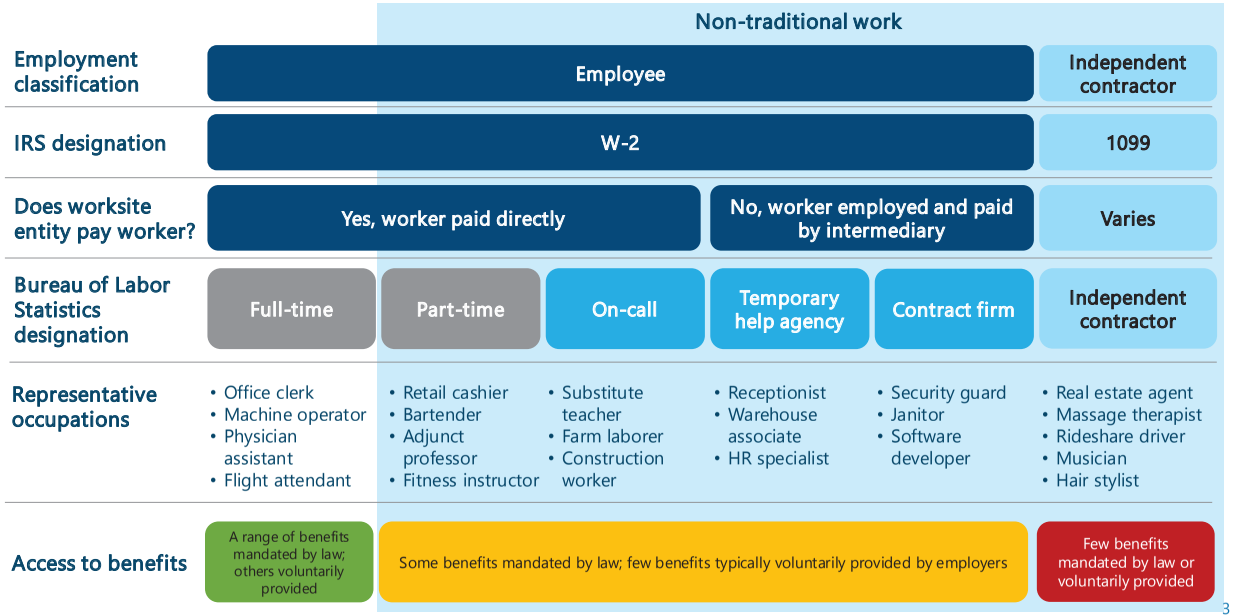

FIGURE B-1 The nontraditional work landscape.
SOURCE: Fitzpayne and Steward presentation.

health insurance and retirement. This trend means workers today are facing more economic insecurity than prior generations of workers. Available data suggests to Fitzpayne that these challenges have been felt particularly acutely by nontraditional workers, including temps, subcontracted workers, and independent contractors. This problem might be addressed by several approaches, including one put forward by the Future of Work Initiative as a promising solution in today's labor market: portable benefits that can be taken from job to job. Effective portable benefits policies, though, depend on a solid understanding of how people are working and what their needs are.

Shelly Steward, research manager for the Future of Work Initiative, spoke about the project's efforts to connect policy makers with relevant data sources. She described the initiative's Gig Economy Data Hub, created to provide an accessible and comprehensive summary of available data and research on gig, independent, and nontraditional work in the United States. The data hub seeks to provide summary answers to basic questions of interest to a range of stakeholders, including policy makers, journalists, students, and the general public. Among the key questions of interest are these: How many nontraditional workers are there? How many of them do this work to supplement other employment? What industries do they work in, and what is their demographic makeup? And, what are the motivations for nontraditional work, especially supplemental work, and how does that vary across income levels and other demographics? The initiative has partnered with Carnegie Mellon University to add interactive data visualizations on the site as well, using the 2017 CWS numbers, to allow people to look at these data in new ways.

Steward reiterated a point made by Young: that there are very different policy implications if people need benefits attached to nontraditional work because that is their primary source of income, as compared to when they are seeking supplemental work because reliance on a traditional job alone does not provide adequate financial security and benefits. Informal or under-the-table work, which is not well captured in official statistics, may be disproportionately performed by the most vulnerable segments of the population. Data, including at the state and local level, are needed to quantify this assertion and to assess variations among regions and cities and between rural and urban areas. Toward this end, Steward reported, the National Governors Association has a consortium (currently involving 10 states) working to improve knowledge within their states about on-demand and nontraditional workforces

Steward concluded with an overview of the ways better data could be helpful to policy makers working on portable benefits, which are defined by these characteristics:

- *Portability*: Benefits are connected to an individual, rather than to a single employer, and can be taken from job to job;
- *Prorated*: Benefits are provided in proportion to work performed and can be funded from multiple sources; and
- *Universal*: Benefits are accessible by all workers, regardless of work arrangement.

Several states have introduced bills to create portable plans, and also to make existing programs, such as a state paid-leave program or a state auto-enrollment retirement account, more accessible to a wider range of workers. Key questions that remain to be sorted out include: What benefits will be included in a new plan? Who would be eligible for these benefits? How will the benefits be funded? And, who will administer them?

Panel member **Michael Strain,** who led the open discussion, pointed out that a number of state-level policies have already been enacted, or an attempt was made to enact them, to redefine who is an employee and who is an independent contractor. The ground is shifting, as players at various levels of government are using different models with different built-in assumptions about how workers should be categorized, and this is complicating the measurement of phenomena, especially across time. Fitzpayne confirmed that this is the case, with work being done by different states that is moving in different directions concerning the definition of nontraditional work.

Steward agreed and noted that this points to the need to have data that do not rely on formal, established categories of employment, which are constantly shifting. Instead, the focus should be on job characteristics: Do these workers have access to benefits? Do they have channels through which they can access workplace protections or take action should they run into a problem? These questions, Steward suggested, are more about the job experience than about formal categories that can change. Panel member **Annette Bernhardt** stated that California is deep in policy design discussions concerning independent contractors, and one factor blocking progress there is that people do not understand how varied the set of independent contractors is—across the income spectrum, by industry, by demographic group, and by age.

Strain argued that some balance was needed when identifying key measurement objectives. He pointed out that, along with the challenges created by emerging AWAs, there are also positives: For example, people value the flexibility, and people value being their own boss. When thinking about measurement objectives, those considerations should be part of the overall picture. Strain agreed that worker benefits and tax compliance are important measurement objectives, along with wages, but he urged the committee to also consider the perspectives of businesses, both platform companies and businesses that employ contractors and contingent workers.

Other questions that he urged be looked into: How does the growth of contingent work affect traditional W-2 employers? What sorts of measures from their perspective would policy makers need to know?

Strain also posed several fundamental questions about the workforce that current surveys fail to adequately get at: Are workers satisfied with their jobs? Are they working part time for economic reasons? Are those who are working part time satisfied with the hours they are getting? Are the jobs that workers are currently holding perceived to be part of their longer-term career goals? Answering worker satisfaction questions of this type could be an important measurement objective as well.

Julie Hatch Maxfield, assistant commissioner for current employment analysis, noted that the CWS does ask workers about preferences and benefits—health care and retirement being the two topics on which BLS has traditionally focused. BLS commissioner **William Beach** noted the importance of not confining research on AWAs to any one statistical agency, and argued that the CWS is an ideal project to view through the lens of the Commission on Evidence-Based Policymaking (2017), calling for greater collaboration among the statistical agencies. He was optimistic that recommendations from the Commission's report, *The Promise of Evidence-Based Policymaking*, would spur progress among the principal statistical agencies to improve measurement by combining data sources. Beach reported that the agencies were trying to design the right kind of guidance language and inspirational vision statement to do this.

Panel member **David Weil** raised an additional issue affecting data needs. The employment categories, particularly the representative occupations identified in Figure B-1, are constantly shifting, even within different types of employment structures. Even when one is able to determine which category a job is in, the wage structures in the nontraditional sector will increasingly affect wage structures in the traditional sector. Ultimately, the concern should be with broader phenomenon in the labor market—such as employment volatility, earnings, and benefit coverage—not with how jobs are labeled. Someone employed in the same occupation or the same industry may affect the wages and benefits of other people even if they are working under different employment models. How one thinks about this classification issue ultimately affects questions about the outcomes and questions the data are being used to answer.

B.2. MEASURES OF WORKER WELL-BEING

A discussion of policy issues affecting worker well-being continued with a presentation by **Susan Lambert** (University of Chicago, School of Social Service Administration). Among the broad spectrum of public policy issues associated with different types of worker arrangements is the problem of

unpredictable work schedules. This particularly affects the well-being and security of low-income and low-skill workers. Lambert discussed measurement challenges and the need to inform public policy around work-hour standards. She advocated the benefits of a multidimensional approach to estimating the prevalence of different types of work arrangements, especially those common at the lower end of the labor market. She also spoke about new items in the National Longitudinal Survey of Youth-97 and 2016 General Social Survey (GSS) to capture information about problematic scheduling practices.

Lambert's comments focused on questions related to the timing of work—when people work, how much they work, and who controls the outcomes. She noted that, even when hired directly by firms, workers' hours can be unpredictable, unstable, and scheduled on call. U.S. employers do not need to have special job categories or tax arrangements to provide workers with what is essentially temporary employment and demand-driven work hours.

To improve measurement, Lambert discussed the potential value of asking more detailed questions about work schedules in the CWS so that it would be possible to differentiate the form of employment arrangements from their functions. One goal would be to facilitate comparisons across standard and nonstandard alternatives even when jobs are not categorized consistently (either through time or across states or countries).

