

INDEPENDENT CONTRACTORS IN LAW AND IN FACT: EVIDENCE FROM U.S. TAX RETURNS

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ABSTRACT—Federal tax law divides workers into two categories depending on the degree of control exercised over them by the service purchaser (i.e., the firm): employees, who are subject to direct supervision; and independent contractors, who operate autonomously. Such worker classification determines the administration of income tax and what it subsidizes, as well as which nontax regulations pertain, such as workplace safety and antidiscrimination protections. The Internal Revenue Service and other federal agencies have codified common law agency doctrine into multifactor balancing tests used to legally distinguish employees from independent contractors. These tests have proved challenging to apply and costly to enforce. Yet we know almost nothing about how firms actually classify workers systemically, and how such classification relates to the control firms actually exercise over workers.

To bridge this gap between legal principles and legal practice, this Article introduces a novel empirical analysis using a comprehensive data source—all digitized U.S. income tax filings between 2001 and 2016. This analysis establishes several new facts. First, using six measures of firms’ control over workers, I show that employees and contractors have grown increasingly similar over the past two decades. I found this convergence to be particularly pronounced among lower-earning workers. I then develop a novel theoretical framework to interpret these findings. Second, I provide empirical evidence that the presence of financial incentives created by policy increases the likelihood that employees are reclassified as contractors.

These results suggest a growing misalignment between how workers are classified and the substance of firm–worker relationships. Put another way, two otherwise identical workers, with relationships that feature a similar degree of control, may end up being classified differently due to, among other factors, their firms’ financial incentives. I conclude by discussing the key normative questions raised by the apparent erosion of the legal boundary delimiting contractors and employees.

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INTRODUCTION

The U.S. tax code divides workers into two categories: employees and independent contractors.¹ Significant tax and regulatory consequences turn on this distinction. How a worker is classified determines, for example, which taxes she must pay, how she must pay them, and which tax subsidies

¹ See IRS, INDEPENDENT CONTRACTOR DEFINED, <https://www.irs.gov/businesses/small-businesses-self-employed/independent-contractor-defined> [<https://perma.cc/8NH2-RTNZ>]. Officially, the IRS recognizes four categories of business relationships between individuals providing services and the firm purchasing services: independent contractor, employee, statutory employee, and statutory nonemployee. IRS, STATUTORY NONEMPLOYEES <https://www.irs.gov/businesses/small-businesses-self-employed/statutory-nonemployees> [<https://perma.cc/3AK5-KAME>]; IRS, STATUTORY EMPLOYEES, <https://www.irs.gov/businesses/small-businesses-self-employed/statutory-employees> [<https://perma.cc/9TYE-FY27>]. However, statistics from a 2010 Government Accountability Office (GAO) study found that these last two categories are used infrequently.

she enjoys.² And the consequences of this classification extend well beyond the tax system. Tort liability, firms' regulatory compliance costs, worker protection under major antidiscrimination statutes, and access to key elements of the social safety net—to name only a few examples—all hinge on a worker's status.³

This legal distinction hinges on *control*—whether the firm or the worker exercises more control over the work—and is built on the foundational common law principle of agency.⁴ An employer is a principal who has the right to control the work of her agent, the employee.⁵ A contractor, in contrast to an employee, controls her own work, and operates as a distinct principal, not as an agent. Several areas of private law incorporate the principal–agent dichotomy to align actors' incentives.⁶ For example, consider the doctrine of respondeat superior in tort law, which

² Examples of all three of these differences abound in the Internal Revenue Code. For example, employers are not required to pay the federal unemployment insurance tax (FUTA), a payroll tax, for contractors. *See* Social Security Act, Pub. L. No. 83-591, 68A Stat. 439 (codified as amended at 26 U.S.C. §§ 3301–11). And while employees are subject to employer withholding, contractors must make quarterly estimated tax payments. I.R.C. §§ 3401(a), 3402(a), 3501(b) (setting out employer withholding obligations); IRS Publ'n No. 505, *Tax Withholding and Estimated Tax 2022*, <https://www.irs.gov/pub/irs-pdf/p505.pdf> [<https://perma.cc/J28L-EMP2>] (providing guidance regarding estimated payments); IRS, ESTIMATED TAXES (2021), <https://www.irs.gov/businesses/small-businesses-self-employed/estimated-taxes> [<https://perma.cc/M3YK-5LUG>]. The two most prominent examples are the purchase of health insurance and retirement savings plans; even if contractors have the same statutory incentives, in practice, employer-sponsored vehicles are often effectively tax-subsidized to a greater extent, in part due to market structure. *See* Shu-Yi Oei & Diane M. Ring, *Tax Law's Workplace Shift* 23–27 (B. C. L. Sch. Legal Studs. Rsch. Paper, Paper No. 506, 2019) (discussing tax system delivered social insurance).

³ *See* Restatement (Third) of Agency § 2.04 (Am. L. Inst. 2006) (“An employer is subject to liability for torts committed by employees while acting within the scope of their employment.”); Family and Medical Leave Act, 29 U.S.C. § 2611(3) (defining “employee” by cross-reference to 29 U.S.C. § 203); Occupational Safety and Health Act, Pub. L. No. 91-596 (1970) (codified as amended at 29 U.S.C. § 651 et seq) (discussing the goal of “reduc[ing] the number of occupational safety and health hazards” through employer and employee efforts); *see also* Shu-Yi Oei, *The Trouble with Gig Talk: Choice of Narrative and the Worker Classification Fights*, 81 L. & CONTEMP. PROBS. 107, 120 (2018) (describing benefits available to employees under the National Labor Relations Act [NLRA] and the Fair Labor Standards Act [FLSA] that are not accessible to workers classified as independent contractors).

⁴ Michael C. Harper, *Fashioning a General Common Law for Employment in an Age of Statutes*, 100 CORNELL L. REV. 1281, 1290–91 (2015). In discussing precedent relevant to the definition of employee for the purposes of a copyright statute, the Court noted, “[W]hen we have concluded that Congress intended terms such as ‘employee,’ ‘employer,’ and ‘scope of employment’ to be understood in light of agency law, we have relied on the general common law of agency, rather than on the law of any particular State, to give meaning to these terms” *Community for Creative Non-Violence v. Reid*, 490 U.S. 730, 740 (1989) (Marshall, J., for a unanimous Court).

⁵ Restatement (Third) of Agency § 7.07(3)(a) (“[A]n employee is an agent whose principal controls or has the right to control the manner and means of the agent’s performance of work.”).

⁶ *See generally* 3 Louis Kaplow & Steven Shavell, *Economic Analysis of Law* in HANDBOOK OF PUBLIC ECONOMICS 1661, 1758–59. (A.J. Auerbach & M. Feldstein eds., 2002) (discussing how common law creates socially efficient standards using private incentives in the context of the principal–agent relationship). A non-exhaustive list includes torts, contracts, intellectual property, and business law.

holds that parties can be liable for the acts of their agents.⁷ The doctrine extends a financial penalty to the principal if her agent causes harm to a third party in the course of performance.⁸ This creates an incentive for the principal to exercise control over the agent in order to ensure that the work is done with sufficient care to avoid causing inefficient harm.⁹

But how is a multifaceted concept like control measured, and how do firms determine whether it exists in sufficient quantity to make one classification more appropriate than another? Like other complex doctrinal line-drawing problems in tax law,¹⁰ this classification must collapse a continuum of service contracts, ranging from employees economically dependent on a single firm that exercises full control over their work, to autonomous independent contractors with many clients and significant scope for entrepreneurial opportunity. And, like other complex legal standards with dichotomous tax consequences, the line between employee and contractor is vulnerable to manipulation by savvy taxpayers. Another example of a test which relies on the characteristics that commonly differentiate one legal type from another is the four-factor test formerly used to distinguish corporations, which are taxed twice, from partnerships, which are taxed once, as pass-through entities. If an entity possessed characteristics traditionally associated with corporations, such as “unlimited life” and “centralized management” in sufficient number, the entity was subject to the corporate tax.¹¹ In his early and influential work, Professor David Weisbach warns against the use of such “platonic notions”—or, ideal types—as the basis for drawing tax lines, arguing instead for drawing lines that maximize efficiency by minimally distorting individuals’ behavior.¹² Yet there remain numerous examples of lines in tax law that rely on easily manipulated factors, inducing taxpayers

⁷ Restatement (Third) of Agency § 2.04 (Am. L. Inst. 2006).

⁸ See Harper, *supra* note 4, at 1313–14 & n.159.

⁹ Note that the socially efficient outcome is achieved when the agent takes actions to prevent harm in accordance with the reasonable-actor standard to which her employer is subject (i.e., such an internalization solves the “principal–agent” problem of incentive misalignment). See Kaplow & Shavell, *supra* note 6, at 1758–59.

¹⁰ The line between debt and equity transactions, and the line between personal and business expenses, are canonical examples. For additional examples of line-drawing problems in tax, see David A. Weisbach, *Line Drawing Doctrine and Efficiency in the Tax Law*, 84 CORNELL L. REV. 1627, 1627–31 (1999); see also Edward Fox & Jacob Goldin, *Sharp Lines and Sliding Scales in Tax Law*, 73 TAX L. REV. 237, 239 (2020) (discussing residency and child birth date as examples of line drawing in the tax context).

¹¹ See Weisbach, *supra* note 10, at 1628. The Treasury initially created the four-factor test based on corporate associations to distinguish between corporations and partnerships. *Id.*

¹² See Weisbach, *supra* note 10, at 1628–31.

to change their behavior in response to the line.¹³ The codified “line” between contractors and employees appears to share much in common with the lines Weisbach disparages.

It is not obvious that firms prefer one classification over the other, holding aside tax consequences. Though employment relationships often have associated regulatory costs,¹⁴ the optimal classification for a given firm–worker relationship from the firm’s perspective depends on market conditions and features of the firm’s production process.¹⁵ Put another way, the optimal classification may hinge on a firm’s *boundary*, or set of activities performed in-house. As first observed by economist Ronald Coase, economic activity can take place either within a firm or on the market; if imperfect information raises the cost of transacting in a market, then the activity is more efficiently performed within the firm.¹⁶ Whether a firm decides that work should be done by an employee (internally) or by a contractor (externally) may turn on similar considerations.¹⁷ When a firm values what greater control can provide—better performance measurement, workers capable of performing multiple tasks—it may tend to hire employees to perform the work in-house, rather than contractors.¹⁸

¹³ See Fox & Goldin, *supra* note 10, at 286–87, 294 (discussing various examples of changes in taxpayer behavior in response to discontinuously changing tax treatment, such as the number of days that determine tax residency and the date of birth for child-related credits that attach to the calendar year).

¹⁴ The Fair Labor Standards Act (FLSA) is often cited as an example of regulatory cost attaching to an employment relationship. See Bruce Goldstein, Marc Linder, Laurence E. Norton & Catherine K. Ruckelshaus, *Enforcing Fair Labor Standards in the Modern American Sweatshop: Rediscovering the Statutory Definition of Employment*, 46 UCLA L. REV. 983, 1146–52 (1999) (discussing myriad repercussions that firms may incur if they violate the FLSA).

¹⁵ Cf. Anoop Madhok, *Reassessing the Fundamentals and Beyond: Ronald Coase, the Transaction Cost and Resource-based Theories of the Firm and the Institutional Structure of Production*, 23 STRATEGIC MGMT. J. 535, 535–36 (2002) (“[T]he identity and strategy of a particular firm influence how the firm’s resources interact with the transaction and how the firm chooses to govern it . . .”).

¹⁶ These considerations exist independent of a regulatory regime that layers compliance costs, subsidies, protections, and evasion opportunities (or lack thereof) onto employee status. While these additional costs (or benefits) may change the nominal wage, it is not clear that the private sector would prefer one type of relationship to another in all contexts. See generally R. H. Coase, *The Nature of the Firm*, 4 ECONOMICA 388–92 (1937) (discussing when contracting inside vs. outside the firm is optimal).

¹⁷ Subsequent work in the literature on optimal firm size has identified three characteristics of transactions considered critical for making this determination: frequency, uncertainty, and asset specificity, i.e. the opportunity cost of ending a relationship. The greater each of these, the more likely the work is to take place within the firm. Specific examples of the employee–contractor distinction have been studied previously. See generally Oliver E. Williamson, *Credible Commitments: Using Hostages to Support Exchange*, 73 AM. ECON. REV. 519, 519–40 (1983) (discussing how firms credibly signal their ongoing need for labor by hiring an employee instead of a contractor).

¹⁸ For instance, Erin Anderson & David Schmittlein consider electronic parts companies that hire their own sales staff and those that contract with third parties. In this example, firms tend to hire their own sales staff when individual performance is difficult to measure and when activities complementary

Under current law, the IRS and other federal agencies codify the employee–contractor line using multifactor balancing tests that involve as many as twenty purportedly distinct factors, no set combination of which fully determines a worker’s status.¹⁹ Due to the factors’ subjectivity and the lack of a formula for using them to determine a worker’s status, these tests create intrinsic indeterminacy: Two workers facing essentially similar economic and relational circumstances may be classified differently, opening the door to de facto electivity in how a firm selects a worker’s status. But how much flexibility these tests provide to firms remains an open question; also an open question is the appropriate policy response if substantial flexibility is undesirable. Yet despite the critical significance of the employee–contractor distinction,²⁰ we have essentially zero empirical evidence about the extent to which these multifactor tests constrain firms’ characterization of workers.

In this Article, I conduct a novel empirical analysis to examine how workers are classified for tax purposes in practice, yielding two positive contributions. First, I explore the extent to which firms’ classification of workers relates to control, and how this relationship has evolved over time. Second, I measure whether firms classify workers as contractors in response to policy changes that make contractor status more attractive to firms. To conduct these analyses, I rely on a comprehensive data set that has not previously been used to study this issue: all U.S. individual income tax filings from 2001–2016. Using these data, I analyze how employees and contractors differ on six characteristics that describe their relationships with firms: income dependence, number of payers, distance to payer, tenure, compensation volatility, and deduction-taking. I argue that these measures serve as proxies for behavioral, relational, and financial control—the key criteria in determining the appropriate legal characterization under federal tax law.²¹ Then, applying a novel analytical framework, I conduct a causal

to sales, such as providing customer support, are valuable to the firm. Erin Anderson & David C. Schmittlein, *Integration of the Sales Force: An Empirical Examination*, 15 RAND J. ECON. 385, 385–88 (1984); see also Erin Anderson, *The Salesperson as Outside Agent or Employee: A Transaction Cost Analysis*, 4 MKTG. SCI. 234, 234–36 (1985) (discussing the costs incurred by the firm in instructing outside contractors as compared to costs associated with direct sales forces).

