

# Is California's Gig Economy Growing? Exploring Trends in Independent Contracting

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## **EXECUTIVE SUMMARY**

Recent reports on the “gig economy” create an impression that a dizzying mix of technological and competitive forces is fundamentally reworking the landscape of employment in the United States. A central aspect of this change is the perceived rise of independent contracting as an alternative to the conventional employer-employee relationship. However, even quantifying whether and to what extent the ascendance of the gig economy is an empirical fact remains beset by a number of challenges. Taking stock of those challenges, this report explores trends in publicly available sources of data, each of which provides an imperfect proxy at best for independent contracting, to arrive at several tentative conclusions regarding the gig economy in California.

A specific type of app-driven work epitomized by the Uber model has shaped recent debates over gig work, along with the apparently increasingly widespread practice of freelancing and continuing concerns over the many manifestations of low-wage and contingent work. Given the paucity of available data, a small but growing set of survey-based research has put forth national-level estimates, finding modest increases in rates of independent contracting (Katz and Krueger 2016, GAO 2015).

Echoing the findings of previous research, this report presents evidence at the economy-wide level of stasis in traditional proxy measures for independent contracting, such as the “self-employed, unincorporated” worker. Other measures, such as types of small businesses that overlap with independent contractors, have shown some growth relative to wage and salary employment. Positive evidence of a pervasive shake-up in the nature of work remains elusive. However, this general trend masks a more diverse set of stories at the level of more specific industry and occupational sectors. Available data suggests that most of the growth in independent contracting has been in service industries that fall outside of the major service sectors, like health care; white-collar management, finance, and technology; retail; and food service. Instead, the majority of growth in independent contracting appears to be drawn from relatively low-wage industries that provide personal services, services to households, and marginal support services to other businesses. This industry shift is likely a contributing factor to another finding: earnings from types of self-employment that overlap with independent contracting have declined relative to where they were a decade ago and relative to employee wages and salaries over the same period.

### **Economy-wide trends**

Focusing on trends in California from roughly the pre-recession mid-2000s to the most recent data, an examination of aggregate state-level employment indicators from multiple sources yields several emergent patterns. First, estimates of self-

employed, unincorporated workers drawn from household surveys suggest that the number of independent contractors was relatively static, a finding that roughly corroborates national surveys that found slight growth with a more direct measure. Looking at measures of proprietor employment and “nonemployer” establishments based on administrative data, however, yields a different conclusion. Although wage and salary employment took a major hit during the recession, the number of proprietors steadily increased – including nonemployer sole proprietors that are indistinguishable from independent contractors for tax purposes and in the data.

Second, the earnings of these proprietors declined sharply during the recession. This is not entirely surprising, as business revenue declines during a recession while wages remain sticky. Still, even after a post-recession rebound, proprietors’ income remained well-below its pre-recession level, including sole proprietors who have no employees. This group overlaps significantly with independent contractors.

Third, the notion that among independent contractors, more are earning less money is also borne out in household surveys. Before 2008, workers who identified as self-employed, unincorporated earned more than those who identified as private-sector wage and salary employees. Since 2009, this has no longer been the case. Though the degree of the shift varies by source, the income generated by self-employed, unincorporated work and by proprietor employment have been trending downward while average wages and salaries have remained relatively stable.

### **Industry and Occupational Trends**

To gain a more fine-grained impression of the uneven patterns of independent contracting, indicators for self-employed, unincorporated workers and nonemployer establishments were examined for industries at different levels of aggregation. Trends were assessed via change between two time periods: roughly, before the recession and as close to the present as the data permits. To sum up, indicators of independent contracting suggest that the industries that exhibited large growth and/or strong relative shifts toward independent contracting tend to be relatively low-wage industries.

The industry sector that has added the most independent contractors is “Other Services,” a catchall category for activities that fall outside of other major service sectors like retail or health care. Personal Services and Private Households (e.g., domestic and residential maintenance workers) account for most of this growth. Like “Other Services,” industry sectors that tended to gain large numbers of, and/or to experience strong relative shifts toward, indicators of independent contracting are also relatively low-earning industries, whether measured through low per worker income levels or low receipts per nonemployer

establishment. In Administrative and Support and Waste Management and Remediation Services, another low-wage sector that accounts for a large portion of the self-employed, unincorporated workforce, nonemployer establishments grew strongly but the ratio of self-employed, unincorporated workers remained relatively unchanged.

Still a large source of jobs, the construction industry declined sharply during the recession and has failed to rebound to its pre-recession employment level. Even in decline, evidence of a relative shift toward self-employed, unincorporated workers and nonemployer establishments may be interpreted as a more widespread reliance on independent contracting in the Construction sector.

Professional, Science, and Technological Services and Health Care and Social Assistance also account for large numbers of independent contractors and support relatively high-paying jobs.<sup>1</sup> Both of these sectors show evidence of a relative shift away from independent contracting.

Counts of nonemployer establishments through 2013 probably reflect the growth in the ridesharing component of the online on-demand economy. Nonemployer establishments in the taxi and limousine services industry increased sharply in the early 2010s, coinciding with Uber's phase of rapid expansion. Despite growing considerably faster than average, this industry only accounts for a very small share of total growth among nonemployer establishments.

Occupational trends reiterated the tendency for growth in independent contracting to skew toward low-wage groups of workers. Two occupational groups stood out for adding the largest number of self-employed, unincorporated workers: Personal Care and Service Occupations (mostly, childcare, personal care aides, recreation and fitness workers, and residential advisors and personal appearance workers, including barbers and hairstylists) and Building and Grounds Cleaning and Maintenance Occupations (mostly, Building Cleaning and Pest Control Workers, which includes janitors, cleaners, maids and housekeeping cleaners). In the Arts, Design, Entertainment, Sports, and Media Occupations, which also employ many self-employed, unincorporated, the largest occupations were Media and Communication workers, which includes writers and communications workers for various media, and Media and Communications Equipment Workers, which includes operators and technicians of various audio and visual equipment. In contrast, high-earnings occupations that account for a large portion of independent contractors – such as Management Occupations, Business and Financial Operations Occupations, and Healthcare Practitioners and Technical Operations – lost independent contractor jobs.

Examining earnings differentials between private-sector wage and salary employees and self-employed, unincorporated workers suggests an important

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1 Health care compensation is skewed by physicians, many of whom are very high-earning self-employed, unincorporated workers

distinction. For some occupations, independent contractors earn more than employees, best exemplified by Healthcare Practitioners and Technical Occupations. In other occupations, such as Computer and Mathematical Occupations, the opposite is true. For most occupational groups, the difference is small, favoring employees on average.

### **Conclusions and recommendations**

The most salient empirical conclusions from this analysis are as follows:

- Taking the California economy as a whole, independent contracting is probably growing, but not very dramatically.
- Multiple sources suggest that, on average, independent contractors today are earning less than before the recession.
- The industries and occupations that show signs of adding the largest absolute numbers of independent contractors or undergoing relative shifts toward independent contractors tend to be lower-earning.

Implications for policy:

- The California economy is not a gig economy. Little evidence exists to support the notion of a pervasive shift in the nature of this type of work. Some industries, however, are likely adding or losing independent contractors at levels out of proportion with wage and salary employment, a trend that certainly merits further study.
- The gig economy is not exclusively or even mostly an issue of technology and innovation. Most of the detectable growth in independent contracting has occurred in sectors that have not been subjected to disruptive innovation. Even the outlier industries that have undergone a large shift, such as those affected by ride-sharing apps, comprise only a small portion of total independent contracting employment.
- The last decade's purported shift toward the gig economy – where it registers at all – is disproportionately comprised of low-wage service industries outside of the food service and retail sectors, which account for the largest share of low-wage employment. Arguably, this contrasts with some of the prevailing conceptions of gig economy workers as freelancers, consultants, and Uber drivers.
- Emergent patterns of employment change over the last decade urge caution to recent calls for a “third category” of worker in response to the unique challenges faced by the “online on-demand” workforce.

## INTRODUCTION

Recent reports of the “gig economy” create an impression that a dizzying mix of technological and competitive forces is fundamentally reworking the landscape of employment in the United States. A central aspect of this change is the perceived rise of independent contracting as an alternative to the conventional employer-employee relationship.<sup>2</sup> In other words, the 1099 free agent is replacing the W-2 employee. In theory, gig work that permeates all categories of the labor market heralds both opportunities and threats related to the flexibility and agency of workers. Such a paradigmatic shift in the nature of work would have deep, complex impacts on worker autonomy and job satisfaction, on total levels of compensation and the enforcement of regulations, on the distribution of liability and risk for mandatory tax and insurance programs, and on the organizing and collective bargaining rights of workers. However, even quantifying whether and to what extent the ascendance of the gig economy is an empirical fact remains beset by a number of challenges. Taking stock of those challenges, this report explores trends in publicly available sources of data, each of which provides an imperfect proxy at best for independent contracting, to arrive at several tentative conclusions regarding the gig economy in California.

Echoing the findings of previous research, some evidence at the economy-wide level suggests little movement in traditional proxy measures for independent contracting, such as the “self-employed, unincorporated” worker. Notwithstanding the shortcomings of this measure noted at length below, the ratio of self-employed, unincorporated workers to private wage and salary workers in California has remained stable over the last decade. Other measures, such as types of small businesses that overlap with independent contractors, have shown some growth relative to wage and salary employment. Positive evidence of a pervasive shake-up in the nature of work remains elusive.

Notwithstanding the trend (or lack thereof) at the level of the entire economy, a more diverse set of stories exists at the level of particular industry and occupational sectors. The ratio of independent contractors relative to wage and salary employees may be growing for some groups of workers and declining for others. Moreover, while many independent contractors generate high earnings for their work, often exceeding their wage and salary-earning peers, others earn at levels similar to or even below those of comparable employees, especially in low-wage industries and occupations. An analysis of sectoral trends suggests that this is the case in many of the sectors experiencing a disproportionate shift toward independent contractors. The analysis presented below reveals that most of the

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2 A specific type of app-driven employment relationship epitomized by Uber and currently embroiled in controversy, regulatory interpretation, and litigation has overwhelmed the recent debate over gig work. In fact what Harris and Krueger (2015) label the “online on-demand” economy is considered synonymous with the “gig economy” by some commentators. This report, however, more broadly identifies gig work with the status of the independent contractor.

growth in independent contracting has been in service sector industries that fall outside of the major service sectors, like health care; white-collar management, finance, and technology; retail; and food service. Instead, the majority of growth in independent contracting appears to be drawn from relatively low-wage industries that provide personal services, services to households, and marginal support services to other businesses. This industry shift is likely a contributing factor to another finding: earnings from types of self-employment that overlap with independent contracting have declined relative to where they were a decade ago and relative to employee wages and salaries over the same period.

Given the reliance on proxy indicators for independent contracting, these findings should be interpreted with caution, especially when taken out of the context of the study's exploratory goals. As in previous national studies, evidence from California offers little support for a "gig economy" revolution, at least if defined narrowly in terms of the employment status of independent contracting. However, the evidence does suggest that shifting patterns of independent contracting extend well beyond the meteoric and controversial rise of ride-hailing apps, which directly affect only a very small portion of the state's workforce. Available data suggests that the bulk of gains in independent contracting have occurred in other lower-earning industries. By contrast, many high-earning industries with high rates of independent contracting may have actually shifted away from such workers.

Largely setting aside normative, economic, and legal debates over whether gig work liberates workers from managerial control or decreases job quality and employment standards, the present study contributes a data-driven, albeit hazy portrait of the gig economy in California. The report begins with a brief review of the stakes of the gig economy and recent forays into measuring it. The next section examines issues with defining and measuring a category of work that is inherently fuzzy, setting the stage for the approach adopted here. Three empirical sections follow. The first examines indicators of independent contracting across the California economy as a whole, the second focuses on specific industry sectors, and the third touches on occupational groups. Provisional findings and implications are summarized in the conclusion.

### **What is at stake in the gig economy?**

Distinguishing independent contractors from traditional employees goes beyond the difference between 1099 and W-2 IRS forms. Legally, the distinction rests on the level of the business' financial and behavioral control over the worker, the nature of the agreement between the employer and employee, the centrality of the work to the business, and the expected duration of the relationship. Empirically, independent contracting functions in a complex, circumstantial manner that varies in terms of its interaction with the preferences of workers,



competitive pressures on employers to increase flexibility and decrease cost, and conditions at workplaces.

In a previous report, Habans (2015) illustrated that hiring a worker as an independent contractor rather than as an employee could save an employer well in excess of 20 percent for some groups of low-to-moderate wage workers. In reality, engaging workers as independent contractors rather than as employees implies a calculus that could increase or reduce costs. If workers are able to bid-up the price of their work, independent contracting can force employers to compensate them more highly. All else equal, in a fair agreement, the compensation differential would cover the value of any forgone benefits and increased risk for the contractor. Further, some workers might prefer independent contractor status for its short-term commitments and flexible scheduling, since these arrangements might provide income while accommodating other responsibilities and opportunities for earnings and leisure. A recent study by the Institute for Corporate Productivity (2015), drawing from interviews with 80 HR officers, reports that 95 percent of those interviewed are currently using or expecting to use more nontraditional (and non-employee) workers, a trend which the interview subjects apparently interpreted as driven primarily by worker preferences for flexibility (Lykins 2015).