Lambert and colleagues have been studying the nature of work time and evaluating new "fair work week" legislation, which many cities now have. They have examined the different dimensions of working time and attempted to devise some core measures. The three dimensions of working time they identify are:

- *Quantity*: the number of weekly hours where, at one end, the worker is underemployed and at the other end, the employee is overworked;
- *Timing:* which may be either standard or nonstandard, where the majority of hours fall outside the hours of 9 to 5, Monday through Friday; and
- *Stability*: characterized by consistency in the number of hours, days of the week, and times of day; also, by consistency in the magnitude and direction of variation in the number of hours.

These dimensions of work can have serious ramifications for a worker's economic security; as can predictability—the ability of workers to anticipate when they will and will not work—and the amount of input employees have in setting the number and timing of the hours. Lambert summarized what is known about the relationships of these different dimensions

to worker well-being and performance. Key among her findings are the following:

- Schedule unpredictability and instability are related to higher levels of stress, work-to-family conflict, and interferences with nonwork activities;
- For parents, schedule unpredictability makes it difficult to arrange reliable child care and to participate in family routines important to child development;
- An unpredictable and unstable schedule can mean unpredictable and unstable earnings; too few hours leads to too little income, and to economic insecurity;
- Evidence from a retail firm case study by Lambert and colleagues suggested that improving schedule stability and predictability can improve labor productivity.

In terms of survey measurement, a key observation is that national surveys are limited in capturing dimensions of working time. Surveys typically focus on "usual or typical hours" and are designed intentionally to smooth rather than reveal variations in work hours. Recently, items have been added to the NLSY-97 and the 2016 GSS that allow researchers to partly identify the magnitude and direction of fluctuations in weekly work hours, the extent of advance notice, and input into the number of hours. Respondents are asked, for example: What are the greatest number of hours you worked in a week in the last month, and what are the fewest number of hours you worked (not counting illness and vacation)? Or, How far in advance do you usually know what days and hours you'll need to work?

The 2016 GSS hourly data indicate that 82 percent of respondents give a different number of hours for the greatest and fewest hours they worked in a week. The average difference between those two is 13 hours, which amounts to 37 percent of their reported usual hours. Fifty percent of respondents reported a difference of 8 or more hours, which is more than a full day of pay. This indicates how irregular hours are for some workers. Additionally, about 50 percent of people reported that their employer controls the timing of their work, meaning they have little or no input into their number of hours.

By looking at constellations of work-scheduling practices, Lambert and colleagues attempted to translate these responses into categories of employment. They found that on-call and on-demand workers display two qualities: There is variation in either the number or the timing of hours worked; and the hours are not controlled by the employee, but rather by the employer. In addition, hours are often set with only short notice. The researchers then compared this kind of multidimensional definition to the

direct approach used in the CWS question that attempts to measure on-call work. The CWS asks each respondent if they were an "on-call worker last week?" Beginning in 1997, a follow-up question was added that asks if hours are "regularly scheduled?"

As indicated in Table B-1, the 2017 CWS identifies 1.9 percent of respondents to be on-call workers. If the additional restriction—of having no regularly scheduled hours reported—is included, the figure drops to less than 1 percent. This means that half of the people who said they only work as needed also reported that they have some regularly scheduled hours.

In Lambert's multidimensional approach to defining on-call workers, which they used in the GSS and which has also been used in the Federal Reserve's Survey of Household Economics and Decisionmaking (SHED), the figure for the number of workers reporting less than 7 days' notice jumps to about 15 percent. For less than 1 day's notice, the figures for the two surveys are 6.4 percent (GSS) and 5.1 percent (SHED). Almost a quarter of workers reported that volatility that was at least 25 percent of their usual hours; about 11 percent reported that their hours varied in the last month by more than 50 percent of their usual hours. This means that the majority of people in the labor market effectively performing on-call or on-demand work are in a so-called conventional standard employment

TABLE B-1 Alternative Methods for Counting On-call or On-demand Workers

	CWS (2017)	GSS (2016)	SHED (2017)
On-call Work (form/category)			
Only work as needed (%)	1.9		
No 'regularly scheduled' hours (zero hours contract) (%)	0.8		
Multidimensional			
On-call Work (unstable hours/ no EE input/short notice)			
Notice < 7 days (%)		14.9	14.9
Notice ≤ 1 day (%)		6.4	5.1
On-demand Work (unstable hours/ no EE input/considerable volatility in hours)			
Volatility ≥ 0.25 usual hours (%)		22.7	
Volatility > 0.50 usual hours (%)		10.7	
N	41,722	493	5,120

SOURCE: Fugiel and Lambert (2019).

relationship. There is a blurring of lines in terms of what is standard and what is not standard.

Lambert suggested that if the CWS were to look at different dimensions of work schedules, it would offer a way to start teasing out the unique features of different kinds of employment relationships. It would also provide a way to make comparisons internationally to other countries that have even more different titles for the kinds of jobs people hold.

The workshop focus turned next to worker safety. The National Institute for Occupational Safety and Health (NIOSH) has led efforts to develop a taxonomy of work arrangements to examine their relationships with worker safety, health, and well-being. NIOSH is a prominent user of CWS/CPS data for its work identifying high-risk categories of workers, including those in industries and occupations with a high prevalence of AWAs.

Tim Bushnell, Economic Research and Support Office, and **Toni Alterman**, Division of Surveillance, Hazard Evaluations and Field Studies, represented NIOSH during this session. Bushnell's talk covered NIOSH programmatic interests in work arrangements, including its Healthy Work Design and Well-Being Program; its work defining specific dimensions of work arrangements; the value of adding new questions to existing surveys concerning job dissatisfaction and reasons for quitting; and the role of the CWS and other data sources for NIOSH research related to work arrangements.

In addition to tracking patterns in occupational injuries and illnesses and the hazards and exposures related to them, NIOSH also devotes attention to organizational and managerial risk factors. The agency is interested in characteristics of work arrangements, not just because of their potential relationships with poor pay, benefits, and job security, but because of possible links to health and safety and other aspects of well-being.

The Healthy Work Design and Well-Being Program, still in formation, is the agency's central vehicle for addressing concerns about work arrangements. Bushnell described the well-being outcomes connected to work design as including not only the traditional concerns with illness and injury but levels of physical, cognitive, and behavioral function, economic well-being, work/life fit and conflict, positive social experience, fair treatment at work in various forms, and intrinsic work rewards.

The Healthy Work Design and Well-Being Program defines standard work arrangements as fulfilling specific job conditions for the worker. These are employee status; secure, career oriented; adequate and stable pay; inclusion of health insurance and retirement benefits; regular, full-time schedule; adequate schedule flexibility; and paid leave. A nonstandard work arrangement is one that deviates from this standard arrangement definition.

Bushnell echoed Lambert's point that examining the dimensions or characteristics of work, and not the formal categories, is most useful for their analyses. In addition to pay, benefits, and job security, he identified

the key work schedule dimensions: total work hours; shift type (e.g., day, evening, night, rotating, split); predictability of work hours; and work flexibility (e.g., sick leave, number and choice of days, and hours off). Bushnell cited evidence of the impact of work schedules on health. The effects on sleep quality and quantity, which are linked to a wide range of outcomes, are most obvious, but exercise, diet, smoking, substance use, and impact on work/life fit and conflict are also important considerations.

Bushnell pointed to evidence that NIOSH has observed distinctly higher injury rates among temp agency workers relative to their permanent counterparts. After adjusting for occupational differences, the injury rates of temp workers are about twice as high, he said. Temp workers actually tend to have less frequent exposure to job hazards but, on average, have less safety training and less selection for their jobs based on their experience.

Bushnell also discussed the distinction between employee and self-employed status, as well as the distinction between different forms of self-employment, noting that the agency is interested in obtaining better data on the number of employees misclassified as independent contractors, and about which industries and occupations they work in. These employers do not carry workers' compensation insurance, they have less incentive to emphasize safety, and they lack other standard benefits and protections. Bushnell reported that the self-employed generally express a high degree of satisfaction with their work arrangement, but they also experience a work-related fatality rate that is four times as high as the conventionally employed. To better track these trends, NIOSH supports the idea of including on surveys a question on receipt of 1099-K tax forms or other means to identify misclassified workers, or simply to identify workers who consider themselves employees but are paid as independent contractors.

Bushnell also raised the possibility of surveying respondents about other key dimensions of AWAs, including split or shared responsibility for supervision, and form of compensation. Split responsibility for supervision may be present for contract workers placed under the management of a company that is a client of the worker's direct employer, or workers who are supervised in part by other parties such as a customer, supplier, franchisor, software platform, or other contractors on the same worksite. The concerns with split or shared responsibility for supervision are about potential for lack of coordination of supervision, lack of understanding of supervising parties of all of the risks to workers, or failure to take sufficient responsibility for worker safety, health, and well-being. A general question on split supervision might ask workers whether, besides the employer who pays them, there is any other company or organization that also supervises or directs how they do their job. The form of compensation (as opposed to its amount) can affect safety, health, and well-being because it has the potential

to create incentives that undervalue safety and health as compared to speed and productivity or lead to stress and overwork.

Bushnell also described questions that could be added to surveys about workers' job dissatisfaction—including reasons for leaving a job or looking for another job—which would be useful in indicating negative working conditions associated with all work arrangements. Such questions could also provide information about unfair treatment, excessive work demands, the physical and social work environment, schedule flexibility, and the safety and health risks of work. The complexity of job acceptance and quit decisions also allows multiple factors related to working conditions to be identified by respondents. Bushnell believes it would be useful to elicit salient information about dissatisfactions with current jobs from workers who are not planning to leave their jobs, since many aspects of discontent do not get expressed in job change.