¹⁹ IRS, *Independent Contractor Defined*, ONLINE TAXPAYER GUIDE (Feb. 20, 2021 8:08 PM), <https://www.irs.gov/businesses/small-businesses-self-employed/independent-contractor-defined> [<https://perma.cc/GM5M-G4WK>].

²⁰ See Oei, *supra* note 3, at 127–29 (discussing consequences of gig classification).

²¹ In fairness to the IRS, recent guidance on the twenty-factor test has reorganized the factors into three main categories—behavioral control, financial control, and the nature of the relationship—and provides some indication that certain factors will be given greater weight, though how much is not clarified. IRS, *Independent Contractor (Self-Employed) or Employee?*, IRS (May 17, 2022),

analysis to measure how a firm's classification decision changes in response to a policy that makes contractors less costly to the firm than employees.

My descriptive analysis yields three distinct findings: First, in the 2016 tax year, the average employee and the average contractor were indistinguishable on most of the measures of control that I have identified. Second, employees and contractors have converged in these measures since 2001. And finally, low-income contractors and employees are significantly more similar to each other than their high-income counterparts.²² For example, most employees and contractors exhibit a similar degree of income dependence, have a similar number of payers, and are located a similar physical distance from their payers.²³ And while contractors tend to have shorter tenures with firms and a greater degree of compensation volatility than do employees, these gaps have narrowed substantially over the past fifteen years.²⁴

I also find evidence in my causal analysis that how a firm classifies a worker depends on the firm's financial incentives for doing so.²⁵ To do this, I take advantage of a feature of Medicare's eligibility rules that treats employers offering health insurance to their employees differently depending on the firm's size. When an employee at a small firm (i.e., a firm with twenty or fewer full-time employees) turns sixty-five, her employer-provided health insurance pays second to Medicare, saving the firm money.²⁶ When an employee at a large firm turns sixty-five, however, her employer-provided health insurance continues to pay first, creating an incentive for the firm to reclassify the worker as an independent contractor. Comparing the likelihood that an employee is reclassified as a contractor after she turns sixty-five at small versus large firms, I find that when the cost of retaining an employee rises, a firm is more likely to classify an existing employee as a contractor. While in economic terms the magnitude of the effect I find is modest, so too is the incentive; it is no great leap to infer that firms may

<https://www.irs.gov/businesses/small-businesses-self-employed/independent-contractor-self-employed-or-employee> [<https://perma.cc/7ZJN-VPAN>]; see WILLIAM HAYS WEISSMAN, NAT'L ASS'N OF TAX REPORTING & PROF'L MGMT., SECTION 530: ITS HISTORY AND APPLICATION IN LIGHT OF THE FEDERAL DEFINITION OF THE EMPLOYER-EMPLOYEE RELATIONSHIP FOR FEDERAL TAX PURPOSES 2-5 (2009) (discussing refinement in IRS guidance to employers).

²² See *infra* Section III.B.

²³ See *infra* Section III.B.2.

²⁴ See *id.*

²⁵ See *infra* Part IV.

²⁶ 42 C.F.R. § 411.24(h).

behave similarly when faced with much larger financial incentives that exist throughout the code.²⁷

These results suggest that the line separating employees and contractors is blurry rather than sharp; workers facing a similar degree of control may, depending on how a firm applies the multifactor balancing test, end up on either side of it. And the distributional consequences of this phenomenon are unlikely to be neutral: The similarities between employees and contractors are much more pronounced for low-income workers who, along with female workers, have experienced the largest growth in contractor income since 2001.²⁸ In other words, low-income and female workers are at the greatest risk of being misclassified as contractors, thus depriving them of important labor protection and other benefits associated with employee status.²⁹

A better understanding of how firms classify workers is particularly timely, if not urgent, for two reasons. First, the underlying structure of the labor market and key provisions of the tax code applying to contractor income are in flux.³⁰ Platform firms³¹ in the “gig” economy have vastly diminished the entry costs to self-employment, while technological innovations continue to change the manner in which firms monitor employees and the effective size of labor markets expand through commuting and remote work.³² Second, a significant change introduced in the recent tax reform legislation allows contractors and other pass-through

²⁷ One such financial incentive is that contained within the Affordable Care Act (ACA), which requires firms with more than fifty full-time employees to provide employer-sponsored health insurance to all employees or face tens of thousands of dollars in fines. Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 1511-15, 124 Stat 119, 252-58 (2010). This threshold creates a concentrated bright-line threshold (e.g., at fifty full-time employees there is a drastic regulatory difference), in conjunction with the hefty cost of noncompliance, create powerful incentives for firms to reduce the number of full-time employees to locate below the threshold. One attractive way to accomplish this relocation is to substitute contractors for workers, who, in the absence of the incentive, would be classified as employees.

²⁸ See Katherine Lim, Alicia Miller, Max Risch & Eleanor Wilking, *Independent Contractors in the U.S.: New Trends from 15 Years of Administrative Tax Data* (U.S. Dep’t of the Treasury, IRS Research, Applied Analytics, and Statistics Working Paper No. 19, 2019), at *4, <https://www.irs.gov/pub/irs-soi/19rpindcontractorinus.pdf> [<https://perma.cc/KW8K-RD2U>].

²⁹ See *infra* Part II.

³⁰ See ARNE L. KALLEBERG, *GOOD JOBS, BAD JOBS: THE RISE OF POLARIZED AND PRECARIOUS EMPLOYMENT SYSTEMS IN THE UNITED STATES, 1970S-2000S*, at 21-39 (2011).

³¹ “Platform firms” are so called market-maker sites, which create value by matching service providers with service purchasers. Prominent examples include Angi—previously Angie’s List—eBay (for goods) and, controversially, Uber and Lyft (which match drivers and passengers).

³² Daron Acemoglu, *Technical Change, Inequality, and the Labor Market*, 40 J. ECON. LIT., 7, 30-72 (2002) (on the effects of technology on workers of differing skill levels); Börje Johansson, Julian Klaesson & Michael Olsson, *Time Distances and Labor Market Integration*, 81 PAPERS IN REG’L SCI. 305, 305-27 (2002) (discussing how remote supervision capacity collapses geographic labor markets).

taxpayers a generous deduction on their business income,³³ which many commentators speculate could fundamentally change the tax calculus of contracting for a significant population of taxpayers.³⁴ In order to develop alternatives, we must have an adequate picture of how firms use the existing dichotomous classification framework.

This Article also offers a basic framework for interpreting these results and discusses the normative questions they provoke.³⁵ Several hypotheses may explain—and several policy responses may address—the observed convergence in characteristics of control between employees and contractors. For example, increased uncertainty about the location of the legal boundary between employees and contractors could be remedied by harmonizing the multiple sets of criteria that currently delineate it.³⁶ Alternatively, if firms strategically misclassify workers, then reducing their incentive to do so may be an appropriate policy response. More broadly, I argue that this convergence suggests the need to reassess the dichotomous treatment of workers by the income tax system depending on their classification. The more employees and contractors resemble each other, the clearer it becomes that the tax system’s differential treatment of these groups—which can engender real differences in tax outcomes and access to the social safety net—is without a rational basis. However, the extensive interdependency between tax and nontax tests and case law may render drawing a new line solely for tax purposes impracticable. I consider the implications of my results for existing reform proposals, and the lessons that can be drawn from the theoretical literature about legal design.

This Article is organized as follows: Part I provides background on worker classification in the United States, including its origins, implications for workers and firms, and existing literature on this topic. Part II considers the origin and features of the U.S. tax filings data used for both the descriptive and causal analyses. Part III describes the six proxy measures for control and then asserts three findings based on distributional and time-trends evidence. Part IV introduces a unique framework for making sense of

³³ I.R.C. § 199A(a).

³⁴ See David Kamin, David Gamage, Ari Glogower, Rebecca Kysar, Darien Shanske, Reuven Avi-Yonah, Lily Batchelder, J. Clifton Fleming, Daniel Hemel, Mitchell Kane, David Miller, Daniel Shaviro & Manoj Viswanathan, *The Games They Will Play: Tax Games, Roadblocks, and Glitches Under the 2017 Tax Legislation*, 103 MINN. L. REV. 1439, 1441–43 (2019) (discussing how § 199A will result in tax avoidance); Russell A. Hollrah & Patrick A. Hollrah, *New Passthrough Deduction Creates Tax Benefit for Self-Employed*, 158 TAX NOTES 1051, 1051 (2018) (discussing eligibility for § 199A); Daniel Shaviro, *Evaluating the New U.S. Pass-Through Rules*, 71 BRIT. TAX REV. 49, 63–64 (2018) (prospectively discussing the effects of § 199A on forum choice and government revenues).

³⁵ See *infra* Section IV.A.

³⁶ See *infra* Part V. Harmonizing the definition of employee would have an ancillary benefit of making interagency coordination easier, and permitting pooling of enforcement resources.

the descriptive findings in Part III. Part V then explores one application of that framework by examining whether there is empirical evidence of firms reclassifying employees in response to discontinuous financial incentives. Part VI discusses the policy implications for tax treatment of labor income of the current and potential alternative approaches to worker classification. The final Part concludes.

I. BACKGROUND ON WORKER CLASSIFICATION IN THE UNITED STATES

This Part provides detail on the legal distinction between employee and contractor relationships and discusses the tax and regulatory consequences that follow from this distinction. The tax system’s treatment of income, applicability of labor protections, and access to social insurance programs, governed by a superstructure of federal statutes and agency regulations, depend on how a worker is classified. I conclude with a brief review of current legal and empirical scholarship studying these phenomena, situating my study in that literature.

A. *Origins of the “Employee”*

The legal distinction between an employee and a contractor originates in common law principles of vicarious liability—not tax law.³⁷ Consider the doctrine of respondeat superior, under which parties can be liable, or legally responsible, for acts of their agents.³⁸ The establishment of an employer–employee relationship for this purpose depends on the extent to which the purchaser of services controls, or has the right to control, how the work is completed, such as whether or not the purchaser provides tools or dictates the timing and sequencing of the work’s completion.³⁹ The underlying logic is one of incentive alignment—the doctrine extends a financial penalty for causing harm to the party with power to instruct and supervise the agent to ensure that the work is done with sufficient care to avoid causing harm.⁴⁰

Two structural features of this doctrine merit brief mention. As a legal standard, rather than a legal rule, this doctrine creates a distinction *ex post*,

³⁷ *O’Hare Truck Serv., Inc. v. City of Northlake*, 518 U.S. 712, 722–23 (1996) (noting that “the distinction [between employees and contractors] . . . is, in the main, a creature of the common law of agency and torts”); *see also* 19 WILLISTON ON CONTRACTS § 54:2 (4th ed.) (acknowledging the distinction between an employee and a contractor “is a matter of the common law of agency and torts”); RESTATEMENT (FIRST) OF AGENCY § 219, cmt. b (AM. L. INST. 1933) (establishing the principal–agent relationship creates the same liability rules as a master and servant relationship).

³⁸ RESTATEMENT (THIRD) OF AGENCY § 2.04 (AM. L. INST. 2006).

³⁹ *See id.* § 7.07(3)(a) (“[A]n employee is an agent whose principal controls or has the right to control the manner and means of the agent’s performance of work . . .”).

⁴⁰ *See* Kaplow & Shavell, *supra* note 6, at 1667–73; *see also* Harper, *supra* note 4, at 1311–14 (discussing federal applications of common law standards to incentivize corporate compliance).

after services have been rendered.⁴¹ This does not mean that promulgation of the distinction as a standard rather than a rule is necessarily less efficient, or even inherently more complex.⁴² However, ex post creation of laws tends to increase costs borne by individuals, who must expend resources and effort to predict the legal characterization of their contemplated transaction.⁴³ It also tends to be costlier to enforce, in part because it requires the enforcer to give meaning to the law within each factual context.⁴⁴

A second feature concerns its normative content *with respect to tax law*. While the doctrine clearly has normative value in the context of tort law,⁴⁵ it is less obvious how assigning different tax consequences to otherwise identical service contracts on the basis of how much control is exercised during performance is supported by appealing to traditional tax values such as taxing the Haig-Simons definition of income,⁴⁶ or ability to pay.⁴⁷ In other words, why should the tax treatment of income earned from work change based on the worker's relative autonomy? As will be shown, both of these features survived importation into the federal superstructure. The nature and

⁴¹ Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 559–60 (1992) (describing a rule as “leaving only factual issues for the adjudicator,” such as with a rule prohibiting “driving in excess of 55 miles per hour on expressways,” while describing a standard as “leaving both specification of what of what conduct is permissible and factual issues for the adjudicator,” such as with the standard prohibiting “driving at an excessive speed on expressways”)

⁴² *Id.* at 559–66; Frederick Schauer, *Rules and the Rule of Law*, 14 HARVARD J.L. & PUB. POL’Y 645, 646 (1991) (describing different types of rule-based decision-making as often being generalizations); *see also* Carol Rose, *Crystals and Mud in Property Law*, 40 STANFORD L. REV. 577, 580–90 (1988) (providing examples of contexts in property law where a consistently applied standard is more desirable than an exhaustive rule).

⁴³ Kaplow, *supra* note 41, at 560–61 n.5.

⁴⁴ *Id.* at 560 & n.3.

⁴⁵ The Author believes that the common law standard for defining an employment relationship, evolved and refined over several centuries, is both reasonably equitable and socially efficient in the context of liability, which features a highly skilled arbitrator who makes an ex post decision after antagonistically incentivized parties have provided her with all relevant facts. Contrast with the tax context, where firms (in many cases, their Human Resources Dep’t) prospectively classify workers in accordance with the dictate of a *twenty-factor* balancing test. Even for medium sized firms, it is likely cost prohibitive to consult legal expertise for each highly fact-specific hiring decision.