The other side of the story is that independent contractor status provides an opportunity for employers to shift or to save on employment costs. To illustrate with a stylized example, consider two workers who earn the same hourly pay from the same employer for similar work. One earns a wage as a W-2 employee; the other is paid as a 1099 independent contractor. In addition to the wage, the employer typically pays several tax and benefit costs for the employee, including:

- Paid leave (e.g., vacation or sick days)
- Supplemental pay (e.g., for overtime)
- Insurance (e.g., health or disability)
- Retirement contributions
- FICA tax for Social Security and Medicare
- Federal and state unemployment insurance
- Workers compensation insurance
- Additional state taxes (e.g., employee training tax in California).

Though they vary depending on the worker's profession and earnings, these costs are tied to wage and salary employment but not necessarily to contract work.

In the extreme, willful or negligent employee misclassification constitutes a blatantly low-road approach to saving labor costs that shifts the cost of tax liability risk onto workers. However, between the misclassified worker and the empowered independent contractor lies a wide gray area subject to the nuances of specific management models, industry conditions, and characteristics of workers. Recently, these nuances have driven a series of legal commentaries

and court challenges on the status of online on-demand workers, particularly in relation to the booming ride-sharing sector. Although Uber recently settled a pending lawsuit in San Francisco for up to 100 million dollars, the agreement only addresses a few technical aspects of the rules governing payment of drivers. Some commentators have proposed the creation of a third category of worker, which would maintain a baseline level of autonomy and flexibility considered necessary for the online on-demand economy to operate while ensuring a robust set of worker protections, including a portable safety net (Harris and Krueger 2015, cf. Eisenbrey and Mishel 2016). Rather than delving into the intricacies of online on-demand transactions and the implications of the legal definition of employment, this report focuses instead on attempting to lend empirical grounding to the somewhat chaotic concept of the gig economy. Unfortunately, like the legal question, the empirical question suffers from ambiguity.

### **Measuring the gig economy: Recent Attempts**

Unfortunately, no regularly updated, publicly available data set directly captures independent contracting. A major source of data on alternative work arrangements, including independent contracting, has been the Contingent Worker Supplement of the Bureau of Labor Statistics and Census Bureau's Current Population Survey (CPS-CWS). However, the CPS-CWS was last conducted in 2005. The period since then has been punctuated by a deep and prolonged recession, the rise of the so-called "online on-demand" business model epitomized by Uber, and the post-recession, post-Uber salience of the gig economy in debates over the future of work. The Department of Labor recently announced that a new round of the CPS-CWS will be issued with the May 2017 CPS, which should yield the most complete picture of the changing nature of alternative work arrangements over the last twelve years.<sup>3</sup> Going forward, the currency of data remains a concern, since the CPS-CWS requires a congressional earmark.

Despite the estimation challenges, a few analysts have engaged the gig economy debate by putting forth attempts to quantify its size. Some frame independent contracting alongside the broader question of contingent work, for which the scope of estimation ranges from a narrow focus on specific industries to a broad analysis of non-standard work (Aspen Institute 2015). Others associate independent contracting with small businesses and entrepreneurship. A few notable recent examples illustrate a range of operational definitions and size estimates for the independent contractor workforce:

- Most recently and significantly, Katz and Krueger (2016) conducted a survey to generate nationally representative<sup>4</sup> estimates comparable to

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<sup>3</sup> <http://beta.bls.gov/labs/blogs/2016/03/03/why-this-counts-measuring-gig-work/>

<sup>4</sup> Due to the much smaller sample-size, the survey would not directly allow for estimates at the sub-national levels, like the state of California.

the 2005 CPS-CWS. They found that the rate of independent contractors increased from 6.7 to 8.4 percent of workers between 2005 and 2015. This comprises the largest portion of the contingent workforce, which increased from 10.1 to 15.8 percent, although other subsets of contingent workers grew more quickly. As in the original CPS-CWS, these other subsets include on-call workers, agency temps, and employees of contract firms.

- In 2015, a survey conducted by The Freelancers Union and Upwork found that more than 54 million Americans, or 34 percent of the labor force, performed “freelance” work (broadly defined) in the past year (Freelancers Union and Upwork 2015). Of this total, the largest portion was 19.3 million independent contractors. Other portions included moonlighters, multiple job-holders, temp workers, and freelance workers with employees.
- Analyzing the 2005 CPS-CWS and the 2010 General Social Survey (GSS), the GAO (2015) segments contingent workers into two groups: “core contingent” workers (agency temps, on-call workers, and contract company workers) and other alternative work arrangements (independent contractors, self-employed, and standard part-time workers). Based on the 2010 GSS, these groups together amount to 40.4 percent of the total US workforce, and independent contractors alone account for 12.9 percent of the of the total, with standard part-time workers making up most of the rest.
- A 2015 study by MBO Partners entitled “State of Independence” estimated the number of independent workers over age 21 in the US at 30.2 million. Adding an additional 11.9 million occasional independents, the total independent workforce is 42.1 million, a 5.7 percent increase from 2014.
- In a blog post describing their “full employment” dataset (Wright 2011), EMSI, an economic modeling and data firm, reported that the US share of 1099 (non-covered) workers was 21.5 percent of the workforce in 2011, up from 19 percent in 2006. The figures in California were 22.7 percent in 2011 and 21.3 percent in 2006.
- An analysis by the American Action Forum (Rinehart and Gitis 2015) used the GSS to estimate that the independent contractors and freelancers constitute 14 percent of employed people. Broadening the definition of the gig economy to include temp agencies, on-call workers, and contract company workers brings the total to 20 percent. Since 2002, independent contracting employment has grown slightly faster than total employment.
- Couched in a discussion of the possibilities of regulating the ambiguous forms of work epitomized by the Uber model, Harris and Krueger (2015) projected the “online on-demand” workforce (the small portion of the

contingent workforce finding work through companies like Uber) to number between 600,000 and 1.9 million workers. This number was based on Google searches of the most prominent companies and Hall and Krueger's (2015) estimate of 400,000 Uber drivers.

As these examples illustrate, estimates of the incidence of independent contracting vary widely. These differences stem primarily from the inadequacies of available data, the methodological strategy for data collection and /or estimation, and the differences in how jobs are defined, categorized, and assembled into some conceptual category of the contingent, alternative, freelance, or independent workforce. Measuring nonstandard or contingent work is also complicated by the highly diverse day-to-day realities faced by independent contractors at work. In fact, the common thread running through these types of work arrangements is what they are *not*: a stable, long-term, full-time relationship between a W-2 employee and a single employer.

For instance, "contingent" work may include any non-standard, short-term, less-than-full-time, or arms-length work relationship. This would encompass not only 1099 independent contractors but also wage and salary employees who receive a W-2 but work part-time or for a contract company or temp agency. The GAO's (2015) report examines "core contingent" workers as well as self-employed, independent contractors, and all part-time workers. The CPS-CWS and Katz and Krueger's (2016) recent adaptation also include a relatively broad range of alternative work relationships: independent contractors, on-call workers, temp agency workers, and contract firm workers. On the narrower end of the spectrum, a decent body of state-level studies attempt to quantify the incidence of independent contractor misclassification, although available data more readily permit estimation of employers committing misclassification than misclassified workers (for reviews, see National Employment Law Project 2015 and Carré 2015). Often these studies focus on certain industries, e.g., misclassification in the construction industry. Harris and Krueger (2015) also focus narrowly on quantifying the Uber-style "online on-demand" workforce, distinguished primarily by the application-driven process through which transactions between customers and service providers are inter-mediated. Despite the salience of this type of app-driven intermediation in debates over the future of work, such companies comprise only a small part of the independent contractor workforce. As shown below, the hairs split even further when dealing with relevant data.

Out of necessity, this report highlights two categories that overlap with independent contracting, one type of worker and one type of business. The first is the "self-employed, unincorporated" worker, which has long been considered a rough corollary for the independent contractor in federal data sources. While incorporated self-employed individuals, by definition, should be business

owners who work for themselves and possibly employ others, unincorporated individuals would be smaller-scale, usually single-person operations that receive payment reported on the 1099-MISC form.<sup>5</sup> This status overlaps with independent contracting, although the two are not equivalent. The second category is actually a type of business, the “nonemployer establishment,” most of which are of sole-proprietor business entities. This category exists in data based on administrative sources rather than surveys. However, it also overlaps with the status of independent contractor only imperfectly.

## **EXPLORING THE GIG ECONOMY**

### **Proxy indicators for the independent contractor**

Any attempt to tell a straightforward but data-driven story of independent contracting would be disingenuous by failing to stress the deep ambiguities at every level of the task. At the conceptual level, independent contracting as a phenomenon may be evaluated from markedly different perspectives, as illustrated by the studies mentioned above, which range in tone from qualified celebration to deep concern for a phenomenon that could be interpreted alternately as a continuation of marginal trends or as a complete overhaul of the prevailing paradigm of work in the United States.

Some commentators associate independent contracting with aspirational entrepreneurship and thus read it as a marker for a healthy competition and opportunity. This view frames independent contractors as akin to small businesses. Others approach the same issue from a far more pessimistic but equally credible angle, placing independent contracting along the spectrum of contingent work with temp agency and contract company workers. Certainly, the validity of either view varies depending on the normative practices, organizational forms, and labor market conditions that define individual segments of the workforce. At an economy-wide scope, whether an increasing level of independent contracting marks a bold charge into a prosperous, innovative future or just one symptom of a “fissured workplace” (Weil 2014) that shifts risk onto workers and undermines established standards of conventional employment like pay, benefits, and legal and regulatory protections, the ambiguity trickles down not only to the day-to-day realities faced by workers but also to the data available to examine these realities.

For an excellent example of the implicit ambiguities involved with interpreting trends among independent contractors, consider the last recession. Economic slow-downs undermine self-employment opportunities, just as they do for wage-and-salary employees. However, as workers lose their jobs or find constrained

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<sup>5</sup> Household surveys also report income for self-employed unincorporated separately from wage and salary income.

opportunities for advancement in conventional W-2 positions, more workers could turn to independent contracting as a main source of income or to make ends meet through side work. In other words, the effect of a recession on independent contracting could cut both ways. Moreover, these ambiguities may change over time. Tentative firms could rely on independent contractors in the early stages of recovery. If the trend is cyclical rather than secular, employers will gradually switch to more permanent W-2 positions as confidence and stability gain steam. A blip in contracting could thus provide a lagging indicator of a weak economy or a leading indicator of a recovering economy. On the other hand, an increase in contracting could also be symptomatic of a deeper, more structural shift toward short-term, contingent, risky work arrangements.

Unfortunately, the ability to detect – much less, to disentangle – these ambiguities is limited by the crude way that conventional data sources capture 1099 workers and other forms of self-employment (Wirtz 2012). Many government sources engage the issue in an oblique manner, whether through an analysis of tax data, business transactions, or surveys. None claims to directly support a “count” of independent contractors or 1099 workers, and each of the sources leveraged below varies in how it provides an operational definition that overlaps with the actually existing independent contractor. Without a direct measure for independent contractors, sorting through the different limitations of our various data sources requires an explicit and rather belabored approach to defining terminology. Table 1 clarifies key terms as they pertain to different sources of data.

The two most widely used population surveys are the American Community Survey (ACS) and Current Population Survey (CPS). In both surveys, the “class of worker” includes one category, “self-employed, unincorporated,” that likely overlaps substantially with those who consider their main source of income to be from independent contracting and has been used as a proxy in analysis by the Bureau of Labor Statistics (e.g., Hipple 2010). Other sources derive counts of “jobs” from administrative data, including tax returns. Independent contractors typically receive form 1099-MISC and report their income on Schedule C of Form 1040.<sup>6</sup> Some data sources list “proprietor” employment, including “sole proprietors,” which are owned by a single person, not registered with the state, and also report income on Form 1040 Schedule C. Where sole proprietorships consist of only the proprietor and no employees (in fact, the vast majority of sole proprietorships), the group covered by the tax-paying entity of sole proprietor likely overlaps with the payroll tax entity of independent contractor that receives a 1099-MISC form, although the degree of overlap likely varies by industry and occupation. For example, a small shop vendor with no employees may be a sole proprietor, but most would not consider this individual to be an independent

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<sup>6</sup> See the IRS website for discussion of 1099-MISC income and reporting forms.

Table 1: Definitions

	Definition	Source
Worker	An individual who earns income in exchange for time spent working one or more jobs.	ACS
Job	An employment relationship. A worker may hold one or more jobs as a wage and salary employee, an independent contractor, or an owner of a business that is either incorporated or incorporated, or some combination of the above.	BEA, QCEW
Independent contractor	A worker who provides services to another entity if the payer has the right to control or direct only the result of the work and not what will be done and how it will be done. Typically, income paid to independent contractors in excess of \$600 is reported on IRS form 1099-MISC, though many workers who do not consider themselves independent contractors may also receive a 1099.	None, except for CPS-CWS
Employee	A worker who receives a wage or salary from an employer who controls what will be done and how it will be done. This formal employment relationship is subject to employment regulations and taxes.	BEA, ACS, Census CBP, QCEW
Self-employed, incorporated	Workers whose primary source of work-related earnings comes from self-employment in an incorporated business entity, such as an LLC or partnership. These workers may or may not receive earnings from a W-2.	ACS
Self-employed, not incorporated	Workers whose primary source of work-related earnings comes from self-employment but not through an incorporated business, such as contract work or sole proprietorships. Presumably these workers receive a 1099 but may also receive a W-2 for part-time work.	ACS
Proprietor	An income-producing job from owning a business, regardless of whether this is as an independent contractor, a sole proprietor, or a partnership.	BEA
Sole proprietor	An income-producing job for a small-business that is not incorporated. Sole proprietorships only need to register with the government in the event of naming issues, regulatory requirements, or if the business has paid employees.	Nonemployer Statistics
Nonemployer establishment	An income-producing business establishment with no employees. The vast majority of these businesses are sole proprietorships, who are indistinguishable from 1099 independent contractors for tax return purposes.	Nonemployer Statistics

contractor.<sup>7</sup> Over 70 percent of small businesses are sole proprietors, and an even greater percentage are nonemployer businesses.<sup>8</sup>

The “non-employer” label is often used interchangeably with sole proprietor, although incorporated businesses (e.g., partnerships or LLCs) may also be non-employers. In reality, non-employer sole proprietorships greatly outnumber incorporated non-employer establishments, and absence of employees could signal the status of independent contractor, since these are indistinguishable for tax purposes. Furthermore, “self-employed” individuals own their own business, whether these businesses are incorporated or not. Although clearly not all self-employed individuals are independent contractors or receive a 1099, the group of workers who report their main employment status as self-employed, unincorporated, is generally considered to substantially overlap with the category of independent contractor.