Next, Bushnell turned to the role of the CWS and other data sources in NIOSH Work Arrangement Research. The CWS is useful for estimating the potential magnitude of work arrangement risks and the industry and occupation "location" of specific work arrangements. The CWS currently asks respondents if they are "registered with more than one temporary help agency last week?" Bushnell suggested a follow-up question—"How many temporary help agencies were you registered with last week?"—would potentially be valuable to NIOSH, since the nature of employment relationships changes with the number of agencies worked for.

One key initiative of the agency is its sponsorship of the Occupational Health Supplement to the National Health Interview Survey, one of the major data collection programs of the National Center for Health Statistics of the U.S. Centers for Disease Control and Prevention (CDC). This supplement was fielded in 1988, 2010, and 2015. The plan going forward is to ask at least 6 or 7 questions about work arrangements in 2020 or 2021.

Bushnell's colleague, **Toni Alterman**, listed and described the measurement constructs proposed by NIOSH for 2020/2021 as follows: (1) self-employment; (2) working for temporary help or staffing agency; (3) job insecurity; (4) organizational justice, distributive justice/effort-reward; (5) shiftwork (usual shift); (6) mandatory overtime; (7) schedule flexibility; (8) income variability; (9) presenteeism (working while physically ill); and (10) schedule predictability.

Questions of interest for the future would address additional matters: (1) extra shift on short notice; (2) desired hours of work (more or less); (3) method of payment (salary, hourly wage, tips, commission, etc.); (4) financial stress (adequacy); (5) supervisors from multiple organizations; (6) presenteeism (working while having mental health problems); (7) work engagement (vitality); (8) type of employer or self-employment; and (9) use of electronic monitoring by supervisors.

Bushnell concluded with a discussion of the Quality of Work Life Survey module of the GSS (2002, 2006, 2010, 2014, and 2018). He noted that what is especially valuable to NIOSH is knowing the industry and occupation location where different kinds of work arrangements prevail. This project began through an interagency agreement with the National Science Foundation to add a special module assessing the quality of work life in America to the 2002 GSS. Because the GSS is a relatively small sample survey, it does not produce industry and occupation detail, but it does contain rich descriptions of working conditions that uncover national trends. As with the CWS, the GSS module showed a flat trend in the growth of explicitly named nonstandard categories of work arrangements.

B.3. EMPLOYER AND BROADER MARKET POLICY ISSUES

The new economy requires policies designed to make new employment models work well not just for employees, but also employers who hire them and for the markets in which they operate. Kicking off this session, **Gene Zaino**, founder and executive chairman of MBO Partners, spoke about his organization's work on key policy issues shaping the independent workforce movement that need to be informed by data collections, as well as about how to think about different categories of workers (e.g., part time and full time) within this movement.

MBO Partners provides an end-to-end business management platform for independent workers and the enterprises with which they engage. Collaborating with the firms Emergent Research and Rockbridge Associates, MBO Partners has been conducting research on the independent workforce for about 9 years. The firm's top-level findings, as summarized by Zaino:

- Independent work is a vibrant source of economic growth;
- Independent work satisfaction is high (most independent workers choose to work independently); and
- Measuring all segments of employment is important for effective policy.

MBO Partners estimates that, in 2018, full-time independent workers generated $1.28 trillion of revenue for the U.S. economy, more than 6 percent of gross domestic product (GDP). The organization estimates that about 15 million workers are "occasional independents" (e.g., doing "side gigs"), about 10.8 million workers are part-time independents (working regularly, but fewer than 15 hours per week), and about 15.3 million workers are full-time independents (working regularly, greater than 15 hours per week).

Zaino discussed four features distinguishing regular employees from independent workers:

- *Relationship with the firm where they work*: The regular employee has an extended or permanent relationship; the independent worker is project-limited;
- *Risk*: The regular employee does not realize profit or loss; the independent worker incurs profit or loss from a project;
- *Control of work process*: A regular employee's manager has control over work; the independent worker's manager does not control the work process; and
- *Integration*: The regular worker is part of the company's regular business; the independent worker is outside the company's regular business.

Among full-time independent workers, MBO Partners surveys find that 21 percent earn more than $100,000 per year. This subgroup, unsurprisingly, reports high levels of job satisfaction. A high percentage of full-time independent workers also report that they engage in independent work by choice (81%) and that working on their own is better for their health (68%). Zaino emphasized that, in his interpretation of MBO Partners research, people are engaging in independent work in large part because there is a positive side to it.

Zaino also addressed the business perspective. He cited the Deloitte Global Human Trends Survey (2018), in which 84 percent of surveyed businesses reported anticipating the use of independent professionals to increase or stay the same by 2020. Similarly, Mercer's 2019 Global Talent Trends Study indicated that 79 percent of executives expect that contingent and freelance workers will substantially replace full-time employees in the coming years. Zaino's view was that companies are using independent workers not just for cost reasons, but also for agility and for competitive advantage.

The MBO Partners perspective is that policies are needed that reflect economic realities and that do not restrain independent workers and the global advantage of U.S. firms that engage them. One goal, Zaino suggested, should be to protect the lower-paid, routine commodity workers who are vulnerable to abuse as part of a "race to the bottom," while enabling on-shore economic growth for the higher-paid, nonroutine work where workers have choices.

To inform this policy area, Zaino advocated that BLS collect data on businesses' use of independent workers and on various workforce segments. He believes information is needed in three areas: (1) workforce configuration—full time vs. part time and occasional, serving consumers vs. businesses, routine microprojects vs. skilled; (2) motivation for independence—reluctant, forced vs. chosen, primary income vs. supplementing other work income; and (3) hourly income levels associated with

different jobs. Zaino also spoke about the need to simplify and harmonize worker classification, a theme echoed by many of the speakers.

During open discussion of the Lambert, Bushnell, and Zaino presentations, panel member **Arne Kalleberg** reiterated the point that looking at the work categories themselves is not as useful as one would think, because they are ever-changing. Since there are good jobs and bad jobs even in "standard employment," he argued, the discussion of contingent or nonstandard work is tangential to what the real issues are: the nature of work, how the nature of work is changing, and which aspects of work affect people's lives in terms of health, stress, and family life. It is these characteristics, rather than the type of work arrangement, that should shape the measurement objectives, Kalleberg argued.

Panel Chair Susan Houseman asked Lambert, who had made a compelling argument for collecting data on irregular, unpredictable work schedules, if there was value-added to including such questions on the CWS, given that the information is collected on various other surveys such as the GSS and the NLSY. Lambert responded that researchers do use the CWS and the CPS to try to get at this issue, and the supplement should be more focused on these types of jobs than a broader, nonemployment-specific survey would be. For example, the CWS already identifies on-call workers, which would not be done in the NLSY or for most other datasets. Adding such a question in the context of the CWS would allow users to look at the similarities and differences across the range of employment arrangements.

Panel member **David Weil** followed up with Zaino to ask about the respective roles of worker and employer (or establishment) surveys. He referred to the Mercer's 2019 Global Talent Trends study, discussed by Zaino, which reported that CEOs planned on moving aggressively to increase their use of contingent and freelance workers. In fulfilling measurement needs in this area, Weil felt it was clear that household surveys would not suffice to answer all the questions, such as how businesses are making decisions. Zaino agreed that business surveys are needed to understanding staffing decisions to use nontraditional workers which, again, he suggested are cost-based but also, in some cases, about accessing talent. Some types of workers, such as those in creative technology fields, are in high demand and do not necessarily want to be restricted to arrangements with only one company.

Panel member **Kristen Olson** asked Lambert if, in her surveys of hourly workers, she has been able to check the accuracy of responses regarding number of hours worked against payroll or other records. Lambert replied that her team had established that workers' responses were accurate—even accessing information on the actual times when workers clock in and out every day—which helped them convince BLS to add questions about fluctuating hours to their surveys. Lambert implied that people's perceptions of

how much their hours vary were less consistent, although they correlated closely with the actual variation.

B.4. INSIGHTS ABOUT ALTERNATIVE WORK FROM OTHER (NON-BLS) SURVEYS

Building on what was learned from BLS experts during the panel's first meeting, this session included presentations intended to help the panel assess the range of questions that can best be answered using household surveys and to identify which questions require other kinds of data, such as those derived from employer surveys, administrative/tax records, and commercial sources.

Panel member **Barbara Robles** began the session with an overview of the Federal Reserve Board surveys, focusing on results from the 2018 SHED. The Division of Consumer & Community Affairs at the Federal Reserve Board has fielded the SHED for 3 straight years in an attempt to measure the extent of and reasons for engagement in alternative, enterprising, and informal work activities.

Ipsos, a private consumer research firm, administers the SHED survey using its KnowledgePanel, a nationally representative probability-based online panel. Ipsos selects respondents for this panel based on address sampling, and SHED selects respondents from this panel. The respondent sample for the 2018 survey's "gig work" module was 3,152, from a total sample of 11,316 respondents, with a cumulative response rate of 4.3 percent. SHED attempts to be as inclusive as possible concerning categories of employment. The 2018 version of the module evolved from an exploratory stand-alone survey fielded in 2015, called the Enterprising and Informal Work Activity Survey, designed to pick up enterprising activity—that is, when people generate jobs for themselves. This survey had estimated that a high percentage of workers (36% in 2015) take part in freelance work.

Robles noted that some of the SHED questions on gig work were revised from those asked in 2016 and 2017, so time-series comparability is limited. Five percent of the survey's screener respondents[2] reported engaging in gig work providing child or elder care services; 3 percent engaged in dog walking, feeding pets, or home sitting; and 6 percent reported doing house cleaning or yard work. Driving or ride sharing, reported in a stand-alone question introduced in 2017, was reported by about 3 percent of respondents. Activities done online—any kind of paid online task—were reported by 4 percent. Selling goods at flea markets and garage sales was indicated by 5 percent of respondents; selling goods at consignment by 3 percent; and selling goods online (such as on eBay) by 10 percent. Four

[2]The screener questions were asked of the full SHED sample.

percent reported renting property. Among the subgroup of respondents reporting they had engaged in gig work, a high percentage of the activities appear to have involved selling items they no longer had use for. The other large response category, accounting for 22 percent, was house cleaning, yard work, and property maintenance.