⁴⁶ Haig-Simons income is a comprehensive, use-based definition which identifies income in each tax period as the taxpayer’s consumption plus her change in savings. Tax scholars frequently refer to this construct in delineating which resources should be included in the income tax base. *See* Henry C. Simons, PERSONAL INCOME TAXATION (1938); Robert Murray Haig, *The Concept of Income-Economic and Legal Aspects*, in READINGS IN THE ECONOMICS OF TAXATION 54, 59 (Richard A. Musgrave & Carl S. Shoup eds., 1959).

⁴⁷ For example, in contrast with the present distinction, a pure manifestation of the “ability to pay” principle would allow all workers, regardless of type, to deduct business expenses in order to more accurately tax net income. For discussion of other tax distinctions lacking in normative content, *see* Weisbach, *supra* note 10, at 1643–49 (arguing that doctrinal definitions are often “neither helpful nor relevant to most disputes”).

effects of incorporating common law agency doctrine into the web of federal statutes and regulations, including into tax law, are discussed in the next Part.

B. Judicial Guidance and the Modern Analytic Tests

These common law agency principles have been codified, with nontrivial variation, into state and federal law categorizing workers as employees or independent contractors. These multifactor balancing tests require the arbiter to weigh the relative importance of several aspects of the relationship in assessing a worker's proper characterization.⁴⁸ While greater variance exists in state law, courts recognize two legal tests in the context of federal regulation. The first is the common law "control test," which adheres closely to the principles of agency law and focuses, somewhat tautologically, on the employer's right to control the putative employee, while the second is the "economic realities test," a hybrid test that considers common law factors and the broader relationship of economic dependence between the worker and service purchaser.⁴⁹ Commentators generally consider the second test more inclusive, but some question whether there is daylight between the two in application.⁵⁰

Tax law relies on the first of these, the common law standard, or "control test," codified in IRS Revenue Ruling 87-41 as a twenty-factor test incorporating aspects of behavioral, financial, and relational control.⁵¹

⁴⁸ Various government authorities use a complicated multifactor balancing test to honor the common law agency principles. *See* Cmty. for Creative Non-Violence v. Reid, 490 U.S. 730, 743 (1989) (stating "the classification of a particular hired party should be made with reference to agency law"); O'Connor v. Davis, 126 F.3d 112, 115 (2d Cir. 1997) (suggesting "courts should presume that Congress had in mind 'the conventional master-servant relationship as understood by the common-law agency doctrine'").

However, these multifactor tests differ depending on the court. *See, e.g.,* Dykes v. DePuy, Inc., 140 F.3d 31, 37–38 (1st Cir. 1998) (noting the First Circuit will utilize the common law test of agency and listing 12 factors for lower courts to consider); Ahmad v. Yellow Cab Co. of New London & Groton, 49 F. Supp. 3d 178, 183 (D. Conn. 2014) (listing the 13 "so-called Reid factors" a court should weigh when determining whether a worker is an employee or independent contractor); DiPilato v. 7-Eleven, Inc., 662 F. Supp. 2d 333, 347 (S.D.N.Y. 2009) (including "economic dependence among the other factors of the common law agency test to determine whether plaintiff would be an employee for the purposes of her ADEA and Title VII claims").

⁴⁹ *Compare* Nationwide Mut. Ins. CO. v. Darden, 503 U.S. 318, 323–24 (1992) (discussing the common law test), *with* Oestman v. Nat'l Farmers Union Ins. Co., 958 F. 2d 303, 305 (10th Cir. 1992) (identifying the correct standard to apply in Title VII actions as "a combination of the economic realities test and the common law right to control test.").

⁵⁰ *See, e.g.,* Charlotte S. Alexander, *Misclassification and Antidiscrimination: An Empirical Analysis*, 101 MINN. L. REV. 907, 939 n.97 (2017) (quoting RESTATEMENT (THIRD) OF EMPLOYMENT LAW § 1.01 cmt. d–e (Am. Law Inst., Proposed Final Draft 2014)) ("Decisions interpreting the meaning of employee under the federal antidiscrimination laws illustrate the lack of any sharp distinction between the common law test, at least as formulated in *Reid* and *Darden*, and a multifactor economic realities test.").

⁵¹ Rev. Rul. 87-41, 1987-1 C.B. 296.

Specifically, the factors include: (1) whether the person for whom the services are performed has the right to require compliance with that person's instructions; (2) whether there is required worker training; (3) whether the worker's services are integrated into business operations; (4) whether services must be personally rendered; (5) whether the service purchaser or the worker hire and pay any assistants; (6) whether there is a continuing relationship; (7) whether work must be completed in set hours; (8) whether full-time work is required; (9) whether the work must be done on-site; (10) whether the work must be performed in a particular sequence; (11) whether the worker must submit regular reports; (12) the interval over which the worker is paid ("by the hour, week, or month"); (13) whether the service purchaser pays or reimburses business or travel expenses; (14) whether the service purchaser provides tools, materials, or equipment; (15) whether the worker invests in facilities that are not furnished by the employer; (16) whether the worker can realize profit or loss; (17) whether the worker works for more than one firm at the same time; (18) whether the worker makes her services available to the general public; (19) whether there is a right to discharge the worker; and (20) whether the worker can terminate the relationship without incurring liability.⁵²

Now consider the current IRS guidance provided to potential employers in how to apply these factors to their respective relationships:

Businesses must weigh all these factors when determining whether a worker is an employee or independent contractor. Some factors may indicate that the worker is an employee, while other factors indicate that the worker is an independent contractor. There is no "magic" or set number of factors that "makes" the worker an employee or an independent contractor, and no one factor stands alone in making this determination. Also, factors relevant in one situation may not be relevant in another.⁵³

⁵² *Id.* In contrast, under the FLSA, courts have applied an "economic realities" test. When applying this test, courts analyze six factors to assess the relationship between the worker and business: (1) the degree of control that the business has over the manner in which the work is performed; (2) the worker's opportunity for profit or loss; (3) the worker's investment in equipment or materials; (4) the degree of skill required for the work; (5) the permanence of the working relationship; and (6) the degree to which the services rendered are an integral part of the business. *See* *McFeeley v. Jackson St. Entm't, LLC*, 825 F.3d 235, 241 (4th Cir. 2016) (citing *Schultz v. Capital Int'l Sec., Inc.*, 466 F.3d 298, 304–05 (4th Cir. 2006)); *see also* *Acosta v. Paragon Contractors Corp.*, 884 F.3d 1225, 1235 (10th Cir. 2018) (applying the same six-factor test); *Iontchev v. AAA Cab Serv., Inc.*, 685 F. App'x 548, 550–51 (9th Cir. 2017) (applying the same six-factor test).

⁵³ IRS, INDEPENDENT CONTRACTOR (SELF-EMPLOYED) OR EMPLOYEE? (2017), <https://www.irs.gov/businesses/small-businesses-self-employed/independent-contractor-self-employed-or-employee>.

On the face of it, such a large number of factors, paired with determined regulatory agnosticism, seems to run the risk of creating considerable legal indeterminacy.⁵⁴

Partially in recognition of this, Congress created a safe-harbor provision, Section 530, that permits treating a worker as a contractor if a “reasonable basis” exists for such treatment.⁵⁵ Critics have disparaged the expansive nature of Section 530, characterizing it as “a harbor the size of the ocean.”⁵⁶ In addition, in recent years, the IRS has created a significant amnesty program, which permits firms to reclassify workers as employees going forward, provided certain conditions are met, without fear of repercussion for previous tax periods’ (incorrect) treatment of the worker as an independent contractor.⁵⁷ Whether these efforts to mitigate adverse consequences of “unintentional” misclassification have the perverse consequence of encouraging intentional, or, at a minimum, opportunistic misclassification is unknown.⁵⁸

C. Implications of Worker Classification

Despite the evident difficulty in interpreting and enforcing the distinction between employees and contractors, the distinction nevertheless has very real and definite consequences for how the tax system treats workers’ compensation.⁵⁹ These, in turn, may affect workers’ effective tax liability and access to tax-code-delivered subsidies for socially desirable consumption. Significant nontax consequences follow as well, including coverage under most U.S. labor protections. The Section that follows is a summary, not a comprehensive review, of these implications.

⁵⁴ See *id.* (discussing the allocation of the twenty factors into general categories of financial and behavioral control, in addition to nature of the relationship).

⁵⁵ WILLIAM HAYS WEISSMAN, SECTION 530: ITS HISTORY AND APPLICATION IN LIGHT OF THE FEDERAL DEFINITION OF THE EMPLOYER–EMPLOYEE RELATIONSHIP FOR FEDERAL TAX PURPOSES 6 (2009).

⁵⁶ Mitchell H. Rubinstein, *Employees, Employers, and Quasi-Employers: An Analysis of Employees and Employers Who Operate in the Borderland Between and Employer-and-Employee Relationship*, 145 U. PA. J. BUS. L. 605, 635–36 (2012); see also Marc Linder, *Dependent and Independent Contractors in Recent U.S. Labor Law: An Ambiguous Dichotomy Rooted in Simulated Statutory Purposelessness*, 21 COMP. LAB. L. & POL’Y J. 187, 187–191(1999) (arguing that the legal distinction between employee and contractor is nearly impossible to enforce on a consistent basis).

⁵⁷ See Weissman, *supra* note 55, at 10–11 (on how the IRS applies 530 in practice).

⁵⁸ For discussion of this possibility, see Jenna Amato Moran, *Independent Contractor or Employee? Misclassification of Workers and Its Effect on the State*, 28 BUFF. PUB. INT. L.J. 105, 105–07 (2010).

⁵⁹ See Oei & Ring, *supra* note 2, at 667–79 (on the importance of deductions for personal income).

1. *Effective Tax Liability*

Worker classification can potentially alter effective tax liability through multiple channels. The most prominent avenues are through discrepancies in the payroll tax base and *incidence* (i.e. relative tax burden born by the worker versus the firm), and differences in permitted deductions associated with a worker's performance. The most explicit, though relatively modest, source of differential liability arises from contractors' exemption from the federal unemployment insurance program (FUTA).⁶⁰ FUTA is a payroll tax of 6% on the first \$7,000 of wages and is nominally paid by the employer. However, the incidence of FUTA likely falls partially, or even fully, on the employee, through lower wages.⁶¹ In short, because employers pay FUTA taxes on their employees' but not their contractors' wages, and at least part of that tax burden is likely passed on to employees through lower wages, whether or not a given worker bears some burden of FUTA tax liability depends on whether they are classified as a contractor or employee.

A subtler differential in liability could arise from a difference in the incidence of Medicare and Social Security taxes for employees and contractors—governed by the Federal Insurance Contributions Act (FICA) for employees and the Self-Employment Contributions Act (SECA) for contractors. Under classical economic theory, FICA and SECA are economically equivalent taxes, despite being remitted by different parties (in the case of FICA, employers remit; SECA taxes are remitted by contractors themselves). All else being equal, contractors and employees will bear the same share of these payroll taxes, relative to the employer/payer; historically,

⁶⁰ Pub. L. No. 83-591, 68A Stat. 439 (originally enacted as Title IX of the Social Security Act, 9 Stat. 639; now codified as amended at 26 U.S.C. §§ 3301-3311); *see, e.g.*, Lawrence Zelenak, *For Better and Worse: The Differing Income Tax Treatments of Marriage at Different Income Levels*, 93 N.C.L. REV. 783, 802 (2015) (acknowledging the premium assistance credit of the Tax Code's §36B, as another source of differential liability for independent contractors).

⁶¹ Tax incidence refers to the relative economic burden born by parties to a tax. For example, imagine the government levies a \$1 per worker tax on my employer, Cornell. While this tax is levied on Cornell, and Cornell remits the \$1 to the government, that does not necessarily mean that Cornell is the entity bearing the burden of the tax: Cornell sets my pre-tax wage, after all, and can pay me less in response to the tax. Say Cornell reduces my wage by 30 cents. This would imply a pass-through rate of 30%: Cornell passes on 30% of the tax's economic burden to me, the worker, through downward wage adjustment, while taking on 70% of the tax incidence. The incidence of an employer's SUTA/FUTA obligation will depend on the relative elasticities of labor demand and supply. Under certain conditions, FUTA's pass-through rate could exceed 100%, in which case firms would lower employee wages by more than the firm's payments to these programs. For an extended discussion of the theoretical determinants of tax incidence in the employment context, see John A. Brittain, *The Incidence of Social Security Payroll Taxes*, 61 AM. ECON. REV. 110, 121-23 (1971).

the lion's share is thought to be borne by the worker.⁶² However, an emerging empirical literature has demonstrated that nominal incidence (or statutory incidence) may have a material effect after all.⁶³ For example, in contrast to the predictions of classical tax theory, an empirical study of gas taxes found that leveling a gas tax at the wholesaler level, rather than at the pump, changes the after-tax price paid by consumers.⁶⁴

Another important difference concerns treatment of cost of business (COB) deductions. Businesses are allowed to deduct any outlays used in the generation of income, and contractors are entitled to the same broad-based deductions, with few restrictions.⁶⁵ Such deductions for employees are much more limited. Before the Tax Cuts and Jobs Act (TJA), COB deductions for employees were limited to unreimbursed expenses whose total itemized deductions exceeded 2% of their adjusted gross income.⁶⁶ In effect, this meant that only employees who itemized, and had a very high ratio of expenses to income, could exercise COB deductions. In addition, COB deductions are notoriously difficult for the IRS to verify, and this could cause contractors and employees with the same true net income to pay very different tax rates.⁶⁷

Classification also determines whether payroll and income taxes are withheld by the employer/payer, what information is reported by the payer to the government, and who is responsible for remitting taxes and at what

⁶² For a survey of the current literature on payroll tax incidence, see Annette Bernhardt, Rosemary Batt, Susan N. Houseman & Eileen Appelbaum, *Domestic Outsourcing in the U.S.: A Research Agenda to Assess Trends and Effects on Job Quality* (Upjohn Institute Working Paper, 2018).

⁶³ See Joel Slemrod, *Does It Matter Who Writes the Check to the Government? The Economics of Tax Remittance*, NAT'L TAX J. 251, 254–55 (2008).