Although each of these categories partially overlaps with the concept of independent contractors that motivates the present research, none do so perfectly, leaving analysis of independent contracting a murky prospect. Indeed, between the 1995 and 2005 rounds of the CPS-CWS, the rate of self-employment declined while the rate of independent contractors was both higher and increasing, suggesting that using the former class of worker as a proxy undercounts independent contractors (GAO 2015, 11). It is, however, still reasonable to assume that, although the use of self-employed, unincorporated workers as a proxy underestimates the level of independent contractors, a change relative to other forms of employment, like wage and salary employees, may still be interpreted as a signal that a given segment of the workforce is shifting toward independent contracting – or at least toward more “gig-like” patterns of work.

### **Data sources for the current study**

The data analyzed below come from several underlying sources. First, household surveys (the CPS and ACS) allow for estimates based on the number of workers in a given classification. As stated above, the group of workers who report their main employment status as “self-employed, unincorporated” are generally considered to overlap with the independent contractor. The validity of using self-employed, unincorporated as a rough proxy for independent contracting is somewhat substantiated by the 2005 CPS-CWS (Bureau of Labor Statistics 2005). In the CPS-CWS, independent contractors include all those who are identified as independent contractors, consultants, and free-lance workers in the supplement, *regardless* of whether they are identified as wage and salary workers or self-employed in the responses to basic CPS labor force status questions. Only 13 percent of independent contractors were also identified as wage and

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7 On the other hand, Etsy vendors have been cited as an example of gig economy work.

8 See the Small Business Administration.



salary employees. Self-employed respondents were further asked whether they worked as an “independent contractor, independent consultant, or something else” to distinguish those who consider themselves independent contractors as opposed to operators of businesses like shops or restaurants. Nearly 3 in every 5 of self-employed respondents were identified as independent contractors.

A second source of data includes those that count jobs, not workers, based primarily on administrative data from two other underlying sources, unemployment insurance (UI) and/or tax returns, although the sources differ with respect to which jobs are included and excluded, the level of occupational and/or industrial detail, and how the data is modified to rectify problems and to protect confidentiality. An example of UI-based data is the Quarterly Census of Employment and Wages (QCEW), a count of W-2 employment published by the BLS and its state partners and used as the basis for other data sources. Still other sources rely on surveys of establishments, like the BLS Occupational Employment Statistics or the Economic Census. By definition, these sources include only wage and salary jobs comprising roughly the same universe as those engaged in a conventional W-2 employment arrangement.

Experts generally regard the Bureau of Economic Analysis (BEA) data as the most careful, comprehensive count of employment and income at the state and local level. These figures are based on the same UI data as the QCEW and modified using tax data and other sources to include income-generating employment from proprietorships. In state-level BEA data, the proprietor category encompasses independent contractors, but does not distinguish these jobs from other forms of self-employment.

Third, the Census Bureau annually publishes “Nonemployer Statistics,” which consists of industry-level counts and total receipts of businesses that have no paid employees and are subject to the federal income tax. These statistics are based on business income tax records provided by the IRS. Most of these businesses are comprised of self-employed individuals operating unincorporated sole proprietorships.<sup>9</sup> These businesses range from an individual’s primary source of income to secondary work “on the side” and other marginal activities. A recent Census Bureau press release suffices to illustrate the range of activities captured under the umbrella of nonemployer establishments:

“Nonemployer businesses run the gamut from old-fashioned family-run corner stores to home-based bloggers,” ... “In some cases, the business may be the owner’s primary source of income, such as with real estate agents and physicians, but in other instances, they may operate the business as a side job, such as with babysitting and tutoring.”<sup>10</sup>

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9 The counterpart to this dataset for businesses with paid employees is the more frequently used County Business Patterns.

10 “Nation Gains More than 4 Million Nonemployer Businesses Over the Last Decade, Census Bureau Reports,” Release Number: CB15-96 (May 27, 2015)

California had three million nonemployer businesses in 2013, 13 percent of the national total. Though not subject to the sample error that affects household surveys, the IRS-based data are still subject to errors of self-classification by industry, as well as non-reporting errors.<sup>11</sup>

### **Limitations and cautions**

The present study is limited first and foremost by the fact that its data only indirectly reflects the motivating topic – independent contracting. Recent national studies that directly engage this topic, the GAO’s analysis of the 2010 GSS and Katz and Krueger’s (2016) survey designed for comparison with the 2005 CPS-CWS, do not use samples large enough for state-level estimates. Unfortunately, direct California estimates of independent contracting will not be available until the 2017 CPS-CWS is issued. As an alternative to surveys, this analysis relies on proxy indicators from different sources. Given the imperfect overlap of each data source with *actual* workers who fall under the status of independent contractor, the approach generally takes a cautious, exploratory, and comparative approach based on a logic of triangulation. While no direct estimates of independent contractors are offered, trends over time may be interpreted as signs of growth or decline within specific groups of workers, especially when changes are replicated across indicators drawn from different sources. In light of these limitations, interpretations are offered with caution and framed with caveats where appropriate.

### **Estimates from recent nationally representative studies**

Recent reports have sought to measure independent contracting alongside other forms of contingent or independent work. Independent contracting also raises issues concerning non-wage compensation, such as fringe benefits and access to private and government insurance programs, as well as job satisfaction. The GAO’s (2015, 23) report addresses these topics by analyzing the 2005 CPS-CWS and 2010 GSS. Independent contractors, like core contingent and part-time workers were substantially less likely to describe their fringe benefits as “good” than standard full-time employees. However, unlike part-time and core contingent workers, independent contractors tended to report high levels of job satisfaction, higher even than standard full-time workers. Similarly, in the 2005 CPS-CWS, 88.4 percent of independent contractors reported that they would not prefer a different type of employment. On the whole, although contractors tend to be less satisfied with fringe benefits, presumably because these benefits are typically not attached to their employment arrangement,

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<sup>11</sup> The Census Bureau also uses various techniques to remove employers and hobbyists and to prevent disclosure. Additionally, the Nonemployer Statistics went through a methodology revision in 2009 that may affect comparability of the data over time.

Table 2: Alternative work arrangements as a percent of employed workforce who also worked during the last week, from Katz and Krueger’s (2016) analysis 2005 Current Population Survey Contingent Worker Supplement (CPS-CWS) and 2015 RAND survey

	CPS Feb 2005	RAND Oct/Nov 2015
Alternative work arrangements	10.1	15.8
Independent contractors	6.9	8.4
On-call workers	1.7	2.6
Temp agency workers	0.9	1.6
Workers provided by contract firms	0.6	3.1
Number of observations	63,437	2,194

Source: Katz and Krueger (2016). The estimates presented here use the alternative weights constructed by the authors, not the original RAND weights. See the original paper for additional details.

they tend to be very satisfied with their jobs. The notion that most independent contractors prefer their situation is validated in other studies (Freelancers Union and Upwork 2015). On average, it is likely that independent contractors prefer their arrangements due to some combination of flexibility, autonomy, and the opportunity to earn more money.

The most recent nationally representative estimates come from Katz and Krueger (2016), who used the RAND American Life Panel in late 2015 to replicate aspects of the CPS-CWS. Table 2 summarizes the findings. Though Katz and Krueger provide only nationally representative estimates, their totals may be roughly applied to California as a benchmark for further analysis. Assuming that the national growth of the independent contractors is distributed to each state in equal proportion to its share of the national workforce, then a back-of-the-envelope calculation would suggest that California would have gained about 350,000 independent contractors since 2005.<sup>12</sup>

The focus of Katz and Krueger overlaps with a 2015 GAO report on the nation’s contingent workforce. The GAO also analyzed the 2005 CPS-CWS, but table 3 focuses on its findings derived from the 2006 and 2010 General Social Survey (GSS).<sup>13</sup> The GAO found that the contingent workforce grew between 2006 and 2010, although part-time work accounted for most of this growth. The level of independent contractors was roughly static. In the GSS, independent contractors outnumber self-employed workers – non-wage and salary workers

12 This is based on BLS estimates of the employed workforce in the US as a whole for February 2005 and October 2015 and in California in October 2015. Note that extrapolating US totals onto individual states is an ecological fallacy that should be interpreted only as a rough benchmark.

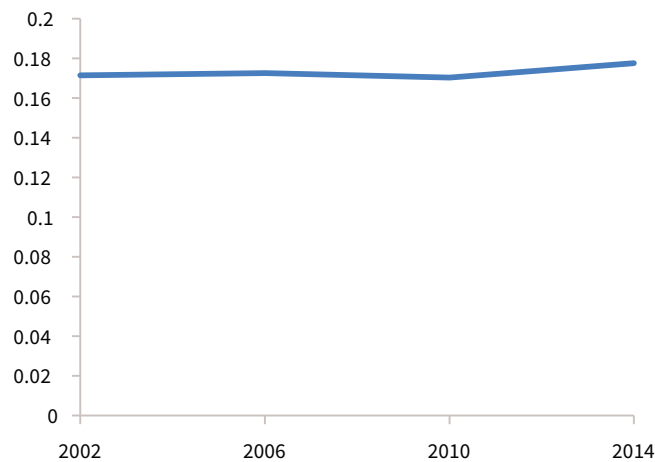
13 the authors concluded that the CPS-CWS and GSS yield similar national estimates. At under 5,000 observations, the GSS has a much smaller sample size than the CPS but includes a much broader range of topics, including those concerning the nature of work relationships. The GSS is also conducted more regularly.

Table 3: Alternative work arrangements as a percent of the total employed labor force, 2006 and 2010, from the GAO (2015) analysis of the General Social Survey (GSS)

	GSS 2006	GSS 2010
Agency temps	0.9	1.3
On-call workers	2.5	3.5
Contract company workers	3.6	3.0
Core contingent subtotal	7.1	7.9
Independent contractors	13.5	12.9
Self-employed workers	2.8	3.3
Standard part-time workers	11.9	16.2
Alternative work arrangement total	35.3	40.4

Source: GAO analysis of the 2006 and 2010 General Social Surveys. See GAO-15-168R for additional documentation.

Figure 1: The ratio of independent contractors to wage and salary employees in the GSS, 2002, 2006, 2010, and 2014



who are not identified as independent contractors (e.g., restaurant and shop owners) – by a ratio of 4 to 1.<sup>14</sup>

Katz and Krueger offer a few tentative explanations for why the rate of contingent and alternative work arrangements might be growing. First, technological change might be reducing the transaction costs associated with contracting out tasks that would have previously been performed by employees. Second, increased variability in profit levels might lead employers to restrict the pool of workers with whom profits are shared and preserve higher returns for core employees. Third, the shriveling of traditional employment during the Great

<sup>14</sup> This ratio substantiates the claim that, in most cases, “self-employed, unincorporated” serves as a decent stand-in for “independent contractor” where the latter is unavailable.

Recession might have driven workers to seek alternative work arrangements. In this case, the increase may only be temporary. Regardless of the underlying cause, increases in the prevalence of independent contracting range from modest (Katz and Krueger 2016) to miniscule (GAO 2015). Figure 1 shows that, at the national level, the estimated rate of independent contractors per wage and salary employee has changed little since the early 2000s. The next section examines California with a focus on the periods leading up to and following the recession.

## **A LOOK AT ECONOMY-WIDE INDICATORS IN CALIFORNIA**

As described above, estimates of employment and self-employment vary across sources.<sup>15</sup> Focusing on 2013, Figure 2 attempts to summarize these differences across four sources of state-level wage and salary employment estimates and, where available, comparable self-employment estimates. For three of the sources, estimates for wage and salary employment are generally comparable and range from 15.2 million to 16.2 million. County Business Patterns, the outlier, excludes not only self-employed individuals but also railroad employees, agricultural production employees, and most government employees, which primarily accounts for the lower tally of wage and salary employment. On the other hand, estimates of self-employment – whether as proprietors, sole proprietors, or self-employed, unincorporated individuals – reflect considerably wider variation across sources, primarily due to definition. For instance, the BEA set of “proprietor employment” encompasses proprietors of businesses with and without employees and independent contractors. The counts of “jobs” (EDD/QCEW and BEA) exceed estimates of workers (ACS), who may hold more than one job.