Strain raised the point that it is important to differentiate between income and labor earnings. Income can result from selling an old bicycle on eBay, yet that is not generally the kind of economic activity that official statistics try to capture. Strain added that asking questions about why people engage in alternative work is very useful for understanding the labor market, and also because the variety of reasons have very different policy implications.

The survey also asked why respondents engaged in the gig work. This was done using two separate types of questions: One allows gig respondents to provide a reason why they are motivated, using an open-ended format; the other provides a checklist for all that apply. The survey also asks respondents for a main reason for engaging in gig work. About 50 percent of respondents reported that they were motivated to supplement income; 35 percent reported that they wanted to sell items they no longer needed; and a substantial 21 percent reported that the money earned was their main source of income. When respondents were asked to indicate only one reason, the "main source of income" motivation dropped from 21 percent to 18 percent, and the answer, "to earn money supplementally," dropped from 50 percent to 37 percent. Motivating factors varied somewhat by income category—40K and under, 40K–100K, 100K and over—and by ethnicity and race as well. Earning money to help family members was the most frequent response among the under-40K income group.

To conclude, Robles posed a set of questions for further research to guide design of the SHED. Are the right questions being asked and in ways such that respondents can convey how they see themselves: as workers, income generators, or both? If individuals are engaged in multiple forms of AWAs, how do we assign them "one" category?

The use of online probability panels remains a much-discussed issue among survey methodologists, researchers, and statistical agencies. Given the declining response rates in many paper and phone survey collection efforts, and given budgetary constraints, online surveys have increased in recent years as respondent pools have also become more adapted to internet and smartphone use. Robles pointed out that the digital divide remains an area of concern, both for respondent representation (do such respondents accurately represent the populations with no connectivity?) and for the acculturation of respondents presumably representing the "unconnected" populations.

Cynthia Davidson and **Steve Berchem** of the American Staffing Association (ASA) presented next on survey and policy work at their organization, which is headlined by the ASA Staffing Employment and Sales Survey (SESS). This survey, conducted on a quarterly basis since 1992, collects information from staffing firms to estimate temporary and contract staffing industry employment, sales, and payroll.

Berchem defined staffing companies as those that employ temporary and contract workers. In 2018, sales for the industry—which includes temporary and contract staffing as well as permanent placement services—amounted to around $167 billion. Temporary and contract staffing employees account for about 2 percent of the nation's nonfarm workforce, or about 3 million people per day or per week. Over the course of the year, however, because turnover is around 400 percent, the industry employs about 17 million people. Berchem noted that, for those employed by staffing agencies, around 80 percent of temporary and contract workers work full time, and the majority are W-2 employees (meaning they are typically not platform employees for example). A similar proportion of temporary and contract workers come to staffing companies as a way to transition into a permanent job. Most assignments are 10 to 12 weeks, and most staffing employees come to work for a staffing company for one assignment with one staffing firm, and then they leave, presumably to go take the job permanently. Echoing a point made by Zaino when discussing firms hiring independent workers, Berchem stated that clients use staffing firms primarily to gain access to talent that they would not have otherwise; cost reduction is typically a secondary factor.

According to Berchem, the impetus for ASA developing the quarterly SESS occurred when BLS temporarily suspended its measuring of the staffing industry in 1990. (BLS resumed measuring it in 2000, reconstructing and publishing a series for the 1990s.) Meanwhile, ASA had already established its survey, which was created for it by DRI McGraw Hill.[3] Having data collected by a third party is important for the purpose of keeping information provided by the staffing companies secure and private; ASA staff do not see information for individual companies.

The SESS is a stratified sample of about 100 companies of various sizes (encompassing about 10,000 establishments) drawn from the U.S. Census of Business. The survey is now a web-based instrument of no more than seven questions; employment, sales, and payroll are measured from quarter to quarter within each company-size stratum. The length of the SESS used to be about 20 to 25 minutes, but the number of questions has been reduced so that in now takes about 10 to 12 minutes to complete.

A key project derived from the survey is the ASA Staffing Index, a weekly measure of changes in employment by staffing firms. Berchem

[3]The company was later renamed Global Insight and then IHS Market.

reported that the index tends to track closely with GDP. For example, in July 2009, at the end of the recession, the staffing index began to tick up, revealing the beginning of the subsequent expansion before many other indicators did.

Berchem closed by pointing out some differences between the SESS and the BLS surveys. The SESS is based on the methods of the BLS's establishment surveys—for example, even collecting data for the week containing the 12th day of the month. However, the ASA survey includes temporary and contract workers only and does not include the corporate employees of staffing companies themselves, unlike the BLS. Berchem believes that the BLS surveys miss some contract employment, and pointed to two pieces of evidence: First, BLS estimates that the temporary help services industry employs about 2.5 million workers while ASA estimates a little over 3 million, even though BLS includes the corporate employees of staffing companies. Second, the BLS may miss some contract employment because, in some cases, the agency classifies temporarily placed computer programmers and other IT professionals under the category of "computer business professionals."

Davidson expanded on Berchem's presentation to discuss additional aspects of the SESS and differences relative to the CWS. The ASA survey, she pointed out, differs from the CWS in frequency, in its identification and classification of employees, and in survey length. As noted earlier, the SESS is quarterly, whereas the CWS has been done on a periodic basis. Because ASA is more narrowly focused on temporary and contract workers for staffing companies, its task is somewhat easier than the BLS's task with the CWS, since the BLS seeks to measure all "contingent" work, a wider set of employment arrangements. The SESS screener questions ask whether or not a worker works for a staffing company and in what capacity. Terms are important, and ASA is careful not to call temporary workers "part-time" workers since, as pointed out earlier, they are more often working full time than not. The key distinction is temporary versus permanent.

The ASA data dashboard, which is used by industry leaders, economists, analysts, and journalists, includes four metrics: changes in ASA-measured staffing jobs (which can be compared by firm size); changes in BLS-measured temporary help jobs; changes in the ASA Staffing Index (described above); and changes in the GDP projections made by *Wall Street Journal* economists. Census data on turnover and overall annual employment, drawn from the quarterly survey and sector-level information, are added to provide dashboard users with extra layers of information. Statistics are available at a variety of geographic and sectoral levels.

During open discussion, panel member **Arne Kalleberg** asked the ASA why estimates of people working in the staffing industry were so much higher than those estimated by the BLS. Davidson responded that the main

difference between the ASA's number and the BLS's stems from the fact that in the BLS's monthly jobs report contractors are often classified under other industries and not as temporary help. She said that after BLS revises its numbers, the two sets of estimates become closer.

Houseman questioned whether household surveys such as the CWS should continue asking whether respondents work for a temporary help agency, since staffing companies now call themselves just that and the old wording may no longer resonate. She also pointed out that there is considerable evidence from the CPS and CWS that people in temporary help jobs, for example, are often confused about their status and often report the client as their employer. This mix-up is revealed in the CWS responses and with further probing about whom they are being paid by (e.g., a client or a staffing agency).

Next, **Leif Jensen** of Penn State University presented survey-based research exploring urban-rural variation in informal work activities. He addressed definitional questions, differentiating between unpaid and paid (off-the-books) work, and discussed his research team's measurement strategy for capturing informal work activities. He discussed a national survey of informal work conducted with colleagues Ann Tickamyer (Penn State) and Tim Slack (Louisiana State University) and identified possible implications for the panel's study and its recommendations about the CWS.

Jensen noted that the term "informal economy" was historically associated with self-employment and small-scale family enterprise, but also with poverty and underemployment. An implication was that informal economic activity was endemic to underdeveloped countries and that its significance would decrease with economic growth. However, it has become clear that this is not the case—the informal economy retains importance in modern and rich societies, and indeed it has perhaps become more important with recent trends in work arrangements.

For the purposes of his presentation, Jensen used the following definition from Jensen, Tickamyer, and Slack (2019): Informal work includes "household work activities that generate cash or in-kind income or reduce expenditures that operate outside the scope of state regulation in contexts where [they otherwise would be]."

Jensen described qualitative evidence indicating that informal work is more common in rural than in urban areas. He cited several attributes of rural areas as reasons for this pattern: (1) formal sources of goods and services may be lacking; (2) networks of family and friends tend to be stronger; (3) there is greater deprivation; and (4) there is greater proximity to natural resources, which facilitates certain informal activities.

Jensen cited the lack of representative quantitative data to study informal work as his motivation for engaging in survey research on the topic. Building on earlier survey research (Jensen, Cornwell, Findeis, 1995; Slack,

2007; and Tickamyer and Wood, 1998, 2003), Jensen and colleagues initiated a national-level household survey of informal work using computer assisted telephone interviewing conducted by Penn State's Survey Research Center. The sample was about 1,800 households, with a cooperation rate of about 50 percent, and low-income and rural households were oversampled. The content of the survey included questions on:

- Household roster with demographic information;
- Formal employment circumstances;
- Formal self-employment / business ownership;
- Informal economic activities ("things that you and other members of your household do to help economically by earning money, saving money, or getting other items of value through barter or trade, as opposed to formal employment");
- Income sources; and
- Social capital and community involvement.

Respondents were asked 18 closed-ended questions regarding the engagement of household members in a list of informal economic activities. They were asked, "In the past year did you or any other members of your household engage in X?" and whether that X was any one of 18 different activities.