⁶⁴ W. Kopczuk, J. Marion, E. Muehlegger and Joel Slemrod, *Does Tax-Collection Invariance Hold? Evasion and the Pass-Through of State Diesel Taxes*, AM. ECON. J.: ECON. POL'Y. 251, 283–84 (2016). The authors speculate that the change in consumer incidence is caused by the differential evasion opportunities available to sole proprietors of gas stations, which are audited at a much lower rate than wholesalers.

⁶⁵ I.R.C. § 162. For example, an Uber driver who is classified as an independent contractor would be entitled to deduct wear and tear to her vehicle, gas, and potentially part of her phone plan; an employee of a black car company would not be eligible for any § 162 deductions.

⁶⁶ I.R.C. §§ 67(a).

⁶⁷ See, e.g., Joel Slemrod, Brett Collins, Jeffrey L. Hoopes, Daniel Reck, & Michael Sebastiani, *Does Credit-card Information Reporting Improve Small-Business Tax Compliance?* 149 J. PUB. ECON. 1, 18–19 (2017) (finding information reporting did not have a significant effect on reported tax liability); see also Bibek Adhikari, James Alm, Brett Collins, Michael Sebastiani & Eleanor Wilking, *Taxpayer Responses to Third-Party Income Reporting: Preliminary Evidence from a Natural Experiment in the Taxicab Industry* J. ECON. BEHAVIOR & ORG., 330 (2021) (finding that information reporting on gross receipts led to an offsetting increase in reported expenses for taxi drivers).

interval.⁶⁸ In theory, income tax withholding should only affect a worker's compliance burden—and have minimal or no effect on a worker's final tax liability. Over-withholding may result in some time cost for an employee, in the form of income that could have been invested throughout the year, but contractors are, in theory, required to make quarterly estimated tax payments on their annual liability.⁶⁹ In practice, however, the lack of withholding can have significant consequences for a contractor's tax liability, such as through increased opportunities for evasion,⁷⁰ the possibility of her going bankrupt before paying the taxes she owes,⁷¹ and due to behavioral preferences about having a positive tax liability at the end of the year.⁷² In short, for practical reasons, the absence of withholding for contractors can reduce *total* tax liability, not simply the *timing* of tax payment

2. Access to Personal Tax Subsidies

Finally, classification can affect workers' access to tax subsidies for certain types of socially desirable consumption.⁷³ The two most important such subsidies are provided through employer programs, the employer-sponsored health care and employer-sponsored retirement programs.⁷⁴ While independent contractors and employees can access the same tax-favored retirement savings vehicles in theory, in practice, programs sponsored by employers may be more generous or attractive along a number of dimensions.⁷⁵ Similarly, prior to the ACA, while self-employed individuals were allowed to deduct health insurance premium payments from gross income, there were still significant differences in financial incentives (i.e.,

⁶⁸ See IRS Form W-2 (detailing employer withholding obligations). For details on information reporting obligations with respect to contractor income, see I.R.C. §§ 6041, 6050W, 6654(c), and accompanying regulations.

⁶⁹ I.R.C. § 6654.

⁷⁰ See Slemrod, *supra* note 63, at 260, 260 n.24.

⁷¹ This can have serious consequences for aggregate revenue collection, in addition to the variation it creates in tax liability among similarly situated taxpayers.

⁷² See, e.g., Alex Rees-Jones, *Quantifying Loss-Averse Tax Manipulation*, 85 REV. ECON. STUDIES 1251, 1252 (2018) (arguing that having even a small positive tax liability at time of payment affects taxpayer effort in reducing tax liability).

⁷³ Oei & Ring, *supra* note 2, at 674–79 (referring to these subsidies as “social welfare benefits delivered through the Tax Code”). I am substantively referring to the same tax treatment but view the difference between the terms tax subsidy, tax expenditure, and social insurance as largely semantic.

⁷⁴ National Priorities Project, *Federal Spending: Where Does the Money Go*, GOV. 101 (Feb 20, 2021, 10:05 AM), <https://www.nationalpriorities.org/budget-basics/federal-budget-101/spending/#:~:text=Social%20Security%20alone%20comprises%20more,of%20the%20total%20federal%20budget> (noting that Social Security and Medicare are the two largest mandatory expenditures, and together, constitute the largest per capita redistribution of income).

⁷⁵ For example, employer sponsored plans frequently have a matching contribution component. For extensive discussion of these differences, see Oei & Ring, *supra* note 2, at 674–77.

extent of the subsidies).⁷⁶ The ACA deliberately tried to weaken the relationship between employment and access to tax-preferred health insurance by creating individual markets and subsidizing the individual purchase of health plans with taxpayer income, but most evidence indicates that employer-sponsored health insurance received comparatively larger tax subsidies.⁷⁷

3. *Access to Nontax Resources*

Many other federal regulations intended to protect workers apply only to employees. For example, major antidiscrimination legislation, such as the Anti-Discrimination Act and the FLSA, have this feature, as do several laws that place requirements on employers for the benefit of employees, such as the Family Medical Leave Act and the ACA.⁷⁸ While by no means exhaustive, these examples suggest the vast, and largely implicit, effect worker classification has in defining the boundaries of the federal regulation of work.

D. Existing Research on Alternative Work and Self-Employment

In an attempt to study the strong economic incentives and bring some clarity to the legal ambiguity associated with worker classification, legal scholars and empiricists have gone to great lengths to understand not just the boundaries set by federal work regulations, but also how workers are operating within them. In this Section, I review recent legal scholarship and empirical work concerning shifts in the labor market, namely the rise of the gig economy, which has caused many workers to shift to providing services on platforms which classify them as independent contractors. I then explain how this Article, by comparing firm control over employees versus contractors, fills a critical gap in our understanding of current employee-worker scholarship.

I. Legal Scholarship

Recent legal scholarship has largely focused on the particular needs of platform firms and the workers that provide services through them. Professor Kathleen Thomas makes two suggestions regarding tax treatment of platform

⁷⁶ I.R.C. § 162(l). See Oei & Ring *supra* note 2, at 680 n.128 (documenting the sources of this tax differential); see also David Gamage, *Perverse Incentives Arising from the Tax Provisions of Healthcare Reform: Why Further Reforms Are Needed to Prevent Avoidable Costs to Low- and Moderate-Income Workers*, 65 TAX L. REV. 669, 686 (2012) (discussing nonequivalence of deductibility for self-employed taxpayers purchasing health insurance).

⁷⁷ Oei & Ring, *supra* note 2, at 23–25.

⁷⁸ 29 U.S.C. § 2612 (providing parental leave to employees); The Patient Protection and Affordable Care Act, Pub. L. No. 111–148, § 1558, 124 Stat. 119, 261 (prohibiting employer discrimination against employees).

earned income: First, she suggests that income from platform firms be withheld on; second, she argues for the creation of a standardized COB deduction, to partially alleviate the compliance costs.⁷⁹ Though Thomas is writing in the context of the gig economy, both suggestions pertain to contractor income more generally. Taking a different approach, Oei and Ring consider the potential effects that (re-)classifying platform firm workers as employees would have on tax administration.⁸⁰ They argue that doing so might enhance the transparency and salience of wages by making the after-tax wage more apparent.⁸¹ Both approaches presuppose there is a meaningful line to be drawn between workers on the basis of control, taking some division of labor income between employees and contractors as a given.

Extensive literature considers the incorporation and consequences of the employee definition into other federal statutes, particularly in studies of employment and labor law.⁸² There also exists a deep body of work on agency issues that arise in common law contexts, the review of which is beyond the scope of this Article.⁸³

2. *Empirical Studies*

In determining which individuals to include in my analysis, I comprehensively reviewed previous empirical studies examining the rise in contract workers. While only two surveys explicitly focus on contractor work, several works study related groups: self-employed and alternative. Below I will discuss the difference between these three types of workers, reported levels of increase in use for the three types, and how my analysis relates to and extends our understanding of these arrangements.

The only surveys to ask questions explicitly about contractor work that are separate from those about self-employment more generally are the Bureau of Labor Statistics' (BLS's) contingent worker survey (CWS) and Professors Lawrence Katz and Alan Krueger's CWS replication.⁸⁴ Katz and Krueger's preferred estimate suggests a very small increase in contractors between 2005 and 2015 of 0.2 percentage points,⁸⁵ while the CWS suggests

⁷⁹ Kathleen DeLaney Thomas, *Taxing the Gig Economy*, 166 U. PA. L. REV. 1415, 1437–64 (2018).

⁸⁰ See Oei & Ring, *supra* note 2, at 685–90.

⁸¹ *Id.* at 34.

⁸² See, e.g., Harper, *supra* note 4, at 1291–92 (discussing the incorporation of the definition within the Federal Employers' Liability Act, 45 U.S.C. §§ 51–60).

⁸³ See generally Kaplow & Shavell, *supra* note 6, at 1702–61 (surveying the areas of law in which well-known agency issues pertain and how they have shaped the law in those areas).

⁸⁴ Lawrence Katz & Alan Krueger, *Understanding Trends in Alternative Work Arrangements in the United States* (Nat'l Bureau of Econ. Rsch., Working Paper No. 25425, 2019), https://www.nber.org/system/files/working_papers/w25425/w25425.pdf [<https://perma.cc/4WGG-E4AT>].

⁸⁵ Lim et al., *supra* note 28, at 6.

a decrease between 2005 and 2017.⁸⁶ However, the CWS does find a large increase in contractor use between 2001 and 2005 of 0.9 percentage points.⁸⁷

A group of individuals that are perhaps the most similar to, while still being distinct from contractors, are self-employed workers, which include both contractors (who supply labor services to firms) and sole proprietors (who sell goods, sometimes combined with their own labor). This overlap between contractor and self-employed workers leads to some difficulty in studying the two groups.⁸⁸ For example, individuals who provide labor as contractors, particularly if they are misclassified employees, may not conceive of or identify themselves to surveyors as self-employed, leading to undercounting. Because this Article uses administrative data from third party information returns (Forms 1099-MISC/K), it will include those workers who received contractor income, but may not have filed a Schedule C or Schedule SE, in contrast to previous studies.⁸⁹

A recent paper using the tax data highlights the differences between these two populations, finding that around 40% of Form 1099-MISC recipients in 2016 did not file a Schedule SE and that around 45% of those with a Schedule SE do not receive a Form 1099-MISC, meaning that these individuals will be included in this sample but not in the “self-employed” population of previous papers. Treasury economist Emile Jackson and his coauthors identify small increases in self-employment, with the increase arising from individuals with low levels of business deductions—consistent with the general findings here.⁹⁰ Similarly, these increases in self-employment predate the introduction of online platform economy companies such as TaskRabbit, Uber, and Lyft.⁹¹

Finally, a number of papers have focused on a much broader population called “alternative” workers that generally includes contractors, temp agency employees, workers at contracting firms, and on-call workers.⁹² The idea behind grouping these labor arrangements together is that they may share

⁸⁶ *Id.*

⁸⁷ *Id.* at 14–22 (discussing how the discrepancy between the CWS report and the Katz and Krueger study may stem from differences in administrative data and survey data results).

⁸⁸ See Katharine G. Abraham, John Haltiwanger, Kristin Sandusky & James Spletzer, *The Rise of the Gig Economy: Fact or Fiction?*, 109 AM. ECON. ASS'N PAPERS & PROC. 357, 359–61 (2019).

⁸⁹ *Id.* at 358; see also Emile Jackson, Adam Looney & Shanthi Ramnath, *The Rise of Alternative Work Arrangements: Evidence and Implications for Tax Filing and Benefit Coverage* 9 (Off. of Tax Analysis, Working Paper No. 114, 2017) (acknowledging the limitations of using 1040-SE in a study of contractors).

⁹⁰ Jackson et al., *supra* note 89, at 4–17.

⁹¹ Lim et al., *supra* note 28, at 17–19 (finding that the rise in contractor arrangements started prior to the 2010s).

⁹² See Jackson et al., *supra* note 89, at 6–8.

substantive economic features, such as flexible hours or finite duration. These papers find mixed results regarding the growth of such alternative workers, reflecting the sensitivity of findings to the data source and exact definition of nontraditional work being used. For example, using data from a survey they administer, Katz and Krueger find a 1–2-percentage-point increase in alternative work between 2000 and 2015,* while the Census finds no increase in alternative work between 2005 and 2017.⁹³ This Article examines a subset of these workers whom I characterize as contractors.

II. METHODOLOGY

This Part describes the general features of the data and the details of the strategy I use to identify contractor relationships. In addition, I provide the details of, and a justification for, the construction of the samples used in the descriptive and causal analyses, respectively.

The data used in this analysis is more complete and accurate, and less subject to error, than the sources used by the existing literature on contracting and alternative work arrangements.⁹⁴ Yet, identifying contractors in these data is still not straightforward. I build on the data construction and parsing efforts detailed in a related project.⁹⁵

A. *Methods of Identifying Relationships with U.S. Tax Data*

The U.S. Department of the Treasury maintains a centralized, relational database⁹⁶ of digitized tax form filings. Referred to as the Compliance Data Warehouse (CDW), this database contains information from all returns filed by U.S. taxpayers from tax year 2001 onward.⁹⁷ The CDW serves multiple

⁹³ Lim et. al, *supra* note 28, at 6.

⁹⁴ The data is remarkably complete because, unlike with surveys, there is no sampling—almost all taxpayers must file a tax return. IRS data quality results in part from the incentive of individuals to provide the government with accurate information on their tax returns, under pain of penalty for inaccuracy. In contrast, there are no consequences to making a mistake on a survey or lying to a surveyor. Finally, since the IRS uses this data regularly for routine enforcement purposes, systematic errors, such as misreading of numerals or blanks are more likely to have been corrected or at least identified.

⁹⁵ See Lim et al., *supra* note 28, at 7–14.

⁹⁶ A “relational database” is a database that separately stores various data sets, in a way in which the data sets can be queried or joined without being loaded into active memory. Critically, compared with a traditional, or “static” dataset, this configuration allows for variables to exist at different observation levels, which means form-level, individual-level and firm-level information can be easily combined and manipulated.