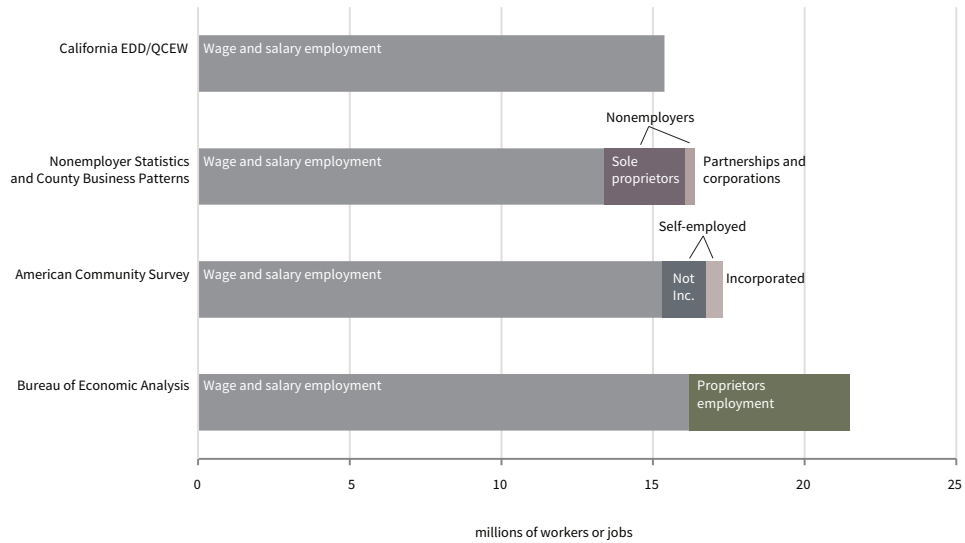
The BEA reports a number of detailed indicators on sources of income at the state level. Derived from several other government data and administrative sources, the BEA figures are generally considered to be the most careful, comprehensive count of employment and income on offer. While they do not identify 1099 workers per se, the BEA data differentiates wage and salary employment from proprietor employment, and the latter category likely encompasses many 1099 workers along with incorporated and general partnership employment.

Notwithstanding these issues, a few interesting patterns emerge from the data. In 2014, proprietors’ employment stood at about 38 percent of the level of wage and salary employment. Figure 3 shows a steady, if not dramatic, increase in proprietors’ employment since 2001. Where a clear and expected trough is visible in wage and salary employment levels from 2008 to 2011 and coinciding with the recession, proprietors employment only leveled off slightly. As a result,

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<sup>15</sup> This is due to sampling and non-sampling error, methods to rectify errors and protect confidentiality, and the timing of data collection. For example, the ACS and EDD report annual averages, whereas County Business Patterns reflects the week of March 12.

Figure 2: Comparison of total employment numbers in California from different sources, 2013



while proprietors' employment has grown by over forty percent, wage and salary employment only rebounded to its early 2000s levels in 2012. Given the dramatic increase in the number of proprietors, it is important to stress that this figure counts jobs – not workers – and includes owners of corporations and partnerships. In other words, proprietors are not limited to independent contractors.

Going further, figure 4, which presents the same BEA numbers as a percentage of 2001 values and adds total wages and salaries and total nonfarm proprietors' income for all workers, illustrates an interesting divergence. Wage and salary employment has rebounded modestly, and total wages and salaries have tracked along closely, albeit at slightly higher levels of growth. By contrast, although proprietors' employment has grown steadily and dramatically, aggregate proprietors' income dipped severely during the recession.<sup>16</sup> Since 2011, this income has rebounded quickly but only back to its baseline early-2000s level, despite consistent growth in the number of proprietors. Put differently, though there are many more proprietors, they are earning the same total amount of income. Figure 5 further illustrates this pattern by comparing wage and salary income per job and proprietors' income per proprietor. At the beginning of the 2000s, proprietor incomes were slightly lower than wages and salary levels. The latter grew modestly through 2014. On average, proprietors income levels, how-

<sup>16</sup> The BEA estimates of proprietors income are based on tabulations of IRS tax returns of Schedule C of Form 1040 for sole proprietorships and form 1065 for partnerships. These estimates are further adjusted to account for inventory valuation, capital consumption, misreporting, and construction. State totals are based on the tax filing address.

Figure 3: Bureau of Economic Analysis (BEA) Wage and salary employment and proprietors' employment, 2001–2014

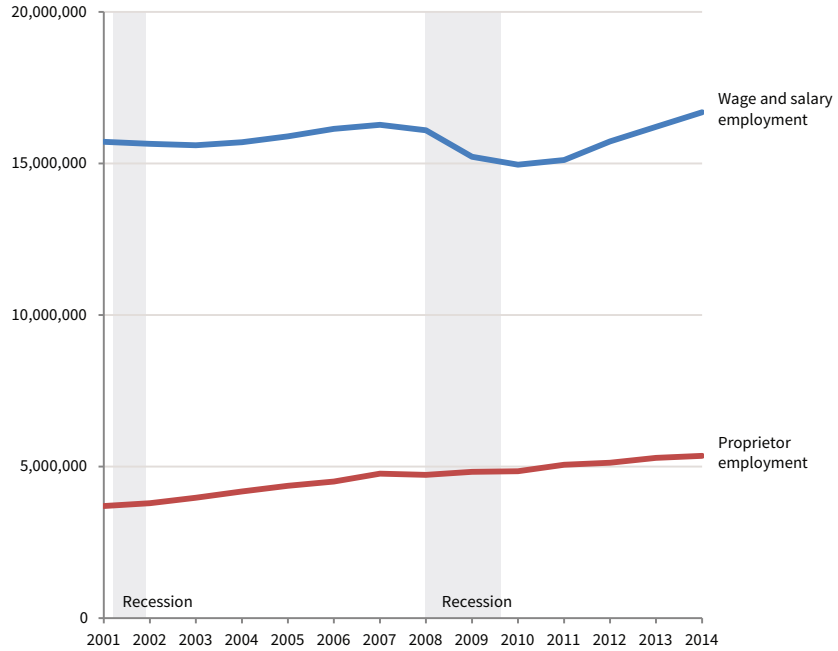


Figure 4: BEA Wage and salary employment and proprietors' employment and aggregate income, 2001–2014, indexed to base year

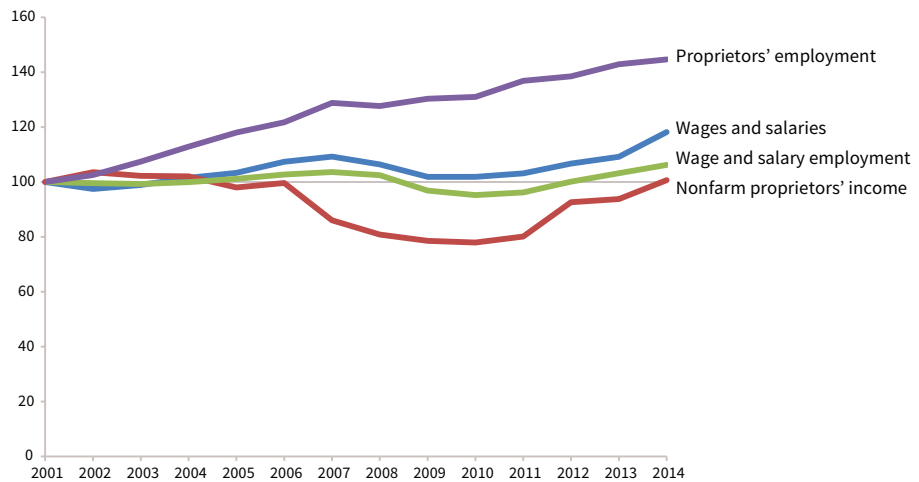
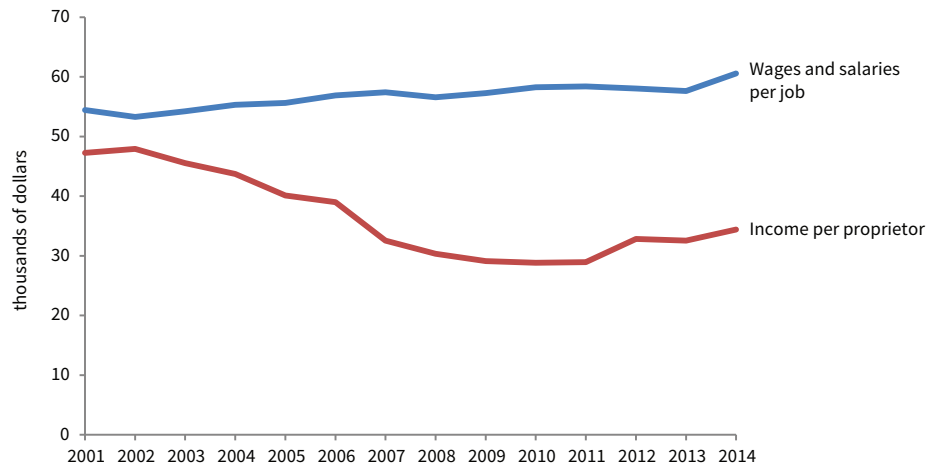


Figure 5: BEA Average Earnings for wage and salary employees and proprietors, 2001–2014



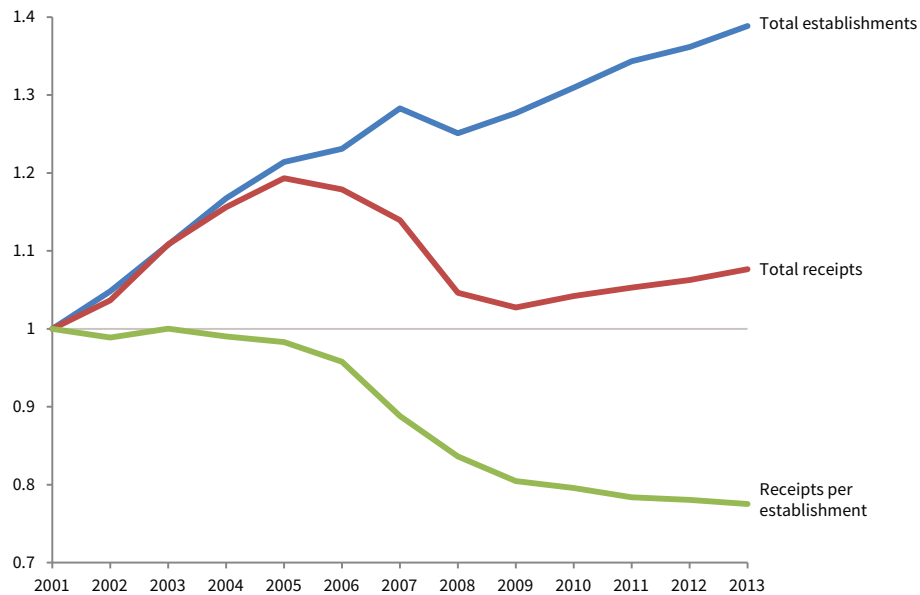
ever, fell severely during the recession and remain well below wage and salary levels despite a partial rebound.

Together, these BEA indicators suggest that wage and salary employment, if not the average level of wages and salaries, took a sharp hit during the recession but has since made a modest but nonetheless noteworthy rebound. Proprietors' employment on the other hand grew steadily, took a major hit to income levels during the recession, and – even with a sharp post-recession rebound – remained much lower in income per proprietor. In some cases, an increase in proprietorships could certainly reflect an increase in entrepreneurial opportunities, which many economists might interpret as a sign of an agile, entrepreneurial, and indeed healthy economy. However, given its pairing with a decrease in income levels, the observed trend could also be interpreted as a deterioration in the average quality of “proprietor” jobs. Lower earnings could result simply from the same proprietors' finding less success on average or from a churning that shifts away from higher-paying proprietor jobs and toward different set of low-paying proprietor jobs, such as part-time proprietorships for side income or proprietorships in industries that generate less income per proprietor.

The general finding that more self-employed individuals are earning less is also borne out in other sources. Figure 6 presents comparable estimates from the Census Bureau's Nonemployer Statistics program, illustrating change from 2001 to 2013 in total “nonemployer” establishments, total receipts, and receipts per establishment. Again, except for a small dip at the start of the recession, the number of establishments increased fairly steadily. Total receipts tracked along with this increase until 2005 but fell much more severely through the recession. As a result, even with the divergence between establishments and



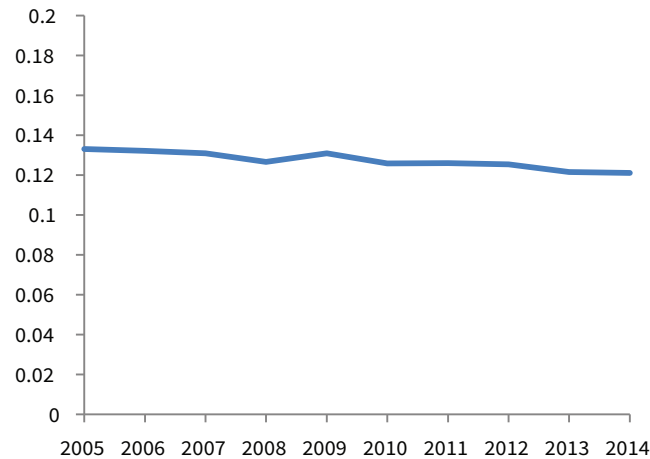
Figure 6: Nonemployer establishments and receipts, indexed to base year, 2001–2013



receipts leveling off after the recession, receipts per establishment remained in excess of twenty percent lower in 2013 than their 2001 levels. The ranks of non-employers (the vast majority of which are unincorporated sole proprietors) have increased but these entities earn less on average.