The overall fraction of households recording any kind of informal work done for any form of return was about two-thirds. When the definition was restricted to those who engaged in formal work only to earn money (as opposed to those also motivated to barter, save, or volunteer), the fraction shrank to closer to one-third. Table B-2 indicates the percentages of households reporting various categories of informal work performed; households could report more than one. Growing or producing food products and home repair and improvement were the most reported categories. For most categories, the rate of informal work was higher in nonmetro areas than in metro areas. In nonmetro areas, activities such as growing or producing food, hunting, and fishing were more common, while in metro areas personal services, accounting, and computer work were more typical activities.

Jensen has also explored the reasons motivating households to engage in informal work. The top reasons cited in the survey were to help out relatives and neighbors (77.6% reporting "somewhat important" or "very important"); to be able to set one's own hours (58.7%); to make ends meet (58%); to be one's own boss (55.2%); and to work at home (50.9%). Responses such as "to make ends meet" and "there aren't enough good jobs around here" were more common motivating factors in rural areas.

Multivariate models using the data confirmed the higher prevalence of informal work in nonmetro areas. While the residential differences could

TABLE B-2 Percentage Engaging in Informal Work by Type and Residence

	Total Sample	Metro	Non-Metro		
			Total	Micro	Non-core
Any Informal Work	67.0	66.0**	72.1	73.4	70.4
Grow or produce food products	26.4	25.1**	32.5	32.7	32.2
Home repair or improvement	24.0	23.2	27.9	30.2	24.6
Repair vehicles, appliances, or other mechanical work	18.6	17.9	22.0	22.9	20.8
Personnel service	17.3	17.4	17.1	18.5	14.9
Hold or contribute to garage sale/flea market	17.2	16.3*	21.4	22.9	19.3
Reuse/fix things others had discarded	17.3	17.0	18.5	18.9	17.8
Sell or trade clothes, makeup, scrap metal, etc.	15.5	14.5**	20.4	23.3	16.1
Hunt, fish, or gather from land	15.0	12.5**	26.8	25.2	29.2
Landscaping, snow removal, etc.	12.7	11.9**	16.9	18.1	15.1
Provide blood or blood products (e.g., plasma)	12.6	12.7	12.3	12.7	11.8
Crafts, collectibles, or sew/do alterations	8.9	8.8	9.2	10.4	7.6
Other informal work not mentioned	8.3	8.4	7.4	8.1	6.4
Accounting or computer work	7.4	7.5	6.7	7.8	5.1
Give lessons(e.g., music, language, sports)	7.0	7.0	7.0	6.8	7.2
Breed, board, or tend non-farm animals	4.6	4.6	4.4	4.7	4.1
Clerical work (e.g., typing)	4.4	4.2	5.4	6.0	4.4
Take in boarders	2.1	2.1	2.5	2.4	2.7
Bartending or catering	1.5	1.5	1.9	2.1	1.6
Street vending/roadside sales	1.4	1.3	1.6	2.0	1.1
Number of Activities Reported					
Mean overall	2.2	2.1**	2.6	2.7	2.4
Mean among those engaged in 1 or more	3.3	3.2*	3.6	3.7	3.4
Maximum	16.0	16.0	15.0	15.0	13.0

NOTES: *Metro/nonmetro difference significant at $p < .05$.
**Metro/nonmetro difference significant at $p < .01$.
SOURCE: Jensen, Tickamyer, and Slack (2019).

not be fully explained, they are partly accounted for by race/ethnic composition and the strength of social networks. However, other factors, such as lower levels of education in rural areas, suppress the residential effect.

Jensen concluded by summarizing the implications of his work for the panel's study: Respondents' location is an important factor influencing levels and types of informal work as an AWA. Definitional lines are blurry—it is difficult to know where to draw the line when defining informal activities (e.g., should barter and self-provisioning be included?). In a survey, listing specific types of informal work activities is effective but may not seem practical. However, if a respondent is asked if he or she engages in the informal economy, blank stares will follow! Summarizing, Jensen stated that rural America is important, different, and diverse; clearly, in his view, there is value in retaining the ability to identify rural populations and being attentive to their circumstances.

Next, panel chair **Susan Houseman** and panel member **Katharine Abraham** provided an update on their work (with Brad Hershbein of the Upjohn Institute) developing a survey module for the Gallup Education Consumer Pulse Survey, which consists of 14 questions asking respondents about the nature of their work arrangements. The goals of this research are to assess how well household surveys capture various types of contract and informal work and to inform ways in which household surveys might be improved to better measure these activities.

Houseman's comments focused on a subset of objectives for fielding the Gallup module: to uncover the potential for miscoding workers' employment status as "employees" in surveys such as the CPS and CWS; to capture all forms of work for pay—including informal work that may not be reported in government surveys, especially when not associated with a primary job; to measure contract company work; and to better measure work secured through online platforms or mobile apps.

In the Gallup survey, once a respondent has self-identified as an employee, one of the following question versions was asked in the added module:

— (Version 1): "Were you an employee on this job or were you an independent contractor, independent consultant or freelance worker?" Or,
— (Version 2): "Did this employer take any taxes out of your pay?"

Since an individual working as an independent contractor for an organization might respond that he or she is employed by that organization, the first follow-up question was designed to tease out cases where respondents are coded as employees when in fact they are not. The second version of the question catches miscoding as well, since respondents who are employees should have Social Security taxes taken out of their pay.

Findings revealed through the addition of one of the probing questions (summarized in Abraham and Amaya, 2019) indicate that some respondents do in fact get miscoded as employees when relying on their self-reported classification. The incidence of miscoding was 10.8 percent for the first follow-up question version and 8.9 percent for the second version. Employee miscoding was strongly (positively) associated with the number of employers the respondent had (i.e., multiple job holders), and also with low work hours, older workers, and gender (males).

The inference here, Houseman said, is that CPS question wording may suffer from similar problems of interpretation. As with the Gallup question, the CPS also attempts to distinguish the self-employed from those employed by government, by a private company, or by a nonprofit organization. The CWS itself provides some evidence of employee miscoding in the CPS, as 15 percent of independent contractors reported being employees on their main job (and 1–2 percent of all workers were coded as employees on their main job).

Another goal of the research highlighted by Houseman was to capture all sources of work activity, not just primary jobs. The Gallup survey, particularly in the work supplement module, may be better designed to capture work activity than other household surveys, like the CPS, because all respondents are asked both whether they were employed by an employer and whether they were self-employed. Additionally, question wording in the standard Gallup survey is designed to capture low work hours by asking about work for an employer or self-employment that occurs "even minimally like for an hour or more." The Gallup self-employment question provides a more expansive definition of self-employment than is used in most household surveys.[4]

Houseman reported that their survey module also revealed a striking level of multiple job holdings—that is, of working for more than one employer in the prior 7 days. Multiple job holding includes cases where respondents worked for more than one employer and cases when work for an employer was combined with self-employment activity. Among those with some employment, the multiple-job-holding rate was 18.7 percent. Table B-3 summarizes the incidence of secondary work by worker category. The figures in the second column indicate that the incidence of secondary work is much higher among those coded as employees and—at between 37 and 38 percent—especially high among those that are miscoded as employees; and considerably higher than those whose main job is reported to be in self-employment activities. Among those who are self-employed,

[4]Self-employment "means working for yourself, freelancing, or doing contract work, OR working for your own or your family's business. Self-employment also includes fishing, doing farm work, or raising livestock for either your own or your family's ranch."

TABLE B-3 Incidence of Secondary Work by Type of Work Arrangement and Main Job Among Those in Indicated Main Job, Percentage with Secondary Employment Arrangement

	Percentage of All Respondents by Main Job	Any Secondary Work	Work for Employer	Self-employed	Other, Informal Work
Employee, not miscoded	50.77	19.81	6.94	12.91	2.14
Miscoded employee	4.43	37.80	21.71	18.85	5.92
Self-employed, not IC	5.34	7.65	3.76	*n/a*	4.94
Self-employed, IC	5.35	10.51	3.17	*n/a*	8.59
Informal work only	0.71	*n/a*	*n/a*	*n/a*	*n/a*

SOURCE: Houseman presentation.

secondary work is somewhat higher for independent contractors than it is for those who are not independent contractors.

The third part of the module discussed by Houseman explored contract company work. Here, respondents who reported being employed by an employer were randomly assigned to one of two sets of questions, as follows:

— (Version 1): "In the last 7 days, did your employer contract you or your services out? On this job, are you usually assigned to more than one client or customer? Do you usually work at the client's or customer's worksite?"
— (Version 2): "In the last 7 days, were you doing work for a business or organization that was different from the business or organization that paid you?"

The first version, while not identical to what was asked in the 2017 CWS, is very close to it. The second version attempts to get at respondents' understanding of what it means to have their services contracted out—specifically whether the business where they are working is the same as the business that pays them.

The key finding here was that, using the narrow (version 1) definition similar to that used in the CWS, the percentage of contract company workers was estimated to be 2.0 percent. For version 2, the percentage was 1.4 percent, a statistically significant difference. The estimate based on the May 2017 CWS was 0.7 percent, but that only reflected respondents' main wage and salary job. The incidence was higher among those saying they were "employed by an employer" but also (with further probing) reported

not being employees (possibly independent contractors); they had a higher incidence of also reporting being contracted out by their employer. Using the above definition, 4.4 percent of these respondents were miscoded, versus 1.5 percent of the others.