⁹⁷ See DEP’T OF THE TREASURY, 2017 ANNUAL PRIVACY, DATA MINING, AND SECTION 803 REPORTS 23, <https://home.treasury.gov/system/files/236/annual-privacy-data-mining-report-and-section-803-report-final-2.pdf> [<https://perma.cc/P5CB-XFCP>] (acknowledging that the CDW leverages data from taxpayers, employers, other federal agencies and other IRS sources); see also Steven Toscher & Daniel Kellerman, *The Impact of “Big Data” on IRS Civil and Criminal Tax Enforcement*, L.A. LAW., Jul.–Aug. 2019, at 14, 15–16 (discussing the evolution of the CDW and how it uses tax data).

functions: It primarily allows individual enforcement and collections officers to query an individual taxpayer's filing and payment history as part of collection efforts.⁹⁸ In addition, government researchers use the CDW internally to make revenue forecasts and to simulate the likely effects of various administrative policies.⁹⁹ I conduct this analysis under the auspices of a small academic partnership program managed by the Research, Applied Analytics, and Statistics Division of the IRS (RAAS).¹⁰⁰

To conduct my analysis, I construct two data sets from all digitized tax filings contained in the CDW for tax years 2001–2016. I combine variables from several different tax forms, including tax returns used by individuals and firms to report their tax liability to the government and “information returns” or mandatory forms which notify the tax agency and the taxpayer about potential tax liability.¹⁰¹ The first data set (“descriptive analysis sample”) is a repeated cross section of worker–firm relationships, represented by three information reports: Forms W-2, 1099-MISC, and 1099-K. For each form type, and within each tax year, I draw a 2% random sample from these reports (Table 1). I then incorporate additional information about the workers and firms, including data from workers' income tax returns. Together, these linkages create a rich sample of worker–firm relationships, the unit of analysis for this study. The second data set (“causal analysis sample”) is a panel data set of individuals drawn from a 5% sample of employees at age sixty, who are then followed through subsequent tax years. As in the descriptive analysis sample, I link these workers to additional information about them and the firms that employ them. This data

⁹⁸ See IRS, PCLIA #5519 Report (Sept. 16, 2020) <https://www.irs.gov/pub/irs-pia/cdw-pia.pdf> [<https://perma.cc/TUM3-9FDS>] (explaining the method for migrating data into the CDW and preparing the data for analysis); see also Toscher & Kellerman, *supra* note 97, at 14 (noting “[t]he CDW enabled the IRS to run the . . . data through algorithms to perform predictive analysis, including identifying fraud in areas such as the earned income tax credit and identifying trends”).

⁹⁹ See ROBIN RAPPAPORT & JEFF BUTLER, LOADING METADATA TO THE IRS COMPLIANCE DATA WAREHOUSE (CDW) WEBSITE: FROM SPREADSHEET TO DATABASE USING SAS® MACROS AND PROC SQL 2 (2012), <https://www.lexjansen.com/nesug/nesug12/bb/bb02.pdf> [<https://perma.cc/A3LM-8UFF>] (discussing users' capacity “to generate frequency tables, statistical distributions, trends, and geographic maps for virtually any column in the database”).

¹⁰⁰ The program is jointly sponsored by RAAS, the Statistics of Income Division and Office of Tax Analysis at the Department of the Treasury; project proposals are selected in a competitive bid process on their basis to inform tax policy and tax administration decision makers. See 1.1.18 *Research, Applied Analytics and Statistics Division*, IRS (Sept. 25, 2020), https://www.irs.gov/irm/part1/irm_01-001-018 [<https://perma.cc/A3LM-8UFF>].

¹⁰¹ For example, individual U.S. households report their tax liability on Form 1040 or, if they have self-employment income, Form 1040-SE; similarly, corporations may file a Form 1120 to report annual income. In contrast, Form W-2 is an information return the government requires employers to file, with a copy sent to the individual employee, documenting the amount in wages paid to the employee over the course of the tax year. While Form W-2 is likely the most familiar information report, universities, health insurance providers and financial institutions, among others, are also required to file information returns.

set allows me to observe how employees transition to being contractors with the same firm over time, something that data limitations have prevented in previous studies.¹⁰²

¹⁰² See *infra* Section V.B.

Table 1. Sample construction and match rates

Year	N Universe			N Sample			Match rates		
	W-2 (1)	1099-MISC (2)	1099-K (3)	W-2 (4)	1099-MISC (5)	1099-K (6)	Employee to 1040 (7)	Contractor to 1040 (8)	Contractor to Sch.C. (9)
2001	229,041,792	22,791,650	0	4,580,836	455,833	0	90.8	92.1	72.8
2002	218,778,256	23,836,750	0	4,375,565	476,735	0	90.8	91.6	73.2
2003	214,954,848	24,423,900	0	4,299,097	488,478	0	90.9	90.4	74.0
2004	219,162,656	25,135,800	0	4,383,253	502,716	0	90.7	89.7	74.7
2005	225,115,152	25,142,300	0	4,502,303	502,846	0	90.6	89.9	76.1
2006	229,876,944	26,119,150	0	4,597,539	522,383	0	90.8	90.1	76.5
2007	232,245,504	26,313,150	0	4,644,910	526,263	0	92.1	91.7	77.7
2008	225,198,048	25,939,350	0	4,503,961	518,787	0	91.6	90.7	76.9
2009	205,984,608	24,323,900	0	4,119,692	486,478	0	91.5	90.9	78.2
2010	207,119,952	24,610,150	0	4,142,399	492,203	0	91.8	91.0	77.8
2011	210,768,352	25,489,650	1,455,000	4,215,367	509,793	29,100	92.1	90.8	77.3
2012	216,730,448	26,101,150	1,811,200	4,334,609	522,023	36,224	91.6	90.1	77.0
2013	222,278,800	26,303,850	1,714,850	4,445,576	526,077	34,297	91.1	89.7	77.0
2014	230,444,992	27,110,550	1,981,150	4,608,900	542,211	39,623	90.6	89.1	76.7
2015	238,122,256	27,638,650	2,437,000	4,762,445	552,773	48,740	90.0	88.2	75.8
2016	243,336,192	28,586,900	3,874,750	4,866,724	571,738	77,495	88.8	86.8	74.8

Notes. All fully digitized tax years are used in this analysis. The first three columns provide counts of the universe for each form type, while the middle three columns provide counts of the year-stratified 2% sample for each form type. The only restrictions imposed in the initial sampling were a positive amount on the form and that the taxpayer was not deceased in the tax year in which the form was issued. Note that Form 1099-K was not introduced until 2011. The last three columns provide match rates from the information report to the payee's personal income tax filing (Form 1040). While the match rates to the Form 1040 between contractor and employees are largely similar, the match rates to the 1040 Schedule C are lower. This could be for several reasons. First, many taxpayers with contractor income (especially small amounts of contractor income) do not know that they must file a Schedule C form, and instead report it elsewhere on the 1040, or fail to report it. In addition, prior to 2006, Schedule C was filed under the primary filer's Social Security Number (SSN), even if their spouse had earned the income. This requires an additional link (between the primary filer SSN and the payee SSN) that can reduce the match rate.

There are several notable advantages to using tax return data to study questions related to independent contractors. First, it is possible to link independent contractors to all firms that compensate them through their information reports, namely Forms 1099-MISC and 1099-K. While the Census provides a panel of firm–employee relationships, sole proprietorships, and partnerships, it is not possible to link the subset of sole proprietors who are unincorporated independent contractors to payers.¹⁰³ Previous research has found that a large fraction of 1099-MISC recipients cannot be linked to Schedule C self-employment income reports.¹⁰⁴ The tax data allow me to observe all Schedule C filers and 1099-MISC/K recipients, and to leverage the link (or missing link) between these reports to investigate the multifaceted nature of contract labor and how it has changed over time. Using the tax data, not only am I able to observe the universe of self-employed individuals, but I am also able to link the self-employed contractors with the firms that contract them.¹⁰⁵ This firm–worker link is central to the research questions explored here.

Second, using tax return data allows me to link workers to their individual income tax returns (Form 1040). Making this link allows me to observe information relevant to the nature of the firm–worker relationship within the tax year, such as the degree to which the worker relies on income from the firm, as well as information that spans tax years, such as the length of time a worker has been associated with a specific firm, and whether the same worker has switched classifications while working for the firm. Form 1040 also contains various outcome variables of interest: detailed information on deduction-taking, total reported income, and some information on nonwage compensation, such as the employer’s contribution to insurance or employer provided childcare. Finally, I can access a rich set of firm characteristics by linking employing firms to their business income returns and other filings. These forms include information on firm deductions for employee benefits, which I use in the causal analysis to confirm that larger firms that respond to the discontinuous cost threshold arising from their employee’s Medicare eligibility were indeed providing employer-sponsored health insurance.¹⁰⁶

¹⁰³ The Census maintains a high-quality, restricted panel dataset of employees and firms—the Longitudinal Employer-Household Dynamics—which combines administrative and survey data sources to help researchers understand changes in employer–employee relationships over time. However, only traditional employee–employer relationships are tracked, not contractors. *See* Jackson et al., *supra* note 89, at 12 (discussing limitations of Census datasets for studying alternative work arrangements).

¹⁰⁴ *Id.*

¹⁰⁵ The term “universe” in this context is used in the statistical sense and refers to data which comprise the entire population.

¹⁰⁶ *See infra* Part V.

There are also some important drawbacks to these data. I am unable to observe how many hours someone has worked, which makes it difficult to directly compare compensation across workers. Also, for regulations that are not enforced by the IRS, such as the Medicare eligibility threshold that I use in the causal analysis, I am unable to observe the exact firm size measure used by the regulatory agency to determine whether the firm is subject to the regulation, and therefore rely on data-driven proxies for these measures. Additionally, I observe firm–worker matches at the level of the employer identification number (EIN), as opposed to the establishment or firm, which are often used in linked firm–employee data sets.¹⁰⁷ Firms can have multiple EINs and EINs can change over time.¹⁰⁸

B. Method for Identifying Contractor Income

Central to the analyses in this Article is the need to identify independent contractors in the tax data. To do this, I limit the sample of Form 1099-MISC recipients to those with positive amounts of nonemployee compensation, reported in box 7 of the form. The IRS requires that businesses issue Form 1099-MISC to individuals or other businesses for services provided by someone who is not an employee of the issuing business.¹⁰⁹ I start with a 2% annual cross section of all recipients for each tax year 2001–2016. However, because I am trying to identify individuals providing services, I refine the sample to exclude recipients who employ others. I do this for two reasons. First, conceptually, I consider employer businesses distinct from contractors because their activity rises above merely an individual providing their own labor services to a firm. Second, it is not possible to determine whether the employee or the owner was providing labor services to the business issuing the Form 1099-MISC. For example, a Form 1099-MISC could be issued to a catering company with many employees or to a law firm for attorney services. The resulting samples of employee and contractor relationships are summarized in Table 2.

¹⁰⁷ As is common practice in the economics literature, I use “firm” to mean entity (e.g., a corporation)—in contrast, an establishment is a worksite. A single firm may comprise multiple establishments. The EIN is assigned at the firm level, but in some cases, multiple EINs might be issued to a single large corporation.

¹⁰⁸ Multiple EIN assignment is rare for small- and medium-sized firms (i.e., firms with fewer than 100 employees), which constitute 95% of the firms in my sample.

¹⁰⁹ *Instructions for Forms 1099-MISC and 1099-NEC (01/2022)*, IRS (Jan. 5, 2022) <https://www.irs.gov/instructions/i1099mec> [<https://perma.cc/PK59-BJ4F>]; see also *Am I Required to File a Form 1099 or Other Information Return?*, IRS (June 9, 2022), <https://www.irs.gov/businesses/small-businesses-self-employed/am-i-required-to-file-a-form-1099-or-other-information-return> [<https://perma.cc/68MW-U9WL>] (requiring a Form 1099-MISC for payments for “[s]ervices performed by someone who is not [the business’s] employee”). Note, during the years of my sample, only Form 1099-MISC was required by the IRS. Form 1099-NEC was reintroduced by the IRS in 2020.

The recently introduced Form 1099-K provides an additional way to identify taxpayers with contractor income. Form 1099-K was introduced in 2011 as an information report on credit card transactions and third-party payments that exceed either \$20,000 or 200 transactions in a year.¹¹⁰ Contractors who receive compensation in the form of credit card payments may have part or all of their contract income reported on Form 1099-K rather than Form 1099-MISC.¹¹¹ In order to include contractors for whom all of their contract income is reported on a Form 1099-K, I draw a separate 2% sample of Form 1099-K recipients in each year from 2011 to 2016. Many Form 1099-K recipients will not be considered contractors because these forms are issued to any business that accepts credit cards as payment for goods or services, underscoring the importance of using additional information on recipients to identify contractors. For sampled Form 1099-MISC recipients, I also link to any Forms 1099-K that they receive in order to count total contractor income for individuals receiving both forms. Analogously, for sampled Form 1099-K recipients, I link to any Forms 1099-MISC received.

Figure 1 shows that the total number of Form 1099-MISC/K recipients has increased over the sample period. The number of Form 1099-MISC recipients increased from approximately 18 to 26 million from 2001 to 2016. When including Forms 1099-K, there were more than 30 million recipients in 2016.

¹¹⁰ See Slemrod et al., *supra* note 63, at 2–3 (discussing the context and purpose of Form 1099-K).

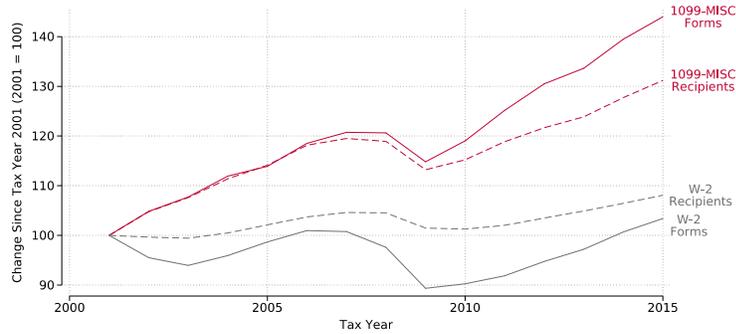
¹¹¹ See Adhikari et al., *supra* note 67, at 313–15 (exploring partial income reporting using data from Form 1099-K for taxi drivers).