The data presented to this point tracks wage and salary jobs, proprietor employment, and nonemployer establishments. Next, we turn to estimates of *worker* employment and income drawn from the American Community Survey of households. The focus is on individuals who report their main employment relationship as “self-employed, not incorporated” as a proxy for independent contracting. The long-run national decline of this type of self-employment has been well documented by previous analysis (Fox 2014, Hipple 2010, Bernhardt 2014). In California, too, from the decade spanning from 2005 to 2014, the portion of self-employed, not incorporated workers declined slightly but consistently relative to private wage and salary employment, with an exception during the recession year of 2009 (see figure 7). In fact, the number of private-sector wage and salary workers also declined more sharply during the recession than self-employed incorporated workers, self-employed unincorporated workers, government and nonprofit workers. The relative shift away from independent contractors is indeed slight: for every thousand wage and salary workers, there were an estimated 133 self-employed, unincorporated workers in 2005 and 121 in 2014.

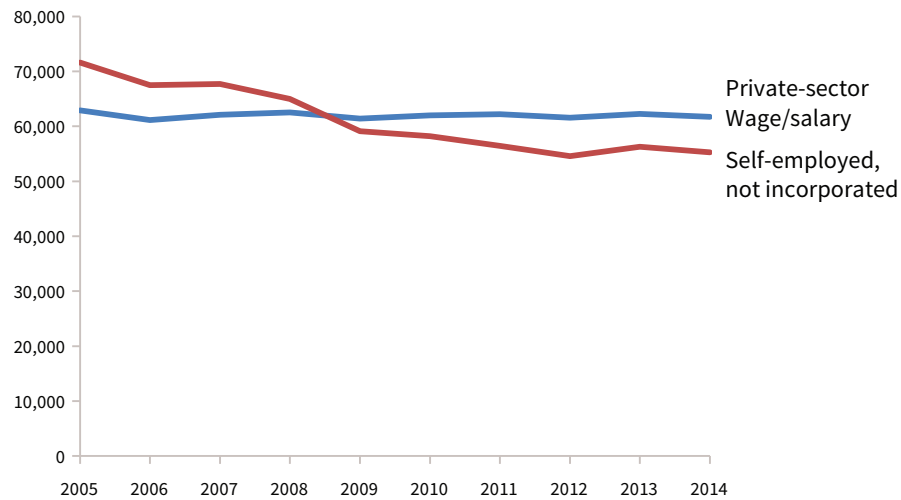
Figure 7: The ratio of self-employed, unincorporated workers to private-sector wage and salary workers, ACS, 2005–2013



For both wage and salary and self-employed, unincorporated workers, pre-tax self-employment income may be distinguished from pre-tax wage and salary income, i.e., money received as an employee, for the previous year. Figure 8 shows that average wage and salary income for full-time, year-round employees of private businesses remained relatively flat over the decade. Self-employment income for unincorporated individuals, however, declined to the point where, on average, these workers earn less income than the wages and salaries of private employees. Emphasizing the differences in definition and method, this worker-level change is less pronounced but nonetheless generally consistent with parallel trends presented above for jobs and proprietors. Individuals who identify as self-employed, unincorporated workers earn less from their self-employment income, on average.

Taken together, the above data allow for a few tentative conclusions. During the recession, employment levels among wage and salary employees were more sensitive to decline than the levels for the best available proxies for independent contractors: various ways of defining proprietors and individuals identifying their main source of earnings as self-employed, incorporated work. In contrast, earnings levels were relatively flat for employees but dipped considerably for proprietors and self-employed, unincorporated individuals. As a pattern, proxy indicators suggest that independent contractors are earning less, on average, than during the early 2000s.

Figure 8: Change in average earnings from main source of work, full-time year-round workers, ACS, 2001–2014



## TRENDS IN INDUSTRY SECTORS

To this point, we have examined trends in the economy as a whole. While general trends provide important context for the scope of independent contracting, they can mask considerable variation across California’s diverse economy. A illustrative comparison is the differential impact of the recession across industries. In the last recession, the construction industry suffered extreme job losses while the health care industry continued to add jobs. Similarly, some industries depend on the work of independent contractors to different degrees than others. The range of labor market circumstances encountered by independent contractors underscores the importance of accounting for such cross-industry variation.<sup>17</sup> This section explores variation across industries as reflected in the data according to the North American Industrial Classification System (NAICS).<sup>18</sup>

### Industry change in household surveys

The ACS allows for the examination of trends by comparing estimates for each sample year. To decrease error in the estimates, two three-year samples were constructed: 2005–2007 and 2012–2014. The latter period reflects the most current available data and commences after the end of the recession. The earlier period reflects the three years leading up the recession. The comparison thus

<sup>17</sup> For example, independent contractors in the management and finance industries are often very highly paid, while their counterparts in low and even moderate wage industries (like construction or trucking) may encounter the status of independent contracting in tandem with lower wages, unreliable work schedules, and fewer benefits.

<sup>18</sup> Readers unfamiliar with NAICS may find a brief primer in the appendix

Table 4: ACS estimates by class of worker and industry sector

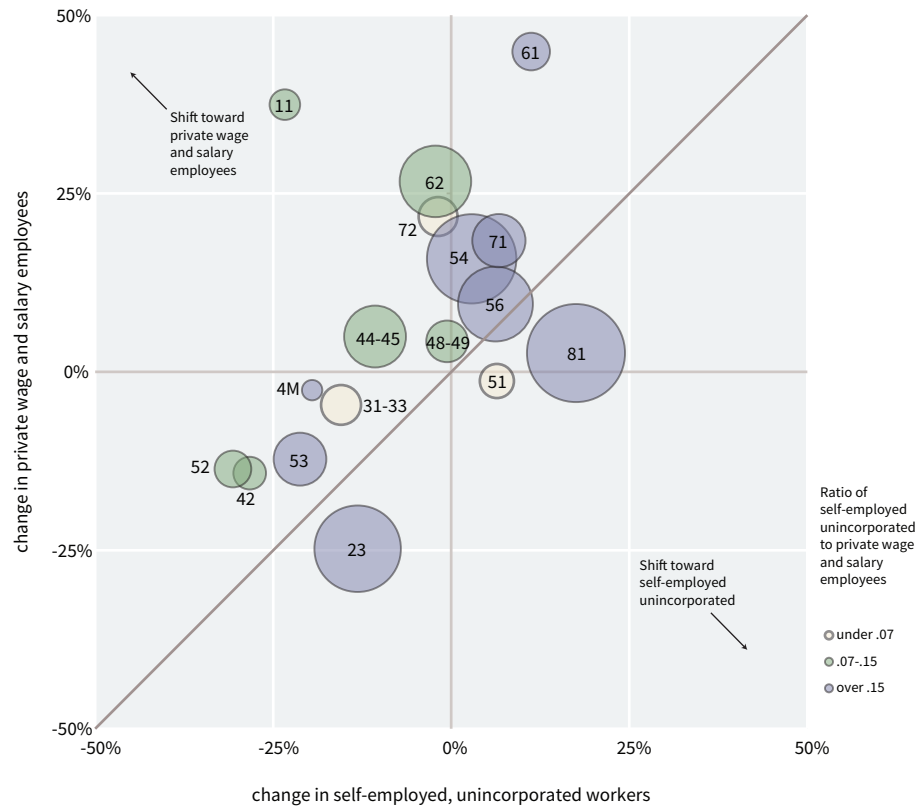
NAICS	Title	2012-2014			% Change	Self-employed not inc. Ratio to priv.emp.
		Self-employed		Employees		
		Not inc.	Inc.	Private		
11	Agriculture, Forestry, Fishing and Hunting	23,812	7,514	330,315	-23%	0.07
23	Construction	189,702	61,733	723,768	-13%	0.26
31-33	Manufacturing	40,060	32,204	1,590,584	-15%	0.03
42	Wholesale Trade	27,094	23,846	459,747	-28%	0.06
44-45	Retail Trade	97,250	48,294	1,629,753	-11%	0.06
48-49	Transportation and Warehousing	44,015	20,976	469,114	-1%	0.09
4M	Unspecified trade	10,527	3,124	79,509	-20%	0.13
51	Information	29,513	17,801	425,893	6%	0.07
52	Finance and Insurance	34,081	25,500	577,535	-31%	0.06
53	Real Estate Rental and Leasing	70,823	36,756	259,838	-21%	0.27
54	Professional, Scientific, and Technical Services	202,581	103,548	978,930	3%	0.21
56	Administrative and Support and Waste Management and Remediation Services	142,358	34,783	607,236	6%	0.23
61	Educational Services	36,046	8,072	292,156	11%	0.12
62	Health Care and Social Assistance	129,737	60,601	1,203,191	-2%	0.11
71	Arts, Entertainment, and Recreation	72,193	19,202	285,273	7%	0.25
72	Accommodation and Food Services	38,183	25,328	1,216,494	-2%	0.03
81	Other Services (except Public Administration)	243,852	34,198	429,671	18%	0.57

Source: Author analysis of IPUMS-USA version of the ACS. Totals are annual averages from a three-year sample, and changes are compared with comparable estimates from 2005–2007.

may be interpreted as before and after the recession. To illustrate the relative size of the workforce in question, table 4 breaks down employment for major industry sectors by three classes of worker: self-employed unincorporated, self-employed incorporated, and private-sector wage and salary employees. The table also shows considerable variation with respect to the share of total workforce that are self-employed, unincorporated workers and the growth rate of this portion of the workforce. For some sectors, the unincorporated self-employment ratio is 0.06 or less; for others, it is well over 0.2.

An important question is whether industry sectors are gaining self-employed unincorporated workers in proportion to wage and salary employment. Figure 9 allows for the comparison of growth rates among private-sector wage and salary workers and self-employed, unincorporated workers, broken down by industry sector. For context, each sector is sized according to the overall number of self-employed unincorporated workers and colored according to the ratio of these workers to private-sector wage and salary workers. Industries lying close to the diagonal line lost or gained employees and self-employed, unincorporated workers in roughly equal proportion. Whether gaining or losing in the grand

Figure 9: ACS estimates of employment change by industry sector among private wage and salary and self-employed unincorporated workers, before and after the recession, 2005–2007 and 2012–2014 (See NAICS code references in table 4)



total of workers, industries lying below the diagonal line experienced a relative shift toward self-employed, unincorporated workers.

The chart illustrates that, while the ratio of self-employed, unincorporated workers to private-sector wage and salary workers declined in most industries, this was not the case for all industries and the extent of the decline varied by degree. Thus, construction, which lost many workers in total, lost relatively fewer independent contractors than employees. “Other Services” (81) a catchall service sector category,<sup>19</sup> added few employees but very many self-employed, unincorporated workers. Other sectors with a high density of self-employed, unincorporated workers – Administrative Support and Waste Management and Remediation Services (56); Professional, Scientific, and Technical Services (54); and Arts, Entertainment, and Recreation (71) – also added substantial numbers of such workers.

19 Other Services includes repair and maintenance, laundry services, organizations (e.g., religions, civic, or professional), and private households.

Table 5: Average annual nonemployer establishments, 2011-2013, compared with pre-recession totals

NAICS	Title	2011-2013	Since 2005-2007	
			Difference	% change
11	Agriculture, Forestry, Fishing and Hunting	13,388	483	4%
21	Mining	5,006	110	2%
22	Utilities	1,424	173	14%
23	Construction	218,264	5,431	3%
31-33	Manufacturing	45,450	3,186	8%
42	Wholesale Trade	60,823	3,222	6%
44-45	Retail Trade	224,511	2,128	1%
48-49	Transportation and Warehousing	130,758	12,299	10%
51	Information	58,586	3,985	7%
52	Finance and Insurance	82,873	-8,765	-10%
53	Real Estate Rental and Leasing	303,361	-23,783	-7%
54	Professional, Scientific, and Technical Services	509,367	44,168	9%
56	Administrative and Support and Waste Management and Remediation Services	249,748	53,819	27%
61	Educational Services	74,270	16,095	28%
62	Health Care and Social Assistance	270,271	28,816	12%
71	Arts, Entertainment, and Recreation	188,546	27,882	17%
72	Accommodation and Food Services	40,414	5,631	16%
81	Other Services (except Public Administration)	455,298	86,913	24%

Source: Author analysis of Census Bureau Nonemployer Statistics.

Contrast Other Services with two other large sectors that employ many self-employed unincorporated workers: Professional, Science, and Technological Services and Health Care and Social Assistance. Both of these sectors added wage and salary workers in greater proportion than self-employed, unincorporated workers. Health care actually lost self-employed, unincorporated workers.<sup>20</sup>

### Industry change in “nonemployer” businesses

Breakdowns by industry sector are also available for nonemployer establishments. Table 5 summarizes totals by major industry sector in a manner that is comparable to the estimates presented above for self-employed, unincorporated workers. As noted previously, these establishments may actually be very small businesses that are not independent contractors per se, but the vast majority of nonemployers are unincorporated sole proprietors, indistinguishable from independent contractors in the tax data that underlies the estimates.

<sup>20</sup> although given the trend toward small physicians offices’ consolidating under the umbrella of larger health systems, this trend is not altogether unsurprising.