The final task of the Gallup module was to try to capture online intermediary work. As in the case of the CWS, the authors found evidence of substantial respondent confusion regarding this question. All respondents were randomly assigned to one of two question versions:

— (Version 1): "For any of the work you did in the past seven days, did you connect directly with new customers or clients through a mobile app or online platform?"
— (Version 2): (Repeats above question and adds examples): "For example, you might have given rides to people using a ridesharing app; used an app to find people looking for cleaning, delivery or handyman services; or used an online platform where people can bid on data entry or other tasks."

Findings from the first two waves of the module indicated that adding the examples led to significantly lower measured incidence or reported online intermediary work. Examples appear to help individuals better understand the question and not misclassify work as mediated by a mobile app or online platform when it was not. Both versions of the question, however, yielded higher estimates than Houseman and colleagues expected.

For waves 3 and 4 of the survey, those who responded "yes" to either question version were also asked, "Did the customers pay you directly, or did they pay the mobile app or online platform which then pays you?" Houseman reported that unpacking content in this way reduced the measured incidence of online intermediary work by more than half, to about 3 percent. This finding is consistent with the hypothesis that the CWS questions are getting at a complex concept and that breaking out this information across questions would be helpful.

Houseman offered some preliminary conclusions. First, she cautioned against interpreting the levels of employee miscoding and multiple job holding as representative of the population, since the Gallup sample is weighted to be representative of the population based on *observable characteristics*. Many people may differ in unobserved ways that affect responses. Second, the findings from this research illustrate the potential of question wording to affect responses and support certain concerns about household surveys like CPS and CWS. Specifically, individuals working in contract arrangements may be miscoded as employees; surveys may miss some work activity, especially secondary jobs; measuring online intermediated work is difficult; and there is substantial confusion over payments coordinated by

intermediaries. However, according to Houseman, there is no evidence that the wording of questions in the CWS to identify independent contractors and contract company workers results in lower estimates of incidence than would the alternative wording, which was studied.

B.5. ADMINISTRATIVE DATA ALTERNATIVES/COMPLEMENTS TO SURVEY DATA

Building on the presentation by Diana Farrell about commercial banking data during meeting #1, this session explored what can be learned from nonsurvey data sources, on their own or in combination with surveys. **Dmitri Koustas**, University of Chicago, led off the session, presenting his research exploring what can be learned about alternative work arrangements from tax data. He also commented on his analyses, using personal financial service data, of the income, spending, and liquid assets of rideshare drivers. In considering the size and scope of the gig economy, Koustas is concerned not only with the jobs mediated through online platforms but also with how their emergence affects more traditional forms of alternative work arrangements. Specifically, there are clear implications for workers, since in the United States many social programs are administered through employers and many legal protections apply exclusively to traditional employees.

Koustas' presentation focused on two different datasets that he and his coauthors have used in their research: financial accounts data capturing microtransactions and IRS information derived from returns, including individual tax returns. The financial accounts data derive from a financial aggregator and bill-paying application for smartphones and computers. The dataset used by Koustas and colleagues includes comprehensive coverage across financial providers for over 2.1 million workers covering the period 2012 to 2016, a time frame characterized by growth in the online platform economy. The researchers had access to anonymized data tracking microtransactions from linked credit cards and bank accounts that accrued through workers' use of the app.

While there are concerns with datasets like these—for example, regarding the representativeness of people who use the app (for example, they might be more financially sophisticated than others, on average)—there are also distinct advantages. One important feature identified by Koustas is the administrative-level quality for measures of income, spending, and liquid assets all linked in one place. Also, the data are high-frequency, posting transactions daily. For measuring gig income, the microdata reveal transactions associated with major online platforms. Using these detailed personal financial app data allowed Koustas and his coauthors, for example, to determine that growth in the number of active Uber drivers, as reported by

Hall and Krueger (2018), tracked growth in gig work financial transactions very closely over the study period.

Next, Koustas discussed insights gleaned from his research[5] using IRS tax records. The IRS records capture payments made by firms to unincorporated individuals for nonemployee services. Nonemployee compensation is reported on 1099-Miscellaneous forms, which allows the universe of firm-facing independent contractor relationships to be examined. Similar to the method using the microtransactions data from financial accounts, online platform firm names can be identified with the tax information.

Using the IRS data on business filings, it is possible to link to information about firms—e.g., industry and business expenses in broad categories such as legal/professional services and contract labor—that are issuing the 1099. On the individual tax side, 1040 returns capture information about the type of self-employment work people are doing. For workers who file a Schedule C, there is a self-reported industry, a description of business activity, and information on expenses. From W-2 forms, a panel of other work that people are doing can be constructed. Retirement and health benefits can be added using information from 5500 or 1095 forms.

By linking these data sources, Koustas and colleagues have produced several findings. One is that, for the tax workforce—defined as people who get a W-2 and file a form 1040 or a form 1099, or get a W-2 and don't file—expansion of 1099 work in recent years has been driven almost exclusively by work in the online platform economy. A second finding is that most 1099 work and almost all online platform work supplement primary W-2 jobs. In other words, most people receiving a Form 1099 receive the majority of their earnings from wages, not from their independent contracting. They find much less growth in 1099 work among people who are primarily self-employed.

A third finding from Koustas and colleagues' work is that the geography of the more traditional 1099 work and the online platform economy differs. The top five urban areas, measured as the percentage of the workforce engaged in online platform economy work, are San Francisco/Oakland CA (2.9%), Miami, FL (2.7%), Las Vegas, NV (2.6%), Washington, DC (2.5%), and Los Angeles, CA (2.5%). Because tax data are comprehensive, they pick up some geographic areas that do not show up in commercial data sources—for example, because the commercial entity such as a bank does not have a presence in that area—which are not necessarily representative of the broader population.

A fourth finding is that much of the online platform economy is missing from self-employment filings. Roughly 40 percent of people receiving

[5]Joint research with Andrew Garin at the University of Illinois, Urbana-Champaign, Emilie Jackson at Stanford University, and two IRS partners, Brett Collins and Mark Payne.

a 1099 from an online platform did not file a Schedule C or Schedule SE, which is how self-employment filing in the tax data has been traditionally thought of. A final finding discussed by Koustas concerns the relationship between the 1099 independent contracting and self-employment filing in the tax data more broadly. Independent contracting is a subset of self-employment. Nearly all of the growth in self-employment has been coming from people without 1099s.

Koustas also addressed limits in the accuracy of tax data—specifically, that the reliability of those data depends on consistent reporting, which is not always the case. Of particular concern is that the typical reporting threshold for 1099-K companies is $20,000 and 200 transactions, compared with $600 for the 1099-MISC firms. Until 2016, some gig companies voluntarily reported at $1 of earnings. However, some of the largest gig companies have publicly announced they will increase their reporting thresholds, which would reduce the value for measurement of the resulting tax data. Policy can fix this problem. A current proposal, H.R. 594, would eliminate or lower the $20K threshold for the 1099-K filing (but increase the 1099-MISC threshold to $1,500). Some states (Massachusetts and Vermont) already require reporting at the $600 threshold, although they do not share these data with the IRS.

Mike Udell and **Diane Lim**, from the District Economics Group, continued the discussion of the role of tax data in measuring alternative work arrangements. They identified advantages and limitations of using tax data to measure various categories of alternative employment, including the size and scope of the platform economy, as well as the data's potential to inform tax policy. Udell built on Koustas' discussion of tax code deficiencies in regard to 1099-K workers, clarifying that his comments were about taxable income, not all income. Udell discussed workers who provide labor as contractors and the kind of tax information reporting that occurs in conjunction with those payments.

Information in tax systems serves several important purposes, in Udell's view. It informs taxpayers about amounts of income earned, gross proceeds, and situations qualifying for special tax treatment. Having such information speeds up the ability of tax administrators to verify the accuracy of a tax return, and ideally it also supports policy making in areas ranging from unemployment and Social Security to student loans.

In an income tax system, liability is determined by income—e.g., wages, interest income, dividend income, and state and local income tax refunds—subject to tax less allowable deductions. If these were the only categories of income, tax returns would not be needed, because the tax administration has information on these sources and can precisely determine liability. But, Udell pointed out, some income is not fully subject to tax and requires additional time and cost on the part of individuals and tax administrators

to ascertain the taxable portion. One major example is Social Security income. Even though some recipients receive a 1099-SSA form, it does not tell the tax administrator what the taxable amount of that income is; other information is required for that determination. The same is true with pensions and annuities.

Another example where additional information is needed to determine tax liability is reporting about gross proceeds from the sale of goods and services. Gross proceeds, as Udell explained, are not subject to tax. Rather, it is income that is taxed, and income is equal to gross proceeds minus the cost of goods sold minus general, sales, and administrative costs.

As Udell framed the issue, one might wonder what this has to do with contingent and other alternative work arrangements. In the federal tax reporting system for, say, a platform worker such as an Uber driver, gross proceeds are documented using a form 1099-K. But, again, gross proceeds are not income. In almost all cases, taxpayers self-identify the cost of goods sold. This is why the largest part of the tax gap has to do with self-employed sole proprietors. It is not only because of unreported income, but because these workers control what the cost of goods sold is.

The measurement problem with the 1099-K arises when the cost of goods sold is larger than the gross proceeds received. Sometimes this is legitimate, but other times it is not, and when it is not, Udell emphasized, that turns out to be a big problem in the tax system. According to rules contained in section 6050W of the Internal Revenue Code, payments in any amount made to a business by a customer using a payment card, such as a VISA, MC, AMEX, or Diners Club card, are reported to the business (and to the tax administrator) at the end of the year by the payment card company. *However*—as pointed out by Koustas earlier—only payments made to persons providing goods and/or services on a third-party payment network in amounts greater than $20,000 and with more than 200 transactions during a year are reported to the seller by the payment network provider, such as Uber, Lyft, Airbnb, Etsy, and eBay.