Table 2. Relationship sample characteristics

Year	Employee Relationships				Contractor Relationships			
	Number	Median Compensation	Median AGI	% with Contractor Income	Number	Median Compensation	Median AGI	% with Employee Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2001	2,291,334	19,137	31,282	6	455,833	9,003	42,053	52
2002	2,186,041	19,281	32,151	6	476,735	9,290	41,585	52
2003	2,148,294	19,816	33,132	6	488,478	9,490	42,086	51
2004	2,189,432	20,357	33,970	7	502,716	9,698	43,907	52
2005	2,251,989	20,914	34,742	7	502,846	10,000	45,474	52
2006	2,297,672	21,704	35,893	7	522,383	10,287	46,723	52
2007	2,322,489	22,454	36,445	7	526,263	10,150	46,936	53
2008	2,253,428	23,466	38,299	7	518,787	9,610	46,866	53
2009	2,060,080	23,869	39,944	6	486,478	9,227	44,730	51
2010	2,071,026	23,803	40,025	7	492,203	9,388	45,810	51
2011	2,109,442	24,279	39,774	7	538,893	10,385	45,516	50
2012	2,168,265	24,609	40,027	7	558,247	10,648	46,786	50
2013	2,220,676	24,822	39,922	7	560,374	10,891	47,463	50
2014	2,306,441	25,315	40,265	7	581,834	11,020	48,445	51
2015	2,381,658	26,071	40,581	8	601,513	10,859	48,611	52
2016	2,433,321	26,481	41,017	8	649,233	10,856	47,466	53

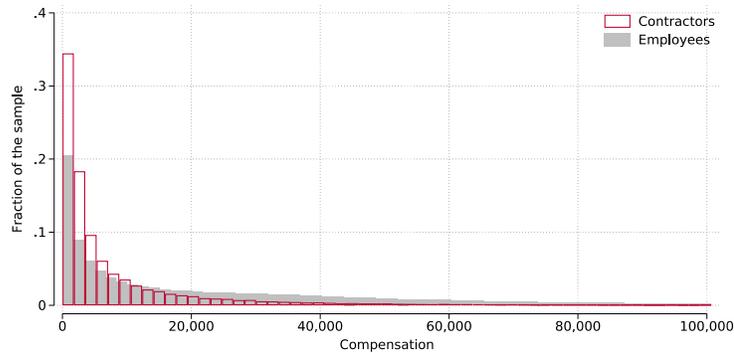
Notes. This table provides additional information about the year-stratified 2% sample for each relationship type. Column 2 and Column 6 are based off only the observations that could be linked to the individual's Form 1040; the other columns are not subject to this restriction. As expected, the median compensation (at the form level) for employees is significantly higher than for contractors, but the household AGI is higher for contractors. This reflects the fact that, in levels, high-income contractors are the larger group, despite the fact that low-income contractors are the fastest growing group throughout the sample period. For additional demographic information about contractor households, and their relative reliance on contractor income. See Katherine Lim, Alicia Miller, Max Risch & Eleanor Wilking, *Independent Contractors in the U.S.: New Trends from 15 years of Administrative Tax Data* (U.S. Dep't of the Treasury, IRS Research, Applied Analytics, and Statistics Working Paper No. 19, 2019). Notably, contractors are considerably more likely to have wage income than employees are to have contractor income.

Figure 1. Change in number of relationships and recipients since 2001, by classification, 2001-2015



Notes. This figure shows the dramatic increase in contractor relationships and Form 1099-MISC recipients relative to employee relationships and Form W-2 recipients since 2001. These counts are based on the universe of tax filings: Because payers only issue up to a single form of each type to a payee each tax year, each form constitutes a unique payer-payee relationship. The number of recipients refers to the number of unique individual payees who were issued at least one form of that type. Several points are worth noting. First, the number of contractor relationships has grown from approximately 38 to 57 million between 2001 and 2015, an increase of over 40%; most of this growth has occurred since 2009. Over the same period, the number of employee relationships declined, reaching its nadir at 2009, the first full tax year of the financial crisis. The number of employee relationships surpassed 2001 levels again only in 2015. Second, for contractors, the number of relationships and the number of workers tracked until 2009, and then began to diverge, suggesting that contractors may have begun picking up additional payers in the wake of the recovery and at a faster rate than employees. This period also coincides with an increase in gig economy firms, although most of those firms report compensation on Form 1099-K, which is not included.

Figure 2. Histogram of compensation, by classification, in 2016



Notes. This figure shows the distributions of annual compensation—wages for employees, nonemployment compensation for contractors—of the sampled relationships. For readability, only compensations below the 95th percentile for wages (\$100,703) are plotted. These distributions differ significantly at virtually every point. The median nonemployment compensation issued to contractors is \$3321, over \$10,000 dollars lower than the median wage issued to employees (\$13,482). This difference is even more pronounced at the 75th percentile, which is \$39,214 for employees but only \$10,915 for contractors.

III. DESCRIPTIVE ANALYSIS OF WORK RELATIONSHIPS

Multiple criteria determine the classification of a worker as an employee or independent contractor, as codified in the multifactor balancing test, and one might argue that such criteria defy quantification in any respect.¹¹² But this view is misguided: while any of the available proxy measures for the criteria may provide insufficient information to positively determine a worker's status in a given relationship within an acceptable margin of error, the aggregate distributions of these measures should be distinguishable among employees and contractors, provided that the measures meaningfully relate to the legal standard. Put differently, while any specific worker's classification may not turn on any or all of the available proxy measures, we should expect the *average contractor* to differ significantly from the *average employee* on each.

This Part puts this theory to the test. First, I describe six quantitative measures that suggest the nature of a worker's legal relationship with her firm. Second, I present three main findings from an analysis of U.S. tax filings data: The *average* employee and contractor in tax year 2016 are strikingly similar on all metrics, though important differences emerge in the extremes of the distribution; moreover, employees and contractors have converged, or become more similar, on four of the five common metrics since 2001; finally, this convergence has not been shared equally across the income distribution—lower-income employees and contractors have rapidly become virtually indistinguishable, whereas the differences among their higher-income counterparts remain pronounced.

A. Quantitative Measures Characterizing Work Relationships

As discussed in Section I.B., in determining a worker's status for tax purposes, the courts have historically relied on a common law test, codified by the IRS into twenty factors.¹¹³ This test, and common law more generally, consider and weight many different facets of the relationship between the

¹¹² However, several for-profit companies have had success in marketing algorithms that can predict complex legal outcomes, including multifactor balancing tests. Benjamin Alarie, *INSIGHT: Turning Standards into Rules—Part 3: Behavioral Control Factors in Employee vs. Independent Contractor Decisions*, BLOOMBERG TAX: DAILY TAX REPORT (Dec. 14, 2018, 8:39 AM), <https://news.bloombergtax.com/daily-tax-report/insight-turning-standards-into-rulespart-3-behavioral-control-factors-in-employee-vs-independent-contractor-decisions> [https://perma.cc/2HW2-W2QP].

¹¹³ While the IRS enumerated specific factors, it did not do so exclusively: “factors in addition to the 20 factors . . . may be relevant” and “all facts must be examined.” JOINT COMM. ON TAXATION, PRESENT LAW AND BACKGROUND RELATING TO WORKER CLASSIFICATION FOR FEDERAL TAX PURPOSES 3–5 (2007). Recently, the IRS has refined these factors, collapsing the factors into three broad categories of control: behavioral control, financial control, and the nature of the relationship. *Id.* at 5; IRS, PUBLICATION 15-A, EMPLOYER'S SUPPLEMENTAL TAX GUIDE 6–7 (2021).

worker and the firm. Although there are slight differences in application, many other federal statutes feature a version of the common law test,¹¹⁴ and several federal agencies interpret it.¹¹⁵ For example, the Supreme Court has defined an employee under the Employment Retirement Income Security Act (ERISA) by the common law standard.¹¹⁶

Drawing on these commonalities and their discussion in relevant case law, I have identified six quantitative metrics that correspond either directly or indirectly to the combination of behavioral, financial, and relational factors set forth by the IRS:

- (1) income dependence—how much of an independent contractor’s earnings come from a single firm?
- (2) number of payers—how many firms pay an independent contractor?
- (3) distance—how far from a firm does an independent contractor live?
- (4) tenure—over how many tax periods is an independent contractor paid by a firm?
- (5) compensation volatility—for relationships that span multiple tax years, how much does an independent contractor’s compensation vary year to year?
- (6) amount and nature of deductions—how many deductions are claimed by an independent contractor, or did the contractor realize a loss, and are an independent contractor’s deductions primarily for “capital-like” expenses or those typically associated with providing labor services?

For criteria (1)–(5), I also define their analog pertaining to employees. For example, when defining the number of payers—criterion (2)—for employees, I measure this by the number of firms issuing Forms W-2 to that worker. Then, I document patterns over time in each of these characteristics, separately for independent contractors and employees. These time series plots provide initial evidence about the degree to which the economic reality faced by each type of worker differs, and whether those differences have grown larger or smaller over time. Below, I describe each of these six metrics in more detail and support their use as proxies for firm control.

¹¹⁴ With the notable exception of the FLSA, which employs the economic realities test. See *supra* note 52.

¹¹⁵ See Harper, *supra* note 4, at 1294–1301 (listing federal agencies whose enforcement activities require defining “employee”).

¹¹⁶ The leading case providing guidance for how to distinguish between employees and independent contractors under ERISA is *Nationwide Insurance Company v. Darden*. In *Darden*, the Supreme Court applied a common law control test from agency law to determine whether a worker qualified as an employee or an independent contractor. 503 U.S. 318, 323–24 (1992). This test, which examines an array of factors to assess the hiring party’s control over the worker, is similar to the IRS control test. See Tracy Snow, Note, *Balancing the ERISA Seesaw: A Targeted Approach to Remediating the Problem of Worker Misclassification in the Employee Benefits Context*, 79 GEO. WASH. L. REV. 1237, 1248 (2011).

1. *Income Dependence*

While not one of the factors included in the IRS twenty-factor test, there are several references in case law to a worker's "economic independence" as a factor weighing in favor of contractor status. For example, to distinguish an employee from an independent contractor, the Department of Labor issued a regulation stating that "an employee, as distinguished from a person who is engaged in a business of his or her own, is one who, as a matter of economic reality . . . is dependent on the business which he or she serves."¹¹⁷ The regulations do not specify what it means to be "dependent on" a business; however, in another context, the Fourth Circuit has indicated that "dependent on" refers to the extent to which a worker's compensation depends on the purported employer versus the worker's other business opportunities or investments.¹¹⁸

The degree to which a worker depends upon a single firm has significant implications for that worker's outcomes. Unlike a worker who provides her services to multiple firms and whose compensation is spread more evenly across them, a worker dependent upon a single firm faces much greater income risk if that relationship terminates. Similarly, such a worker often accumulates human capital specific to that firm, which gives the firm a stronger bargaining position since those skills may be nontransferable to other firms.

One could measure in several different ways the degree to which a worker is "economically dependent" on a given relationship with a firm, as articulated by the case law. One of the most straightforward is the compensation received from a particular relationship as a share of total compensation the worker received in that tax year—that is, *income dependence*. To illustrate, consider an independent contractor relationship with Firm A in tax year Y. Suppose this contractor also worked for Firm B in year Y. Her income dependence in year Y would be equal to the compensation she received from Firm A divided by the sum of her compensation for the tax year from Firm A plus the compensation she received from Firm B. An attractive feature of this particular construction is that its analog can easily be calculated for employees. In addition, because it is a percentage (i.e., a measure bounded between zero and one), rather than

¹¹⁷ U.S. DEP'T OF LAB., WAGE & HOUR DIV., FACT SHEET #13: EMPLOYMENT RELATIONSHIP UNDER THE FAIR LABOR STANDARDS ACT (FLSA) (2008), <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/whdfs13.pdf> [<https://perma.cc/C3NG-V8ZZ>].

¹¹⁸ See *McFeeley v. Jackson St. Ent., LLC*, 825 F.3d 235, 243 (4th Cir. 2016) ("The more the worker's earnings depend on his own managerial capacity rather than the company's, and the more he is personally invested in the capital and labor of the enterprise, the less the worker is 'economically dependent on the business' and the more he is 'in business for himself' and hence an independent contractor." (quoting *Schultz v. Cap. Int'l Sec., Inc.*, 466 F.3d 298, 304 (4th Cir. 2006))).

an absolute measure of compensation, the fact that contractor compensation is gross, not yet factoring in deductible business expenses, and employee compensation is net does not significantly affect the interpretation.

2. *Number of Payers*

The second metric I analyze is the number of unique payers from which the worker/payee receives compensation within the same tax year. The original IRS twenty-factor test, used for most of the sample period, explicitly included “Working for more than one firm at a time” as one of its twenty factors indicative of a contractor relationship, elaborating that “[i]f a worker performs more than de minimis services for multiple firms at the same time, that generally indicates independent contractor status.”¹¹⁹ This measure is also implicitly related to two other factors in the original twenty-factor test: whether the worker makes her services available to the public, and whether the relationship demands full-time work.¹²⁰ A worker with forty or fifty payers is much more likely to provide services to the public at large, and each relationship is unlikely to demand full-time work, relative to a worker with only one or two payers.

This metric is closely related to, but distinct from, income dependence.¹²¹ A worker who receives compensation from multiple firms is, all else being equal, less likely to depend on any single firm for her compensation. However, the number of payers may be informative even if income dependency is held fixed, as more payors suggests that the worker has built a network of clients that they may use to generate business if their primary client terminates the relationship.

3. *Distance to Payer*

In general, annualized tax data are less informative about factors concerning behavioral control than relational or financial control. For example, it is not possible to use tax data to observe the nature and extent of training or instruction a worker receives about how to perform a given task.¹²²

¹¹⁹ JOINT COMM. ON TAXATION, *supra* note 113, at 4.

¹²⁰ *Id.* at 4–5 (“If the worker must devote substantially full time to the business of the person for whom services are performed, this indicates employee status. An independent contractor is free to work when and for whom he or she chooses.”)