Figure 10: Change in annual averages of nonemployer establishments by 2-digit NAICS sector, 2005–2007 and 2011–2013

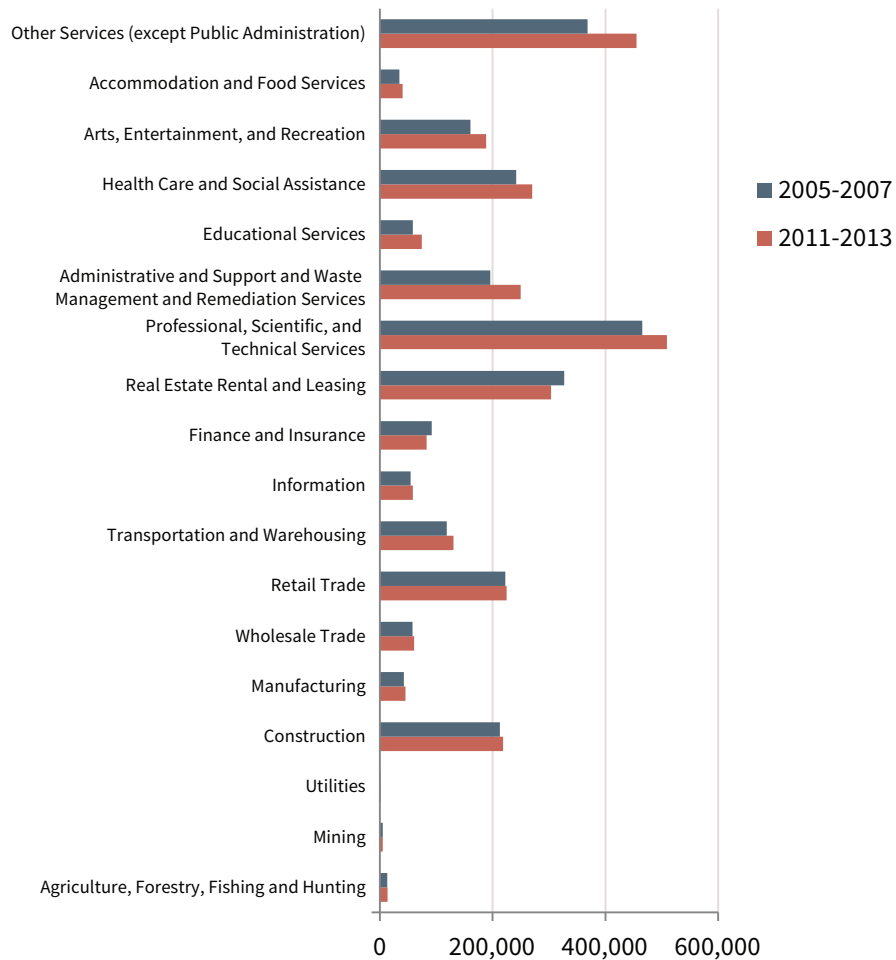
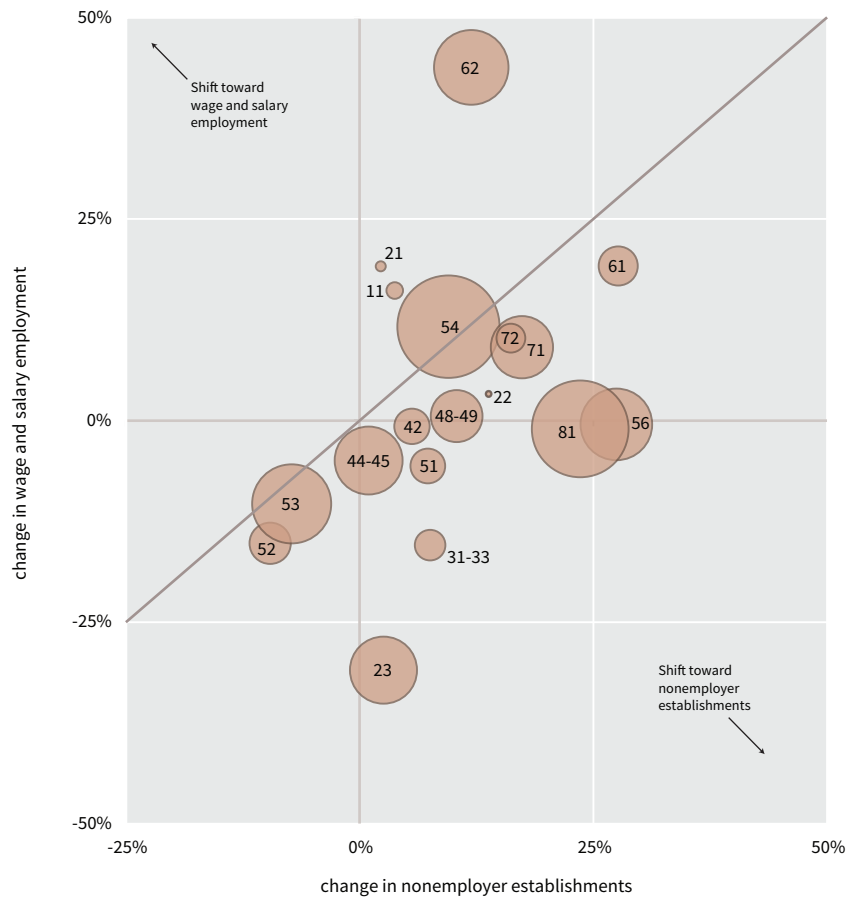


Figure 10 compares average levels of nonemployer establishments before and after the recession. As in the ACS data, many of the largest gainers are in relatively low-earnings industries, such as administrative and support and waste management and remediation services (56), other services (81), and arts, entertainment, and recreation (71).

Figure 11 adds context to changes in nonemployer establishments by presenting it alongside comparable shifts in BEA wage and salary employment. The symbols are sized in proportion to the sector’s total number of nonemployer establishments. The chart is similar to figure 7, but the sources of data and definitions of employment are different. This chart depicts trends in jobs and nonemployer establishments rather than workers by main source of income. As in the previous chart, high relative gains in nonemployer establishments

Figure 11: Change in annual averages of nonemployer establishments and BEA wage and salary employment by 2-digit NAICS sector, 2005–2007 and 2011–2013 (See NAICS code references in table 5)



occurred in the Other Services (81) and Administrative and Support and Waste Management and Remediation Services (56) sectors.

### Looking closer at selected industries

#### *Unpacking “Other services”*

To this point, Other Services (Except Public Administration) (81) has stood out as for its markers of high concentration and rapid gain among independent contractors. This “sector” is comprised comprised of a set of leftover industries that do not correspond neatly with more cohesive sectors elsewhere in the classification system. Table 6 explores the components of this sector more deeply by comparing the annual averages drawn from two three-year ACS samples (2005–2007 and 2012–2014) and the change in nonemployer establishments between 2005 and 2013. Growth was strong in each industry, except for the



Table 6: Detailed trends in Other Services (NAICS 81)

		Self-employment, unincorporated		Nonemployer establishments	
		2012–2014	change	2013	change
811	Repair and maintenance	50,693	-5%	98,792	13.2%
812	Personal and Laundry Services	94,290	19%	351,885	37%
8121	Personal Care Services			161,844	48%
8123	Drycleaning and Laundry Services			5,337	-7%
8129	Other Personal Services			183,795	30%
814	Private Households	96,813	30%	n/a	

Sources: American Community Survey (worker estimates), Census Bureau Nonemployer Statistics (nonemployer establishments). ACS estimates are drawn from two three-year samples (2005–2007 and 2012–2014), and nonemployer establishments are drawn from 2005 and 2013.

ACS-derived estimates for self-employed, unincorporated workers in Repair and Maintenance (811).<sup>21</sup> The largest components of this sector are Personal and Laundry Services and (812) and, in the ACS estimates, Private Households (814).<sup>22</sup> Within the personal and laundry services category, the largest industries were, in fact, not drycleaning and laundry services but personal care services and “other” personal services. In Personal and Laundry Services as a whole (812), the ACS-based estimates suggest that combined self-employment and wage income for full-time, year-round, self-employed, unincorporated workers is 16% less than comparable private-sector wage and salary workers.

#### *Truck transportation*

The short-haul trucking industry has been well-documented as a site of misclassification in California, particularly with Los Angeles, Long Beach and Oakland ranking among the nation’s largest ports.<sup>23</sup> The ACS only permits estimates at the level of General Freight Trucking (484), which includes both local and long-distance freight trucking. These estimates reveal a modest decrease in unincorporated self-employment (7.8 percent), against a slightly smaller decline in wage and salary employment (4.5 percent).

More detailed breakdowns into local and long-distance freight trucking are provided by the nonemployer statistics. Figure 12 shows a shift away from nonemployer establishments in short-haul trucking, relative to long-distance

21 This subsector increased in nonemployer establishments, most of which occurred in its two largest constituent industries: Automotive Repair and Maintenance (8111) and Personal and Household Goods Repair and Maintenance (8114).

22 Private households (cooks, butlers, gardeners, etc.) are not included in the nonemployer statistics, and the large discrepancy between nonemployer establishments and self-employed unincorporated workers in Personal Care Services suggest the possibility that private households were coded as “other personal care services” in the nonemployer data set.

23 Two other logistics industries: couriers and messengers (492) and warehousing and storage (493) were also examined. For both industries, self-employed unincorporated workers and nonemployer establishments comprised an extremely small portion of total employment.

Figure 12: Change in nonemployer establishments, local and long-distance general freight trucking, 2001–2013

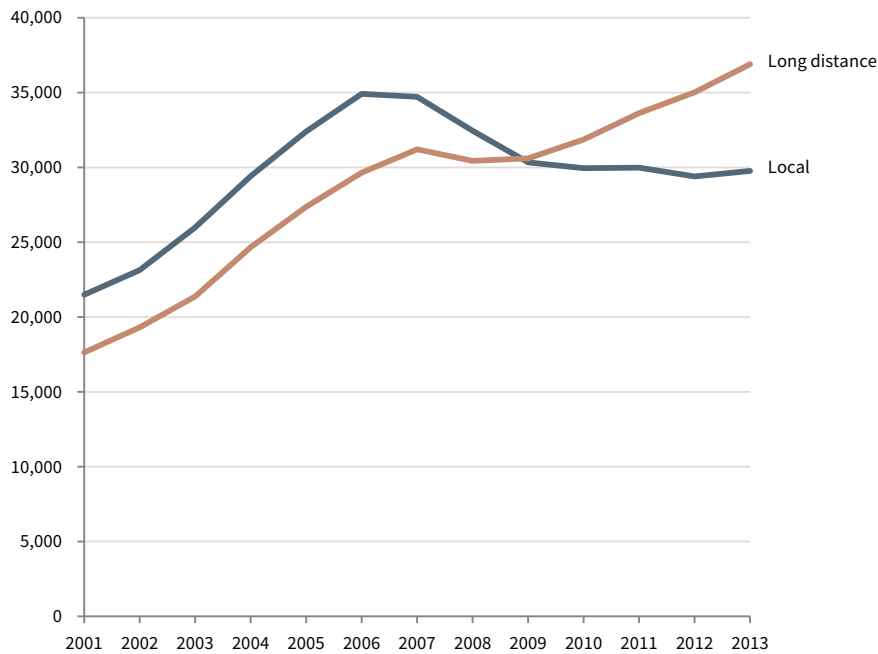


Table 7: Changes in Health Care and Social Assistance (NAICS 62) by Subsector

		Self-employment, unincorporated	Private W/S Employees	Nonemployer establishments
621	Ambulatory health care services	-2%	22%	26%
622	Hospitals	-28%	25%	n/a
623	Nursing and residential care facilities	-8%	41%	28%
624	Social Assistance	-1%	35%	5%

Sources: American Community Survey (worker estimates), Census Bureau Nonemployer Statistics (nonemployer establishments). ACS estimates are drawn from two three-year samples (2005–2007 and 2012–2014), and nonemployer establishments are drawn from 2005 and 2013.

trucking. Both industries took a hit during the recession, but only long-distance trucking resumed its growth trend.

### Health care

Table 7 shows employment trends by subsector in Health Care and Social Assistance (62). While this large sector grew relatively rapidly in total employment during the study period, most of the growth appears to have been in wage and salary employment, although nonemployer establishments also grew strongly in ambulatory health care services and nursing and residential care facilities.

As seen in table 8, by far, the largest source of nonemployer establishments in this sector is Child Day Care Services (624), although offices of health care providers, home health care, and child and family services also account for many

Table 8: Detailed trends in health care industry groups

		Self-employment, unincorporated		Nonemployer establishments	
		2012–2014	change	2013	change
6211	Offices of physicians	9,193	-32%	23,645	2%
6212	Offices of dentists	8,571	-10%	7,097	9%
6213	Offices of other health care practitioners	25,665	7%	54,038	20%
6216	Home health care services	7,396	2%	36,905	95%
6241	Individual and family services	12,798	50%	20,897	44%
6244	Child day care services	49,620	-8%	1,448,116	-2%

Sources: American Community Survey (worker estimates), Census Bureau Nonemployer Statistics (nonemployer establishments). ACS estimates are drawn from two three-year samples (2005–2007 and 2012–2014), and nonemployer establishments are drawn from 2005 and 2013.

nonemployer establishments. Among ambulatory health care establishments, the changing counts of nonemployer establishments suggest that Home Health Care Services (6216) account for most of the growth, with Offices of Other Health Care Practitioners (6213, not physician-based offices) also contributing.

#### *Taxis*

The ride-hailing apps Uber and Lyft have brought attention to the Taxi and Limousine Service (4853) industry, which falls within the broader Transportation and Warehousing Sector (48-49). The ACS data shows only a small share of self-employed unincorporated workers to employees and the difference was not significant between the two sample periods (2005–2007 and 2012–2014).