When the 6050W legislation was drafted, third-party payment networks for *service* providers were not yet in existence (some, notably eBay, were providing goods). For a period prior to 2016, there was sufficient legal confusion whether the $20,000 threshold applied to services on third-party payment networks that some companies did file the form 1099-K on all of their service providers; however, others did not. After 2016, and as the result of a private letter ruling to a third-party payment network that provided only services, few if any networks are providing gross proceeds reports for service providers with sales less than $20,000 and 200 transactions per year. The development of section 6050W did not anticipate labor services being provided on third-party payment networks. (Nevertheless, the iPhone had come out in July of 2008, which is when

the app store turned on and therefore the moment when platforms began to be created.)

Udell expressed the view that, without new legislation, third-party payment networks will continue to use the threshold of $20,000 in gross proceeds and 200 transactions. In turn, this will result in very little information being reporting through the federal income tax to the great majority of individuals providing goods or services on these platforms. Udell went on to suggest two approaches for improving this tax reporting situation. First, while the 1099-K data are limited in their capacity to help researchers identify platform workers, corporate income tax returns of the companies may be more promising, since they do not miss the opportunity to deduct the payments made to the service providers. Buried in the details of a corporate income tax return is a dollar amount showing the size of the payments, although this is still gross proceeds, not income. The corporate income tax returns could be used to view top-level gross proceeds in an industry and provide some measure of total economic activity.

Another measurement option would exploit state and local sales tax information. Udell noted that a few states—Pennsylvania is one—are using a facilitator tax, which requires companies to report how much activity takes place inside their state. So, for example, the state taxing agency would ask a company like eBay the amount of their sales of goods that were delivered into Pennsylvania. Instead of taxing the seller, the state then taxes the facilitator, which has led to an increase in the state's sales tax receipts. If more states follow through in a similar fashion, information on these facilitator taxes could potentially provide an effective way to measure the sale of both services and goods (although perhaps mostly goods) being transacted on platforms. States could also implement a tax on services provided over platforms as well, and then use the same approach.

During open discussion of the session on administrative data, Abraham asked Udell whether there could be modifications to the tax code to gain insights into how alternative work activities fit into people's work lives. For that purpose, data on whether people have this type of income would be needed, not just covering aggregates but on a person-by-person basis. Udell suggested that replacing the threshold of $20,000 and 200 transactions with one set at $1,000 or $2,000 in gross proceeds would largely solve the issue. However, doing this would raise the problem of eBay sellers—1099-Ks being issued to people selling out of their attic—and that would undermine administrative record-matching programs. Separating goods and services in the 1099-K could address this problem.

The final presentation of the day, by **Jim Spletzer** (Center for Economic Studies, U.S. Census Bureau), was on work by the Census Bureau combining data sources. Spletzer addressed three topics: (1) The possibility of linking CPS microdata, specifically the CPS contingent worker supplement

microdata, to administrative data—specifically tax data—housed at the Census Bureau; (2) how this kind of data linkage is done; and (3) what can be learned using this approach.

Regarding the first topic, Spletzer reported that, as demonstrated through several projects,[6] person records in the CPS can be linked to their information in administrative data. He then discussed three reasons for linking CPS and administrative data: (1) to understand differences in the measurement of various concepts—income is an example—between administrative records and household survey data (including those created by measurement error and nonresponse bias); (2) to improve imputations; and (3) to reduce respondent burden.

After walking workshop participants through the technique whereby the Census Bureau links records using a protected identification key (PIK)—a confidentiality-protected version of the Social Security number—Spletzer discussed the CWS. His understanding is that respondents who answer the May 2017 CWS *and* who also participate in CPS ASEC will be assigned a PIK. Spletzer said his own informal calculations suggest that based on this rule, perhaps 60 to 70 percent of the records in the May 2017 CWS should be linkable to administrative data housed at the Census Bureau, such as unemployment insurance (UI) wage records, Social Security Administration Detailed Earnings records, and nonemployer records.

Next, Spletzer provided a summary of what has been learned from previous exercises matching CPS microdata to administrative data. Abraham et al. (2013), for example, were able to compare employment status and multiple job holdings in the CPS with those estimated from UI wage records. Their findings included that 6.4 percent of UI employed—people who have a wage record—did not report being employed in the CPS; meanwhile, 17.6 percent of the CPS employed are not employed according to the UI wage records. Likewise, close to 70 percent of multiple job holders in the UI records show up as single-job holders in the CPS, while almost 45 percent of multiple job holders in the CPS appear as single-job holders in the UI records. Since the authors went to great pains to examine the same types of workers—e.g., those in nonfederal government and nonagriculture sectors—Spletzer admitted that he found it disconcerting to see such differences.

In another research project, Abraham et al. (2020) sought to understand why self-employment levels and trends in administrative data are higher than those revealed by household surveys. As reproduced in Figure B-2,

[6]For example, monthly CPS to UI wage records are linked in Abraham et al. (2013). CPS ASEC records are linked to SSA's Detailed Earnings Records (DER) in Abraham et al. (2018) and in Bollinger et al. (2019). CPS ASEC records are linked to nonemployer records (sourced from IRS Schedule Cs) in Abraham et al. (2020).

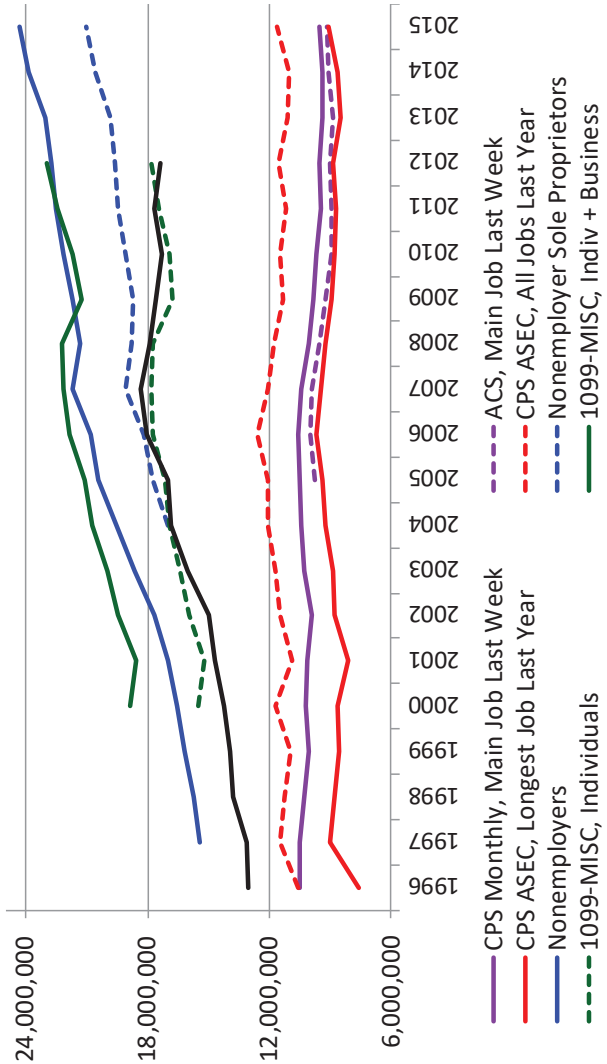

FIGURE B-2 Levels of unincorporated self-employed as measured by different sources.
SOURCE: Analysis by K. Abraham, J. Haltiwanger, J. Spletzer, and K. Sandusky, based on data from U.S. Census Bureau, U.S. Department of the Treasury, CPS data, BLS website, and CPSASEC.

levels of unincorporated self-employed varied substantially by source. The bottom four lines are based on data from household surveys: the Monthly CPS, the Census Bureau's American Community Survey, and the Annual Social and Economic Supplement of the CPS (often referred to as the March supplement). The top five lines capture administrative sources: Social Security's detailed earnings records, the 1099-MISC, and the Schedule SEs from the SSA. Each administrative data source indicates that the number of unincorporated self-employed is rising over time and substantially higher than the number of unincorporated self-employed measured in household surveys.

The paper examines what is driving this difference by source in measured self-employment by linking the CPC ASEC to the SSA's detailed earnings records. An attractive feature of this approach is that the CPS ASEC and the administrative tax data sources have the same annual reference frame. Spletzer also acknowledged minor differences, such as that self-employment is only reported on Schedule SE if earnings exceed $433. Again, findings based on administrative tax data were very different from those based on the CPS-ASEC. More than 50 percent of the CPS-ASEC respondents who identified as self-employed are not self-employed based on reporting to tax authorities. Conversely, 65 percent reporting to the tax authorities as self-employed are not showing up as self-employed in the CPS-ASEC—and that figure has increased over time.

Spletzer concluded with a few summary statements. He said research conducted at the Census Bureau that links CPS and administrative microdata has found that CPS-based and administrative data-based employment measures (such as wage and salary employment, multiple job holding, and self-employment) do differ, and some of these differences have grown over time. Spletzer asked why we would want to link the CWS to administrative data—is it to better understand measurement error or nonresponse bias, to improve imputations, or to reduce burden? In Spletzer's view, research would need to overcome comparability issues, such as the use of different reference periods (e.g., "last week" versus quarterly or annually) and the problems arising from different concepts, such as the fact that administrative data do not measure "contingent work" or "electronically mediated work."

During open discussion, potential problems with survey instruments were raised. Lim pointed out that a lot of people responding to a survey (such as the CPS) in which the first question is about the respondent's main job will then have trouble shifting to accurately report self-employment (1099-K) income. Spletzer pointed out that the ASEC is a long survey, and that most of the income and earnings questions are placed at the end, so that by the time respondents reach them survey fatigue may have kicked in. Abraham added that the monthly CPS, which asks people about their work "last week," is very different from the CPS-ASEC, which asks them

about their earnings over the whole prior year; answering these questions involves very different cognitive processes.