¹²¹ As an example, consider two sampled contractor relationships—Contractor 1–Firm A, and Contractor 2–Firm D. (Recall that the sampling unit of this analysis is the relationship, not the worker.) Contractor 1 also has relationships with Firms B and C, while Contractor 2 also has a relationship with Firm E. Contractor 1 derives equal compensation from each of her relationships, or one-third from each firm. Contractor 2 derives one-third of her income from Firm D and the remaining two-thirds from Firm E. Therefore, the two sampled relationships—Contractor 1–Firm A, Contractor 2–Firm D—each have the same value of income dependence (one-third) but have different numbers of payers (3 versus 2).

¹²² Historically, survey data with very small sample sizes has been used to evaluate behavioral control, predominantly in the field of sociology.

However, an important indicator of behavioral control under IRS guidance is whether the work is performed on-site, where the employer can exert greater control over the environment.¹²³

While I cannot directly observe whether the worker works on-site, I can observe a variable that is correlated with on-site work: the distance between the payer and the payee. At low values—say, between zero and fifty miles—the distance between the payer and the payee is unlikely to be informative about whether work is performed on-site, let alone the degree of behavioral control retained by the firm. However, at high enough values, where the distances likely exceed what is considered feasible for a regular commute, this measure may be highly predictive of whether work is performed on-site.¹²⁴

Of course, physical proximity is no longer a necessary condition for supervision; employers may use technology that permits them to closely monitor work at great distance, such as computer software that monitors activity on a company’s network by workers logged in remotely, or video conference calls. However, because there are a range of industries where work is more likely to take place on-site, like manufacturing, physical proximity is arguably still informative as to the degree of control or direct supervision that a payer can exercise over a service provider, even if not true for every industry.

To create a measure of the physical distance between the worker’s home and the work site, I measure the Cartesian (“as the crow flies”) distance in miles between the payer’s zip code and the worker’s address. This measure is quite coarse, not taking into account actual commuting time by car or public transportation. There are also several caveats regarding the construction of this measure. First, the payer’s address is associated with an EIN, which is an entity-level identifier rather than an identifier for the actual work site.¹²⁵ For many firms, particularly small firms, the address of the EIN and the address of the work site are one and the same. However, for some

¹²³ See Rev. Rul. 87-41, 1987-1 C.B. 296 (“If the work is performed on the premises of the person or persons for whom the services are performed, that factor suggests control over the worker . . .”).

¹²⁴ The American Community Time Use Survey has tracked commuting times for several decades; for the period overlapping with my analysis years, the average commuting time to “one’s primary employment” gradually increased to just under thirty minutes each way, implying that an average employee commuter lives approximately seventeen miles from their primary residence. CHARLYNN BURD, MICHAEL BURROWS & BRIAN MCKENZIE, U.S. CENSUS BUREAU, TRAVEL TIME TO WORK IN THE UNITED STATES: 2019, at 5 tbl.3 (2021), <https://www.census.gov/content/dam/Census/library/publications/2021/acs/acs-47.pdf> [<https://perma.cc/DGE3-FPVE>]. A fifty-mile commute would place the individual at the ninetieth percentile. Note that these statistics are likely to significantly differ in comparison to years affected by the COVID-19 pandemic.

¹²⁵ *Employer ID Numbers*, IRS (June 22, 2022), <https://www.irs.gov/businesses/small-businesses-self-employed/employer-id-numbers> [<https://perma.cc/6X4F-3WYJ>].

firms, the EIN address may be that of a corporate headquarters, rather than the site to which a worker might report. To limit the effect of these cases on the analysis, I restrict the sample to payers and payees within the same state. On its own, this distance measure is unlikely to fully convey the degree of supervision exercised by a firm over a worker, but when combined with the other measures presented here, it may reinforce the trends of the more informative metrics.

4. *Tenure with Payer*

Historically, contractors have been engaged to perform services for a particular project to be completed within a finite amount of time, rather than retained by firms indefinitely.¹²⁶ The IRS twenty-factor test includes “[c]ontinui[ty of] relationship” as a potential indicator of employee status.¹²⁷ Courts have also consistently referenced the “permanence of the working relationship” in applying the hybrid common law test and the economic realities test in the context of federal statutes.¹²⁸

Like income dependence, the duration of a relationship between a worker and a firm can significantly affect a worker’s labor market outcomes. First, the longer a worker stays at a job, on average, the less likely she is to leave in any given year.¹²⁹ Second, the longer a worker stays at a job, on average, the higher her earnings will be.¹³⁰ As a worker–firm relationship progresses, both parties learn more about each other and, if they choose to continue the relationship, it is less likely that new information will come to light that causes either of them to reconsider those choices.

Economists refer to the duration of employment as “tenure,” and it can be measured in several different ways. In the tax data, I measure it in two ways. First, for the 2016 sample, I define tenure as the number of consecutive tax years the relationship existed prior to 2016. For example, if an employee relationship is sampled in 2016, I gather additional data about whether the same firm also issued the same employee a Form W-2 in previous years. If the firm issued a W-2 to this employee in years 2012 through 2015 as well,

¹²⁶ See Harper, *supra* note 4, at 1298–99.

¹²⁷ JOINT COMM. ON TAXATION, *supra* note 113, at 4 (“A continuing relationship between the worker and the person for whom the services are performed for indicates employee status.”) In addition, the updated twenty-factor test lists “Ongoing relationship” as a factor to which it gives “high priority.” *Id.*

¹²⁸ See *McFeeley v. Jackson St. Ent., LLC*, 825 F.3d 235, 241 (4th Cir. 2016) (quoting *Schultz v. Cap. Int’l Sec., Inc.*, 466 F.3d 298, 304–05 (4th Cir. 2006)); see also *Acosta v. Paragon Contractors Corp.*, 884 F.3d 1225, 1235 (10th Cir. 2018) (applying the same six-factor test); *Iontchev v. AAA Cab Serv., Inc.*, 685 F. App’x 548, 550–51 (9th Cir. 2017) (same).

¹²⁹ Edward P. Lazear & Paul Oyer, *Personnel Economics* 20 (Nat’l Bureau of Econ. Rsch., Working Paper No. 13480, 2007), https://www.nber.org/system/files/working_papers/w13480/w13480.pdf [<https://perma.cc/WG3W-3B7R>].

¹³⁰ *Id.*

I would then assign the relationship a tenure value of five. Second, in the time series analysis, I use a slightly modified version of this definition. Because earlier cohorts of sampled relationships cannot be traced back to before 2000, when the earliest tax data are available, I define tenure as whether a relationship existed in the year prior to when it was sampled. A worker in a contractor relationship with a firm in 2003 is considered to have “tenure,” in this case, if that same worker was also in a contractor relationship with that firm in 2002.

5. *Compensation Volatility*

The IRS twenty-factor test does not explicitly include a factor directly related to how much a worker’s compensation from a given firm varies from year to year. However, it does include a factor for “Risk of Loss,” considered one of the three most important factors according to the manual the IRS uses to train worker classification auditors.¹³¹ This factor is related to the volatility in a worker’s compensation, including the possibility that she will incur a loss, as described in greater detail below.

Like the income-dependence measure discussed above, compensation volatility captures a form of dependence. Just as an employee is “dependent upon” her employer if she draws most of her income from that firm, such dependency may also rest on the stability of that compensation. This volatility may be a function of many things, including a contractor’s entrepreneurial activity and effort.¹³²

Moreover, compensation volatility is crucial to economic welfare.¹³³ In most microeconomic models of behavior, people are assumed to have “concave” utility functions, meaning that they experience diminishing marginal returns from each additional dollar they receive.¹³⁴ Therefore, a worker’s utility is maximized if she receives the same compensation in equal installments, rather than in unequal ones.

I define compensation volatility as the percentage change in a worker’s compensation from a given payer-firm from the previous to the current tax

¹³¹ See IRS, INDEPENDENT CONTRACTOR OR EMPLOYEE? TRAINING MATERIALS 2-21 (1996) (“The ability to realize a profit or incur a loss is probably the strongest evidence that a worker controls the business aspects of services rendered.”).

¹³² A worker’s entrepreneurial activity and effort, in turn, is one of the factors identified by the IRS twenty-factor test. *Revenue Ruling*, *supra* note 51.

¹³³ Richard Layard, Guy Mayraz, & Stephen Nickell, *The Marginal Utility of Income*, 92 J. PUB. ECON. 1846, 1851–57 (2008).

¹³⁴ ALFRED MARSHALL & C.W. GUILLEBAUD, PRINCIPLES OF ECONOMICS 61 (9th (Variorum) ed. 1961) (“The marginal utility of a thing to anyone diminishes with every increase in the amount of it he already has.”); see also Kepa M. Ormazabal, *The Law of Diminishing Marginal Utility in Alfred Marshall’s Principles of Economics*, 2 EUR. J. HIST. ECON. THOUGHT 91 (discussing the logic underlying Marshall’s treatment of utility function concavity).

year. This measure is, by construction, only defined for workers who had a relationship with a firm for at least two tax years. In the time-series analysis, I take the absolute value of this change.

6. *Amount and Nature of Deductions*

Though there is not an exact analog that can be constructed and contrasted for employees,¹³⁵ the level and type of deductions for contractors provide critical insight into how services are provided, and the financial control exerted by the service purchaser. As discussed in Section II.A, contractors are allowed considerable latitude in claiming business deductions and are allowed to take them “above the line”—that is, even if the taxpayer is not itemizing.¹³⁶ This can have a significant effect on the worker’s ultimate tax liability, and because expenses are not third-party reported, can present serious tax enforcement challenges.¹³⁷

The existence and magnitude of deductions is also directly relevant to four of the original twenty factors promulgated by the IRS.¹³⁸ It is also, even

¹³⁵ For the duration of my study window, employees were allowed to deduct unreimbursed expenses incurred in the course of performing their duties. I.R.C. § 162. However, there were several restrictions on these deductions that reduced business expense deductions by employees in practice. Most important, the amount of these deductions—along with certain other costs, collectively called “miscellaneous itemized deductions”—were only deductible if they exceeded a 2% floor of the taxpayer’s adjusted gross income. I.R.C. §§ 62, 67(a). This creates a significant selection effect, where only employees who (1) itemize (this tends to be those taxpayers with higher incomes and/or property holdings) and (2) have a very high expense-to-income ratio can actually claim these deductions. Employees are unlikely to satisfy the second condition because, in a competitive labor market, employers would need to compensate any non-reimbursed expenses by increasing the employee’s wage, dollar for dollar, forgoing any bargaining power from bulk or repeated purchases and forfeiting ownership claims on any capital assets. Additionally, it is unlikely that most employees have the liquidity to purchase significant business inputs up front.

Because of these restrictions on employee deductions, I opt not to compare contractors and employees as I do with the previous measures, but instead do a single population analysis using the information reported on the Schedule C. The Tax Cuts and Jobs Act of 2017 eliminated even this limited form of business expense deduction for employees—starting in 2018, deductions for miscellaneous itemized deductions were suspended. I.R.C § 67(g); *see also* Pub. L. No. 115-97, § 11045, 131 Stat. 2054 (2017) (codified at 26 U.S.C. § 67) (explaining that miscellaneous itemized deductions would be prohibited until sunset of the provision).

¹³⁶ I.R.C. §§ 62(a)(1), 162(a).

¹³⁷ However, third-party reporting is not a panacea. *See, e.g.*, Slemrod et al., *supra* note 67, at 2–4 (showing that the introduction of third-party reporting on gross income had limited effect on tax collections for self-employed taxpayers); *see also* Adkighari et al., *supra* note 67, at 313–20 (showing that taxi drivers required to accept credit cards and subject to third-party reporting on the 1099-K offset the increase in reported gross income by reporting a similar-sized increase in expenses).

¹³⁸ These factors are:

13. Payment of business and/or traveling expenses. If the person for whom the services are performed pays expenses, this indicates employee status. An employer, to control expenses, generally retains the right to direct the worker.

more so than compensation volatility, direct evidence of financial control as envisaged in IRS guidance: if deductions exceed revenues, the worker suffers a loss.¹³⁹

While I argue that certain values of total deductions are informative (e.g., taking zero deductions), the absolute amount of deductions is likely to vary significantly with the size of the business. Therefore, to compare the deduction behavior of contractors with different levels of receipts, I divide the total deductions claimed by gross receipts to produce an *expense ratio* for contractors who filed Schedule Cs in that tax year.

In addition, the nature of the deductions may be informative of a worker's legal relationship to the payer-firm. While the existence of business or travel expenses is one of the original twenty factors, additional guidance from the IRS and case law places heavy emphasis on "capital-like" deductions that may indicate that the worker used and maintained her own tools in performing the service contract.¹⁴⁰

To gain traction on this concept, I identify line items that are most closely associated with the actual rendering of the worker's time (i.e., they have no intrinsic value, unlike tools or equipment that can be resold) and are likely exhaustible from the perspective of the payer-firm—that is, a business

14. Furnishing tools and materials: The provision of significant tools and materials to the worker indicates employee status.

15. Significant investment: Investment in facilities used by the worker indicates independent contractor status.

16. Realization of profit or loss: A worker who can realize a profit or suffer a loss as a result of the services (in addition to profit or loss ordinarily realized by employees) is generally an independent contractor.

JOINT COMM. ON TAXATION, *supra* note 113, at 4.