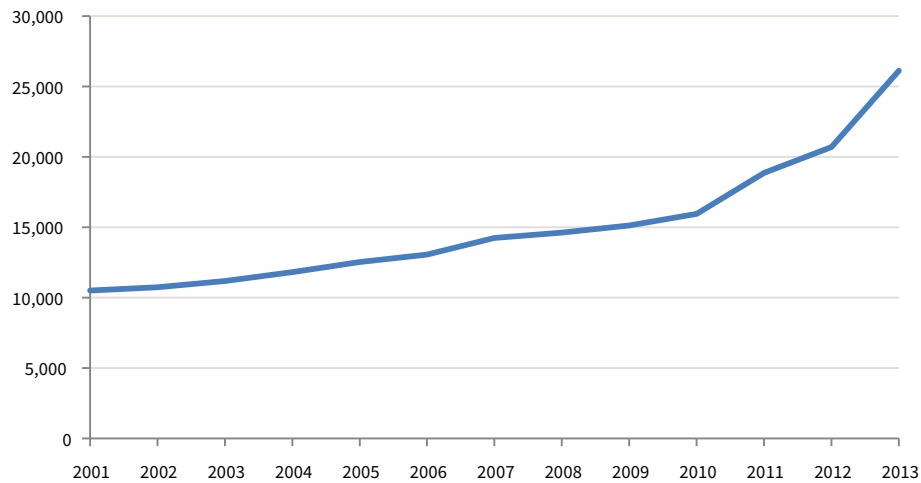
However, industry counts of nonemployer establishments have grown markedly in recent years, as depicted in figure 13. The acceleration of growth since 2011 roughly coincides with Uber’s trajectory, a proposition that would find additional support if 2014 and 2015 data (when available) continues to track upward.<sup>24</sup>

#### *Professional, scientific, and technological services*

Professional, Scientific, and Technological Services includes legal and accounting industries, a variety of design industries, management and technical consulting, scientific research and development, and advertising and public relations. These tend to be high paying industries, with both self-employed, unincorporated workers and employees earning over \$95,000, on average.

<sup>24</sup> It also bears noting that, based on the ACS, a self-employed unincorporated worker who worked full-time, year round earned, on average, 85 cents for every dollar earned by a private wage and salary employee. This includes both wages and self-employment income for both classes of worker. Self-employment income for wage and salary workers was very small, but wage income was about 6 percent of self-employment income for self-employed workers. If wage income is excluded for self-employed unincorporated workers, these workers earned 80 cents for every dollar earned by their wage and salary counterparts.

Figure 13: Change in nonemployer establishments, Taxi and Limousine Service (4853), 2001–2013



In this sector, the following industries experienced nonemployer establishment growth rates in excess of ten percent between 2005 and 2013: Legal Services (5111); Management, Scientific, and Technical Consulting (5416); Advertising, Public Relations, and Related Services (5418), and Other Professional, Scientific, and Technical Services (5419). While some of these industries represent self-employed, unincorporated workers in relatively large ratios to wage and salary employment, large absolute numbers, and strong growth rates, in no cases did this segment of the industry workforce grow faster than wage and salary employees. As a domain of skilled white-collar knowledge professionals and consultants, Professional, Scientific, and Technical Services remains a large site of independent contracting. However, little evidence exists to suggest that this sector is at the forefront of a gig economy transformation.

#### *Information*

The information sector encompasses publishing for various media; film, television, and audio production; and data services. The sector has the largest earnings penalty for self-employed, unincorporated workers among all nonfarm industries. While employees earn an average wage and salary of over \$95,000, self-employed, unincorporated workers earn under \$60,000.

A number of these industries experienced significant growth in employment: Software Publishers (5112), Motion Picture and Video Industries (5121); and Data Processing, Hosting, and Related Services (5182). Of these, growth among self-employed, unincorporated workers only outpaced growth of employees in the Motion Picture and Video Industries.

## **FOCUSING ON OCCUPATIONS**

Occupational trends reiterate the tendency for recent areas of growth in indicators for independent contracting to skew toward low-wage groups of workers. In a similar manner to the previous section, figure 14 compares ACS-based estimates of employment growth among self-employed, unincorporated workers and private-sector wage and salary employees. However, instead of the previous section's focus on industries, the focus here is on major occupational groups.<sup>25</sup>

Two occupational groups stood out for adding the largest number of self-employed, unincorporated workers: Personal Care and Service Occupations (mostly, childcare, personal care aides, recreation and fitness workers, and residential advisors (39-9) and personal appearance workers (39-5), including barbers and hairstylists) and Building and Grounds Cleaning and Maintenance Occupations (mostly, Building Cleaning and Pest Control Workers (37-2), which includes janitors, cleaners, maids and housekeeping cleaners).

In the Arts, Design, Entertainment, Sports, and Media Occupations, which also employes many self-employed, unincorporated workers, the largest occupations were Media and Communication workers (27-3), which includes writers and communications workers for various media, and Media and Communications Equipment Workers (27-4), which includes operators and technicians of various audio and visual equipment.

Echoing trends in the Construction industry sector, Construction and Extraction Occupations (47) lost far more wage and salary workers than self-employed, unincorporated workers. While wage and salary employment in Building and Grounds Cleaning and Maintenance Occupations (37) held flat, the sector experienced moderate growth in self-employed unincorporated workers.

Other occupational groups display evidence of a potential shift away from independent contracting. Sales and Related occupations employ large numbers of self-employed, unincorporated workers, but this share appears to have declined substantially. High-earnings occupations that account for a large portion of independent contractors like Management Occupations, Business and Financial Operations Occupations, and Healthcare Practitioners and Technical Operations actually declined in the number of self-employed, unincorporated workers. Moderate-earning Production Occupations and Office and Administrative Support Occupations also lost such workers.

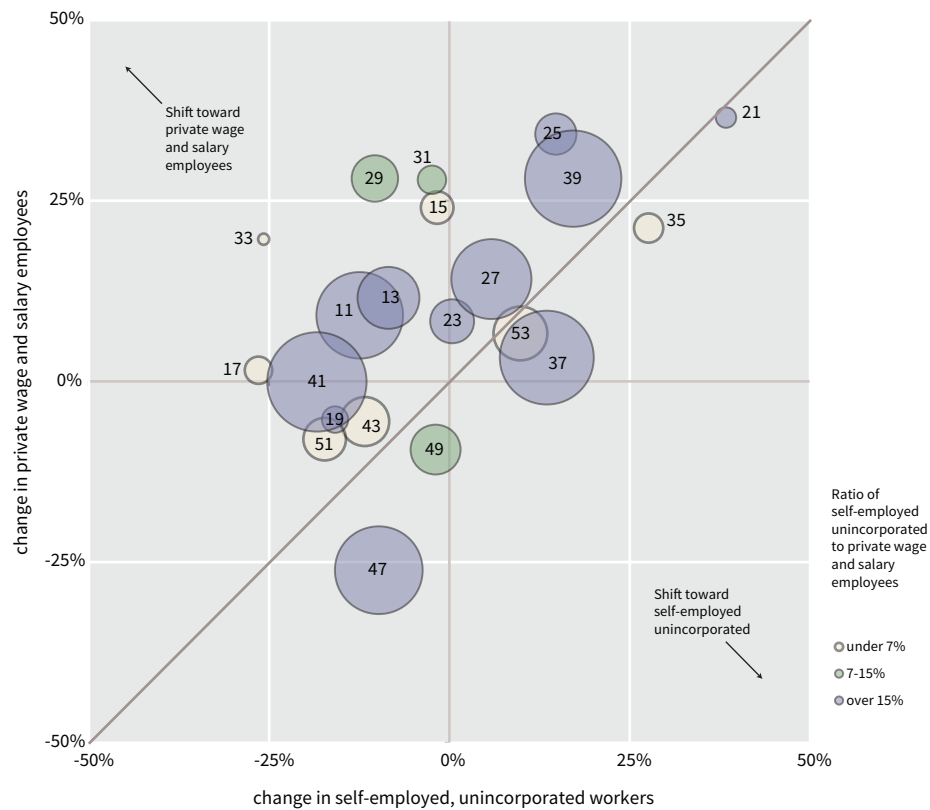
### **Pay differentials**

As reviewed above, previous analysis suggests that many independent contractors hold good jobs that pay well and have desirable levels of flexibility. In an

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<sup>25</sup> The Nonemployer Statistics do not allow for breakdowns by occupation and thus do not provide comparable indicators. This absence of occupational data is understandable, since the Nonemployer Establishments technically reflect a type of business and not a type of job or worker.

Figure 14: ACS estimates of employment change by occupation among private wage and salary and self-employed unincorporated workers, before and after the recession, 2005–2007 and 2012–2014 (See SOC codes below)



SOC Codes:

11–Management, 13–Business and Financial Operations, 15–Computer and Mathematical, 17–Architecture and Engineering, 19–Life, Physical, and Social Science, 21–Community and Social Services, 23–Legal, 25–Education, Training, and Library, 27–Arts, Design, Entertainment, Sports, and Media; 29–Healthcare Practitioners and Technical Occupations; 31–Healthcare Support; 33–Protective Service; 35–Food Preparation and Serving Related; 37–Building and Grounds Cleaning and Maintenance; 39–Personal Care and Service; 41–Sales and Related; 43–Office and Administrative Support; 45–Farming, Fishing, and Forestry; 47–Construction and Extraction; 49–Installation, Maintenance, and Repair; 51–Production; 53–Transportation and Material Moving

hypothetical economy consisting of identical workers randomly sorted into equivalent positions as employees or as independent contractors, independent contractors should earn more money to cover increased risk exposure and tax liabilities – holding all else equal. However, data from the ACS unsurprisingly suggests that all else is not equal.

Figure 15 presents earnings estimates for two groups of full-time, year-round workers: self-employed, unincorporated workers and private wage and salary employees. The figure shows that for many types of occupations, self-employed unincorporated workers do indeed earn a premium. The best examples are Healthcare Practitioners and Technical occupations and Life, Physical, and Social Science occupations. For others, self-employed unincorporated workers have similar – or even lower – earnings than their wage-earning counterparts. In some cases, such as Computer and Mathematical occupations and Arts, Design, Entertainment, Sports, and Media occupations, this earnings penalty is quite severe. For most low-to-moderate-earning occupations, average earnings among self-employed unincorporated workers are similar to – and in some cases slightly below – their wage and salary counterparts.

As discussed earlier, the ratio of average self-employed unincorporated earnings to average wage and salary earnings has been declining since before the recession. This is most likely due to the relative shift toward low-wage industries and occupations in the self-employed, unincorporated workforce.

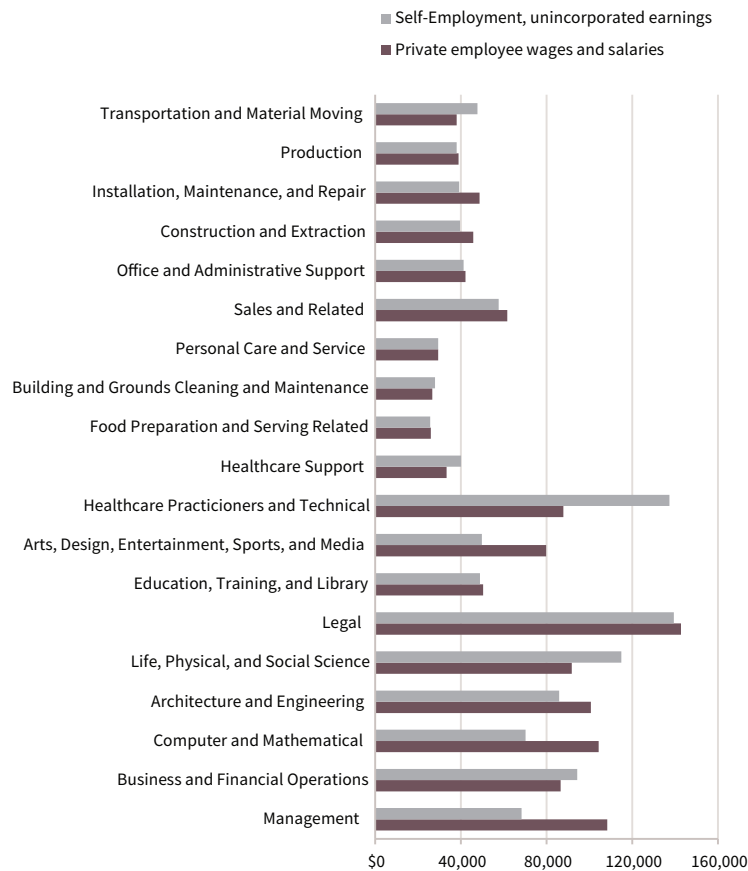
## **CONCLUSION**

Caveats permeate the findings of this exploratory analysis. In absence of direct indicators of independent contracting in California, multiple proxy measures have been used to examine trends over time and across industries. By privileging breadth rather than depth, the ambition remains purely descriptive. Without the scope to examine the competitive, organizational, and regulatory forces facing individual industries and segments of the labor market, the analysis remains limited in its capacity to offer even modest, provisional explanations for observed patterns. Although the analysis encompasses multiple sources, each only indirectly measures independent contracting. Given the gig economy's layered ambiguities, these limitations are not altogether unsurprising. Nonetheless, the analysis is suggestive of a few recent empirical trends and directions for further analysis.