Robles raised the issue of how self-employment is categorized and measured given how diversely it manifests itself. For example, Schedule F employees are often overlooked even though they are in many ways similar to Schedule C workers. Partnerships, she suggested, were also important to capture, especially since, based on IRS data, they appear to have recently proliferated. Spletzer responded that the Census Bureau does publish non-employer statistics by the legal form of organization. Eighty-seven percent of non-employers, he reported, are unincorporated sole proprietors. This, he suggested, is why he focuses on that group and calls them self-employed, which is what the Census Bureau does in their own publications. There are 22 million of these unincorporated self-employed.

Strain added that, even if a respondent earns $10,000 or $20,000 of self-employment income and it amounts to perhaps 10 percent of total income, that person could reasonably respond he or she is not self-employed. This speaks to the issue of how to design the survey question.

Olson argued that the mismatch between the household survey data and the tax data is partially due to measurement error, in that people are not classifying things appropriately. She added that specifying the right probing questions would be helpful, but there is also a more fundamental issue about whether or not people see the work that they are doing, regardless of the source of payment, as being under the umbrella of what they consider to be their job. And this is very important when thinking about contingent and temporary work and understanding payment mechanisms that help survey designers write better questions. An example would be a university professor being paid her university salary for the year, but receiving a grant covering 3 of those months. In such a case one could reasonably say that she was paid by, say, the National Science Foundation or the National Institutes of Health, even though all the grant money was paid to her through the university. Even a reasonably informed person could become confused about that kind of question.

Panel on Measuring Contingent Work and Alternative Work Arrangements

Second Meeting—June 10, 2019

The National Academy of Sciences Building
The Board Room/Room 120
2100 Constitution Ave. NW
Washington, DC 20418

AGENDA

MEETING GOALS: During its first meeting, the panel heard from BLS experts about the history, measurement objectives, and past performance of the Contingent Worker Supplement (CWS) of the Current Population Survey (CPS). Working with BLS, the panel also sharpened the statement of task for the project. During this second meeting, the panel will continue information gathering by hearing presentations from data users and policy makers dealing with changing worker and employer dynamics. Sessions will include presentations and discussion of measurement objectives and policy needs, the measurement capabilities of household and other kinds of surveys, and the complementary (or possibly, in some cases, substitute) role of nonsurvey data such as administrative (e.g., tax) or commercial data.

OPEN PUBLIC SESSION

9:00 AM **Welcome, Introductions, Agenda, and Reminder of the Study Charge**
— Susan Houseman, *Panel Chair*

9:15 ***SESSION 1: POLICY CONTEXT FOR MEASURING ALTERNATIVE WORK.*** This session features presentations to help the panel round out its thinking about measurement objectives. Presenters will offer perspectives on (1) what information policy makers need to know and what questions remain unanswered (for example, how many people engage in supplemental work and what their motivations are), and (2) methodological and other considerations that allow data to be translated into policy. Definitions and boundaries for different categories of work—contingent, independent (many of whom do not consider themselves as "contingent" or temporary), web-mediated, etc.—will be discussed.

Legislative developments relating to alternative work. U.S. Senator Mark Warner is honorary co-chair of the Aspen Institute "Future of Work Initiative," and his office has been active on issues pertaining to gig work. Carolina Young will update the panel on her work in Senator Warner's office on relevant initiatives—such as proposed legislation that would direct the U.S. Treasury to study tax issues for gig economy workers—and the kinds of data needed to inform this work.

— **Carolina F. Young,** *Policy Advisor, Office of U.S. Senator Mark R. Warner*

Update on *Future of Work Initiative* projects and plans. The Aspen Institute's Future of Work Initiative seeks to identify policy solutions to the challenges facing workers in the 21st century. The Initiative, along with Cornell's ILR School, produced and maintains the Gig Economy Data Hub, an online resource that provides accessible summaries of data sources on independent and nontraditional work. Recently, the team has written on portable benefits, tax simplification for independent workers, and worker training tax credits. The Institute has recently released the report, "Designing Portable Benefits: A Resource Guide for Policymakers."

— **Alastair Fitzpayne,** *Executive Director of the Aspen Institute Future of Work Initiative*; **Shelly Steward,** *Research Manager, Future of Work Initiative*

Open discussion

10:30 ***SESSION 1*** *(continued)*

Worker well-being measurement issues. Unpredictable work schedules, particularly for low-income/low-skill workers, affect the well-being and security of those involved. Susan will discuss measurement challenges and needs for informing public policy around work hour standards and the benefits of a multidimensional approach to estimating the prevalence of different types of work hour arrangements.

— **Susan Lambert,** *University of Chicago, School of Social Service Administration*

Health and safety. The National Institute for Occupational Safety and Health is a federal research agency that has made work arrangements a key focus of its recently established

program on Healthy Work Design and Well-Being. Tim will describe this program and its recent attempts to define those work arrangements of greatest concern. He will also discuss the value of CWS data for NIOSH research, and suggest some ways in which expanded details on work arrangements could be of value.
— **Tim Bushnell,** *Economic Research and Support Office, NIOSH;* **Toni Alterman,** *Division of Surveillance, Hazard Evaluations and Field Studies, NIOSH*

Employer and broader market policy issues. The new economy requires polices designed to make new employment models work well not just for employees, but also employers who hire them and for the markets in which they operate. Gene will speak about his organization's work on policy issues shaping the independent workforce movement, as well as about how to think about different categories of workers.
— **Gene Zaino,** *Chief Executive of MBO Partners*

Open discussion

1:15 PM ***SESSION 2: INSIGHTS ABOUT ALTERNATIVE WORK FROM OTHER (NON-BLS) SURVEYS.*** Building on what was learned during meeting #1, this session includes presentations to help assess the range of questions that can best be answered using household surveys, and which questions require other kinds of data (whether stand-alone or linked to survey data), such as those derived from employer surveys, tax records, and commercial sources.

Federal Reserve Board surveys. Barbara will review results for 2018 from the Survey of Household Economics and Decision-making (SHED) and provide information about the survey's questions. She may also comment on findings from the Enterprising and Informal Work Activities (EIWA) Survey, which estimates that a high percentage of workers (36 percent in 2015) take part in freelance work.
— **Barbara Robles,** *Panel member*

Survey and policy work at the American Staffing Association. The ASA Staffing Employment and Sales Survey generates insights about intermediary employment arrangements. The survey collects information from staffing firms to estimate tem-

porary and contract staffing industry employment, sales, and payroll. Cynthia and Steve will describe the survey's general methodology, how employment and payroll information differs from that generated from the CWS, what research is done using the survey, and what policy questions it helps to address.
— Cynthia Davidson and **Steve Berchem**, *American Staffing Association*

Urban-rural variation in informal work activities. Leif will describe the background, methods, and findings of his collaborative research using a survey measuring geographic variation in informal work. He will address definitional questions about the types of informal work including unpaid and paid (off the books) work, the measurement strategy used to capture informal work, as well as (briefly) their findings on the prevalence of, reasons for, returns to, and correlates of informal work.
— Leif Jensen, *Penn State University*

Gallup Education Consumer Pulse Survey. Susan and Katharine will provide an update on their work developing a survey module for this Gallup survey consisting of 13 questions on respondents' employment and the nature of their work arrangements. Goals of this work include assessing how well household surveys capture various types of contract and informal work and informing ways in which household surveys might be improved to better measure these types of work. Data collection is now complete, as is some initial analysis.
— Susan Houseman and **Katharine Abraham**, *Panel members*

Open discussion

3:15 ***SESSION 3: ADMINISTRATIVE (TAX) DATA ALTERNATIVES/ COMPLEMENTS TO SURVEY DATA.*** Building on the presentation by Diana Farrell on the use of commercial banking data during meeting #1, this session will further explore what can be learned from non-survey data sources, on their own or in combination with surveys, about alternative employment. The focus here will be on administrative data (as opposed to commercial data), specifically the benefits and limitations of using tax data.

What can be learned about alternative work arrangements from tax data? (1). Dmitri may also comment on his analyses of rideshare drivers using personal financial service data

containing information on rideshare income, outside income, spending, and liquid assets.
— Dmitri Koustas, *University of Chicago*

What can be learned about alternative work arrangements from tax data? (2). Mike and Diane will discuss the advantages and limitation of using tax data to measure various categories of alternative employment (including the size and scope of the platform economy), and how it can be used to inform tax policy.
— Mike Udell and **Diane Lim,** *District Economics Group*

Census Bureau work combining data sources. Federal Research Data Centers (coupled with legislation) have allowed agencies and outside researchers to combine IRS data with existing Census surveys. Jim will discuss linking survey and tax data (in the context of LEHD or other programs) for the purpose of measuring independent contractor/self-employment work, and any implications that this might have for optimal design of the Contingent Worker Supplement.
— Jim Spletzer, *Center for Economic Studies, U.S. Census Bureau*

Open discussion

4:45 PM ***ADJOURN***

COMMITTEE ON NATIONAL STATISTICS

The Committee on National Statistics was established in 1972 at the National Academies of Sciences, Engineering, and Medicine to improve the statistical methods and information on which public policy decisions are based. The committee carries out studies, workshops, and other activities to foster better measures and fuller understanding of the economy, the environment, public health, crime, education, immigration, poverty, welfare, and other public policy issues. It also evaluates ongoing statistical programs and tracks the statistical policy and coordinating activities of the federal government, serving a unique role at the intersection of statistics and public policy. The committee's work is supported by a consortium of federal agencies through a National Science Foundation grant, a National Agricultural Statistics Service cooperative agreement, and several individual contracts.