### **Key empirical findings**

*Taking the California economy as a whole, independent contracting is probably growing, but not very dramatically. As a proxy for workers who derive most of their income as independent contractors, unincorporated self-employment*

Figure 15: ACS estimates of average earnings for wage and salary employees and self-employed, unincorporated workers, by main source of work, 2012–2014



has remained relatively flat since the mid-2000s. Other indicators, such as nonemployer establishments and proprietor employment, have shown consistent growth. In contrast, wage and salary employment experienced fairly dramatic swings, falling during the recession and rebounding during the recovery. Despite their respective limitations, these indicators do not suggest a wholesale shift in the predominant nature of employment in California.

*Multiple sources suggest that, on average, independent contractors today are earning less than before the recession.* Across all indicators examined above, average earnings from types of self-employment that overlap with independent contracting have declined relative to comparable averages of wages and salary income, although the size of this shift varies due to differences in data sources and the way that they approximate independent contracting. ACS data suggests that, in the mid-2000s, self-employed, unincorporated workers earned slightly more than average wage and salary employees. In recent years, this relationship has flipped.



*The industries and occupations that show signs of adding the largest absolute numbers of independent contractors or undergoing relative shifts toward independent contractors tend to be lower-earning.* The industries that have added the greatest numbers of independent contractors are likely service-sector industries that provide household and personal services and marginal support functions for other businesses. These industries tend to provide front-line, low-value added, low-wage jobs. Higher wage industries and occupations that account for many of the state's independent contractors have had slower growth, either in absolute employment levels or relative to wage-and-salary employment. The changing composition of independent contractors may explain the previous finding of a declining average level of income.

### **Implications for policy**

*The California economy is not a gig economy.* Even if we have entered the early stages of a “post-employment” transition, the vanguard of “online on-demand” businesses like Uber only comprises a small part of the independent contracting workforce – and not even necessarily the fastest-growing part. Whether online on-demand companies actually merit a redefinition of employment that balances flexibility with baseline of protections for workers remains a serious question. The answer hinges on competing arguments over whether differences between app-mediated work and conventional employment are superficial or essential and over the desirability of sanctioning more autonomous, more casualized work arrangements. Despite Uber and Lyft's visibility as emblems of the gig economy, online on-demand workers comprise only a small portion of a much larger and more diverse independent contracting workforce.

*The gig economy is not exclusively or even mostly an issue of technology and innovation.* As for “online on-demand” services mediated by niche apps, technological and organizational changes certainly enable more gig-like forms of employment across a range of industries, like scientific and professional services, manufacturing, and health care. To the extent that they are measurable, none of these sectors appeared to experience large shifts toward independent contracting. Despite their positions on the forefront of innovation, professional, scientific, and technical services and health care industries actually may have decreased their reliance on independent contractors. Most of the detectable growth in independent contracting has occurred in sectors that have not been subjected to disruptive innovation.

*The last decade's purported shift toward the gig economy – where it registers at all – is disproportionately comprised of low-wage service industries outside of the food service and retail sectors, which account for the largest share of low-wage employment.* One of the prevailing archetypes of a gig economy worker is that

of a consultant or freelancer, who may work in a creative or technology field and who likely benefits from the flexibility, independence, and opportunity afforded by his or her status. This portrait is not reflected in recent data on the changing composition of the gig economy. Instead, available evidence points to another archetype, those who provide personal and care services, services to households, and marginal services to other businesses in sectors that often provide low wages. In either case, even if the gig economy transition has thus far looked more like shifts on the surface than an upheaval, the changes reveal considerable variation across different industries. Given the complexity of factors behind gig work, clearly defining gig work as a conceptual and empirical phenomena remains an important but unfinished task.

*Emergent patterns of employment change over the last decade urge caution to recent calls for a “third category” of worker in response to the unique challenges faced by the “online on-demand” workforce. Carving out a special designation for a small subset of independent contractors could have unforeseen implications for a much larger group of workers who find themselves in similarly fuzzy or flexible employment arrangements. For these workers, the technology-oriented justifications for a third category are less applicable. However, the challenges of contingent work are often the same: less reliable employment, difficulty in bargaining for better job quality, greater liability for tax and insurance expenses, and stresses on the public sector.*

### **Recommendations for further research**

*Given the crude manner in which gig work is captured by publicly and regularly available data, alternative but sustainable data sources should continue to be evaluated. Currently, the best alternative sources of data are the CPS-CWS, a supplement to the Current Population Survey that requires a congressional earmark (and consequently has not been carried out since 2005) and ad hoc surveys (some by industry, professional, and advocacy associations) that do not allow for detailed breakdowns by geography, industry, or occupation.*

*The upcoming 2017 CPS-CWS will create an opportunity for a more complete picture of independent contracting, its potential relationship to declining job quality, and its intersection with other manifestations of contingent work. Recently, in a clear response to debates over the future of work in a gig-driven workforce, the BLS announced plans to issue the first round of the CPS-CWS since 2005. This resource is a welcome addition and should go a long way to refresh our snapshot of contingent work and to clarify the ambiguities detailed in this report. However, barring a dramatic shift of resources toward providing indicators on contingent work, the CPS-CWS is unlikely to be issued on a regular basis going forward. The sample size of the 2017 CPS-CWS also will not permit detailed*

industry breakdowns, even in the most populous state of California. As such, a worthwhile exercise would involve comparing findings from triangulating different, more consistently updated, but less directly applicable data sources – in the fashion of this report – to the more ad hoc snapshot provided by the 2017 CPS-CWS.

More data will allow for a more direct analysis of the scope of independent contracting and contingent work more generally. Additionally, the CPS-CWS might be used to investigate the variegated and sometimes compounded layers of contingency that may be differentially experienced by low-wage workers. This report's highlighting of the diversity of experiences by independent contractors suggests that these questions are equally valid for contract workers, some of whom certainly enjoy high status and compensation while others experience the status in conjunction with lower job quality. In other words, which contractors look like lean entrepreneurs maximizing their flexibility and earnings potential by choice, and which contractors look more like contingent workers, confined to flexible arrangements by circumstance or hiring practice?

*The findings underscore the importance of two foundational motivations for investigating the gig economy: measuring the prevalence of gig work across the economy as a whole and understanding industry-specific cases where work becomes more or less flexible, contingent, or otherwise “gig-like”.* This report has trod through murky waters of available data on a type of work that is, by definition, fuzzier to define than conventional wage and salary employment. Adding to the ambiguity, independent contractors as a group range from highly compensated professionals to contingent workers who often earn lower pay with fewer benefits than comparable employees. Research on contingent work, however defined, also implies a tension between breadth (i.e., to what extent is all work becoming contingent?) and depth (i.e., how is work in a given sector of the economy becoming more or less contingent?). Despite highlighting a few interesting patterns and trends across a variety of industries, the scope of this report has been broad rather than deep.

Contrary to the long-term net stasis or even decline of unincorporated self-employment, the evidence presented above has suggested that this economy-wide trend is not distributed uniformly across industries. Several industries have been highlighted as potential sites of a shift either toward or away from independent contracting. More in-depth industry studies might productively address how and why this is the case, working toward an understanding of the gig economy not just through measurement but through a richly comparative perspective. Industry-specific surveys are an important tool, although the inherent fuzziness of work status simultaneously presents challenges to quantitative measurement and emphasizes the importance of qualitative approaches.

The validity of using proxies to analyze the entire economy would also benefit from testing through more in-depth, focused analysis on smaller subsets of industries and occupations. The applicability of indicators like unincorporated self-employment and nonemployer establishments may vary across industries. Conversely, this report has identified a few data-driven approaches to roughly engage with questions relating to the industry-specific incidence of independent contracting. These methods could be of use to more industry-specific research questions, where a greater depth of qualitative and quantitative evidence could inform a more intensive process of cross-validating and interpreting emergent trends.

With direct relevance to independent contracting, an example of in-depth industry analysis involves employee misclassification. Deservedly, misclassification raises serious questions, particularly in industries where the practice is rampant, such as (potentially) ride-sharing, construction, and home health care, among many others. Aside from questions of legality, organizational practices, and the intersecting processes that undermine job quality, misclassification raises two separate measurement issues relevant to policy. First, misclassifying employers – in saving well over 20 percent on labor costs, depending on the industry (Habans 2015) – clearly shift costs and risks onto workers and distort competition. Far less certain is the incidence of such misclassification. Most studies depend on employer audits, which likely under-count the extent of misclassification and necessarily focus on estimating the rates of businesses that commit misclassification, not rates of workers who are misclassified (de Silva et al. 2000, Carré 2015). Additional industry-targeted studies would better address the prevalence of misclassification, and an application of the triangulation logic and proxy measures used in this report may provide a complementary tool through which to explore trends in conjunction with other qualitative and/or quantitative approaches.

Another broad concern around misclassification is the cost to the public sector from under-reported and unpaid taxes. Previous studies of misclassification vary widely in estimates of losses to state budgets (NELP 2015). The lion's share of public revenue impacts stem from under-reporting and nonpayment of taxes. These costs are difficult to estimate. Like the question of cost shifting onto workers, the question of costs to the public sector may be engaged from both the industry-specific and economy-wide perspective. This report has demonstrated how either perspective alone may lead to divergent empirical readings of the heralded rise of the 1099 worker as either a “non-event” or a deeply disruptive force in certain employment situations. The lesson is that, even if recent shifts in the surface never gather into a complete upheaval, careful vigilance remains necessary for the economy as a whole and for the range of ways that different groups of workers experience independent contractor status.

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## **TECHNICAL APPENDIX**

The report summarizes an analysis that spanned several data sources. In fact, investigating the applicability of and discrepancies across different data sources as potential proxies for independent contracting formed a secondary motivation for the analysis. The public use microdata extracts of the American Community Survey provided by IPUMS-USA (Ruggles et al. 2015) and the Nonemployer Statistics program of the Census Bureau provided the main emphasis of the report. Other sources analyzed in the report included the GSS Data Explorer extracts provided by the NORC at the University of Chicago, the BEA Annual State Personal Income and Employment tables, and QCEW and CPS tables provided by the BLS. The CPS Merged Outgoing Rotation Group files were considered and rejected because of topical overlap and smaller sample size compared with the ACS and because the independent contractors are excluded from the battery of weekly and hourly earnings and employment questions that make the extract useful for studying employment.

### **Industry and Occupational Codes**

This report relies on the North American Industry Classification System (NAICS), a hierarchical system for classifying business establishments by industry. NAICS codes range from two to six digits. As a rule, more digits indicates a finer degree of industry specification. For example, 56 indicates “Administrative and Support and Waste Management and Remediation Services,” 561 indicates “Administrative and support services,” and 5611 indicates “Office administrative services,” and so on. The most general level of aggregation is the two digit industry sector, each of which encompasses broad group of related types of industries. The Standard Occupational Classification System (SOC) provides a similar coding scheme for the occupations of workers. Again, the most general classification is the two-digit major occupational group. Summary tables in the text or notes in the tables serve as references for all two digit NAICS and SOC codes, and all more specific classifications are identified in the body of the text or tables. In general, no NAICS disaggregations further than four digits were examined.

### **Notes on Nonemployer Statistics**

The Nonemployer Statistics are fairly straightforward, although some issues with the data are worth noting. Industries are provided up to the six-digit NAICS classification, but this level of disaggregation is not consistently applied. Some industries are missing entirely. An relevant example is “Private Households,” although it is possible that these nonemployers were simply counted as “Other Personal Services”. The Nonemployer Statistics underwent a methodological

revision in 2009 that may affect the comparability of the data across the years. More information may be found on the Nonemployer Statistics website.

### **Notes on the American Community Survey**

The IPUMS-USA extract of the ACS-PUMS provides microdata for customized analysis of a general survey of household, economic, and demographic conditions over the previous 12 months. About 200 thousand Californians participate in the ACS annually. As indicated in the paper, the most relevant field for this analysis is “class of worker” and, more specifically, the self-employed, unincorporated worker. For simplicity, unincorporated self-employment was compared only with private wage and salary employment, excluding all government and non-profit employment.

The ACS samples of employment were restricted to employed individuals (i.e., unemployed persons may list an industry or occupation, but these individuals were not included in the estimates). All estimates of earnings, whether from self-employment or wage and salary are limited to employed workers who also worked at least 35 hours per week and 40 weeks per year (i.e., an approximation for full-time, year-round work). This was done to render comparisons more direct in the somewhat likely scenario that different classes of workers might have different annual incomes because of differences in typical weekly work schedules and the likelihood of interrupted employment during the year. All ACS estimates incorporate the included weights.

The IPUMS-USA extracts differentiate sources of earnings. “Business and Farm Income” indicates income from unincorporated self-employment. “Wage and Salary Income” indicates income from private wage and salary employment. Many respondents list both types of income, regardless of their class of work. This could happen for many reasons, including multiple sources of earnings or a mid-year switch of class of work status.

Because of sample error, great caution is necessary when interpreting small differences. Small differences – whether from period to period or from industry to industry – are likely not significantly different. In general, employment totals were not reported for industries with fewer than 10,000 estimated annual workers.

### **Temporal comparison**

Differences in the data collection methods may lead to minor temporal discrepancies in the data. For example:

- Each annual ACS sample is drawn from households sampled on a rolling basis over the course of a calendar year.



- The Nonemployer Statistics' primary source is annual or quarterly business income tax returns filed with the Internal Revenue Service (IRS), so the data reflects the tax reporting cycle.
- The BEA estimates of wage and salary employment are annual averages of twelve monthly observations for the year.

Where necessary, the CPI was used to adjust dollars for inflation. In all cases, current-value dollars are converted to 2014 dollars, which is the last year available in most of the data sets.

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