¹³⁹ According to Joint Committee on Taxation, courts tend to focus on the following factor, particularly when the worker is highly educated or skilled: "Realization of profit or loss: A worker who can realize a profit or suffer a loss as a result of the services (in addition to profit or loss ordinarily realized by employees) is generally an independent contractor." *Id.*

¹⁴⁰ For example, the old IRS factor test included "Provision of tools and materials. Workers who perform most of their work using company-provided equipment, tools and materials are more likely to be considered employees. Work largely done using independently obtained supplies or tools supports an independent contractor finding." IRS, UNDERSTANDING EMPLOYEE VS. CONTRACTOR DESIGNATION (2017), <https://www.irs.gov/newsroom/understanding-employee-vs-contractor-designation>. See, e.g., *Breaux & Daigle, Inc. v. United States*, 900 F.2d 49, 53 (5th Cir. 1990) (noting that crab pickers providing their own tools would usually weigh in favor of finding independent contractor status, but ultimately finding that the pickers in question were employees because "the value of the tools [was] so minimal" and other factors more strongly suggested employee status); *Ewens & Miller, Inc. v. Comm'r*, 117 T.C. 263, 271 (2001) ("The fact that a worker provides his or her own tools generally indicates independent contractor status."). Similarly, the IRS cites "[s]ignificant investment in the equipment that the worker uses" as a key question in determining financial control. *Id.*

dinner with the payer-firm's clients likely benefits only that specific client.¹⁴¹ I identify the following three line-item deductions as labor-associated expenses: car and truck (Line 9), travel (Line 24(a)), and meals (Line 24(b)).¹⁴² I then divide the sum of these labor-associated deductions by all deductions, yielding the *labor deduction share*. This construction standardizes the importance of labor-associated deductions to each filer, i.e. it permits comparisons between contractors, who by virtue of industry or geographic market, may have widely divergent dollar values of deductions (i.e. different *nominal* deductions).

Of course, the tax data measure the deductions actually claimed by contractors rather than those to which they are entitled, which may be the more relevant factor in classification. Taxpayers may fail to deduct legitimate expenses for a number of reasons—for example, lack of record keeping and other compliance issues, and time constraints relative to the filing deadline. However, actual behavior can still be informative, as I will argue in the Section below.

B. Findings on the Nature of Work Relationships

Having established the intuition behind the chosen measures, in this Section I detail three empirical findings. First, employee and contractor relationships in 2016 were similar on several of these measures. Second, differences between the two relationship types have narrowed over time. And third, these similarities are most pronounced for low-income workers.

1. Employees and Contractors in 2016 Were Very Similar

For each quantitative measure presented here describing the nature of individuals' work and their relationships to firms, the goal is to determine whether employees and contractors differ on that measure. However, merely asking whether the *average* employee and the *average* contractor differ is potentially misleading because several of these measures may contain outliers. For example, if a handful of contractors have a very large number

¹⁴¹ See generally Madhok, *supra* note 15, at 543–47 (discussing the subject of skill-bias effects on firm organization).

¹⁴² See Matthew Knittel, Susan Nelson, Jason DeBacker, John Kitchen, James Pearce, & Richard Prisinzano, *Methodology to Identify Small Businesses and Their Owners* (Off. of Tax Analysis, Technical Paper No. 4, 2011) at 4–6 for an extended discussion of which deductions are associated with service provision; see also Thomas, *supra* note 79, at 1454–56 (explaining why gig economy workers are especially prone to under-claiming business deductions—among other reasons, gig economy workers are receiving self-employment income for the first time and may not be familiar with which expenses are deductible, or what type of documentation is required); Shu-Yi Oei & Diane M. Ring, *The Tax Lives of Uber Drivers: Evidence from Internet Discussion Forums*, 8 COLUM. J. TAX L. 56, 78–83 (2017) (providing examples from internet discussion forums for Uber drivers that suggest widespread confusion about what expenses are deductible).

of payers, then the average number of payers among contractors may be significantly higher than the corresponding average among employees due to this handful of outlier contractors. To guard against this, comparing the characteristics of an employee and a contractor at a given percentile of their respective distribution proves more informative. For example, when considering the number of payers a worker has, one can compare the *median* employee—half of employees have more payers than this employee, and half of employees have fewer—with the *median* contractor. Though the median, or the 50th percentile, is commonly used in such comparisons, one can compare the employee and contractor at any percentile of their respective distributions.

To compare employees and contractors on these quantitative measures while remaining robust to outliers, I proceed in two ways. First, I examine visual evidence comparing the distributions of these characteristics for employees and contractors. Second, I rely on quantile regressions. Linear regression is a technique used to determine the relationship of an independent variable, such as education, to the *average* of a dependent variable, such as earnings. But a quantile regression is a similar technique to determine the relationship between an independent variable and a specified percentile of a dependent variable. For example, in the context of a causal analysis, a quantile regression can estimate the effect of an education intervention on low-earning workers, rather than on the average worker, as a linear regression would do. In this descriptive analysis, I use quantile regression to estimate the relationship between a worker's status and each of the quantitative measures described earlier, measured at the 10th, 50th, and 90th percentiles. This allows me to determine whether employees and contractors differ systematically at different points in the distributions of each of these measures.

Before analyzing the six control proxies, I compare workers using simple descriptive statistics of key variables (results are reported by tax year in Table 2, *supra* Section II.B). These tabulations provide a check on the underlying data quality and provide economic context to anchor the more complex statistical comparisons which follow. Given its centrality to analysis variable construction, I compare workers on absolute values of annual compensation in 2016 (Figure 2, *supra* Section II.B).¹⁴³ For employee relationships, this is the earnings reported on Form W-2; for contractor relationships, this is the nonemployment compensation reported on Form 1099-MISC/K. These distributions differ substantially from each other at almost every percentile. The median compensation for a contractor

¹⁴³ See *supra* p. 30.

relationship is \$3,321, compared to \$13,482 for employees. At the 75th percentile, this difference is even more pronounced: \$10,915 for contractors, but \$39,214 for employees. While subsequent analyses will emphasize distributional commonalities and changes over time, it is important to acknowledge significant differences in the absolute values (“levels”) by worker type. With that, I turn to comparing employees and contractors in 2016 across the six control proxy measures.

First, I examine the degree of income dependence exhibited by employee and contractor relationships, defined as the amount of compensation represented by the sampled relationship as a share of total compensation of that type (Figure 3, *infra*). Unlike with the level of compensation, employees and contractors look very similar in their degree of income dependence. Most of the sampled employee and contractor relationships represent the totality of income of that type earned by the worker. This reliance on a single relationship for all, or almost all, of their compensation is a common feature of both employees and contractors. This pattern is confirmed in Table 3, which reports the results of quantile regressions on income dependence at the 10th, 50th, and 90th percentiles. In 2016, a worker’s dependence on the sampled contractor relationship was just 1.4 percentage points less than that of an employee at the 10th percentile, just 0.5 percentage points less at the median, and exactly the same at the 90th percentile.

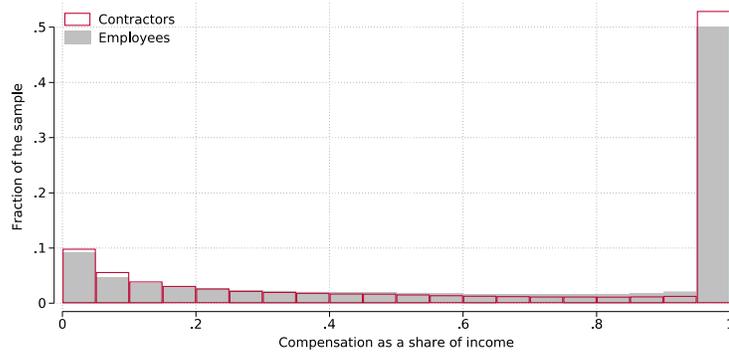
A related measure to income dependence is the worker’s number of payers. In Figure 4, I compare the distributions of payers for employees and contractors in 2016. The plurality of contractors and employees receive compensation from only a single payer. This stands in stark contrast to the perception that contractors perform services for multiple firms. Even beyond this, the two distributions are very similar: The median number of payers for contractors and employees is two, while the 75th percentile for both types of workers is three. Where the two distributions differ substantially is in the right tail: At the 95th percentile, for example, an employee has five payers, while a contractor has ten.

Table 3: Equivalence of employee and contractor relationship distributions, 2016

Measure	Percentile		
	10th (1)	50th (2)	90th (3)
Income Dependence (within classification)	-0.014*** (0.000)	-0.005*** (0.002)	0.000 (0.000)
Distance (Miles)	0.000 (0.000)	1.586*** (0.043)	35.776*** (0.846)
Compensation Volatility	-0.018*** (0.002)	-0.023*** (0.000)	0.085*** (0.013)

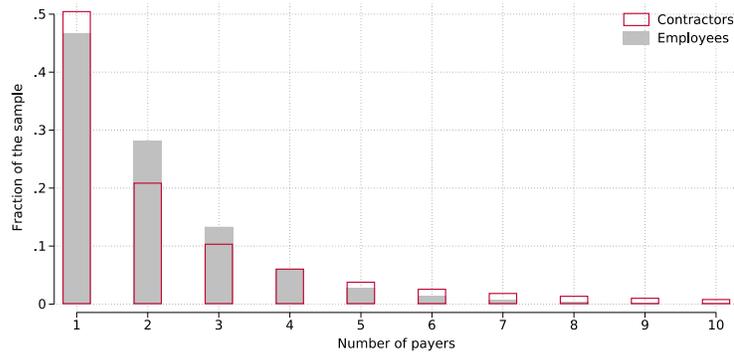
Notes. This table reports coefficients and standard errors from quantile regressions at the specified percentiles for the indicated characteristics and a binary indicator for a contractor relationship. Income dependence is defined as the sampled relationship's compensation as a share of all compensation from relationships of that type. Distance is defined as the number of miles from the centroid of a firm's zip code to the centroid of a worker's zip code. Compensation volatility is defined as the percent change in compensation from the previous year, for relationships observed in the previous year. * p<0.1, ** p<0.05, *** p<0.01

Figure 3. Histogram of compensation as a share of income, by classification, 2016



Notes. This figure shows the distributions of the “compensation share of income,” defined as the amount of compensation issued in the sampled relationship divided by the total compensation of that type (contractor, employee) earned by the worker in the tax year. Despite the marked differences in the distribution of compensation, workers display a strikingly similar degree of reliance on income from the sampled relationship. The majority of workers of either type essentially rely on a single relationship for all of their compensation.

Figure 4. Histogram of number of payers, by classification, 2016

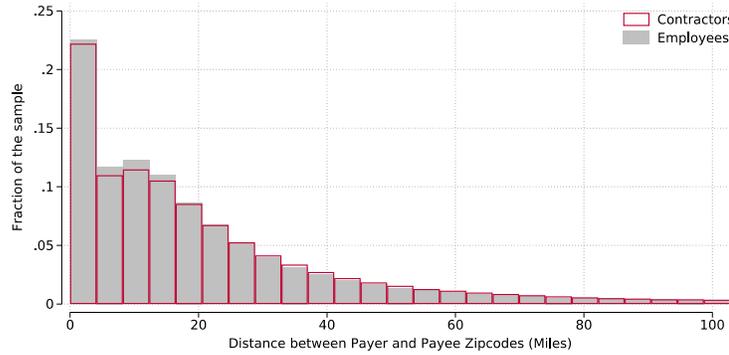


Notes. This figure shows the distributions of the number of payers by worker classification for the tax year 2016. Several points are worth noting. First, the plurality of workers, of either type, receive compensation from only a single payer. This runs counter to the common perception of contractors performing services for multiple firms. Second, the distributions are extremely similar for most workers: The median number of payers is the same for both types (two), as is the 75th percentile (three). The contractor distribution begins to diverge from the employee distribution only for the 90th percentile (four for employees, six for contractors), and differs drastically at the 95th percentile and above, where a small group of contractors receive income from many firms without an analogous group of employees who receive wages from many employers.

Figure 5, *infra*, reports the distributions of distance, measured in miles, between the payer and payee, for contractors and employees in 2016. Like the distributions for number of payers, the distance distributions for employees and contractors overlap significantly. This is confirmed in Table 3, *supra*, which also reports the results of quantile regressions on the distance measure. At the 10th percentile, there is no difference in distance between employee and contractor relationships, and at the 50th percentile contractors are just 1.6 miles farther away. However, as with the distributions for number of payers, the distance distributions diverge at the right tail. At the 90th percentile, contractors are located almost 36 miles farther from their payer-firms than employees.

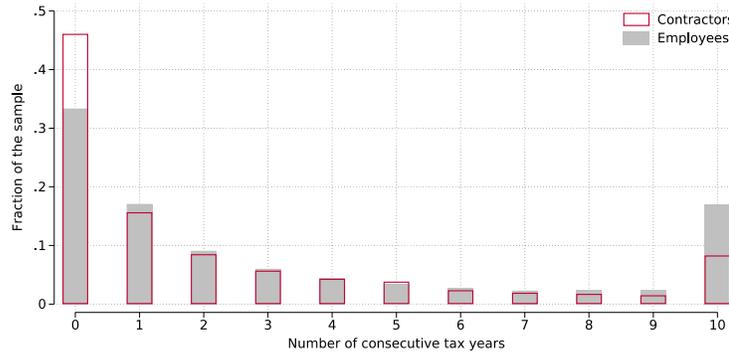
I compare the tenure of contractor and employee relationships in 2016 in Figure 6, *infra*. Tenure is defined in this Figure as the number of consecutive years in which a worker and a firm have had a relationship prior to 2016. It is clear that employees and contractors diverge in the tails of their respective distributions: 46% of contractor relationships in 2016 are not observed in prior years, relative to only 34% of employee relationships, while 17% of employee relationships had tenures of ten or more years in 2016, compared to only 8% of contractor relationships. While the tail behavior accords with a common preconception that employees are more likely than contractors to have “ongoing relationships,” it is the extreme right tail—not the median relationships of each type—that drives this result.

Figure 5. Histogram of distance between workers and firms, by classification, 2016



Notes. This figure shows the distributions of the distance between a worker and a firm, defined as the “crow flies” distance in miles between the centroid of a firm’s zip code and the centroid of a worker’s zip code. For readability, only distances at or below the 90th percentile are plotted. The distributions mostly overlap, with the largest differences appearing in the right tail excluded from the plot. For example, the 95th percentile distance for contractors is 330 miles, while for employees it is 204 miles.

Figure 6. Histogram of relationship duration (tenure), by classification, 2016



Notes. This figure shows the distributions of relationship tenure in 2016, defined as the number of years that a relationship sampled in 2016 is consecutively observed prior to 2016. A value of zero means that the relationship was not observed in tax year 2015. A value of ten means that the relationship was observed consecutively in ten or more years prior to 2016. As expected, employees have higher values of tenure on average than do contractors. This difference in the mass is most pronounced at the tails: 46% of contractor relationships in 2016 are not observed in the prior year compared to only 33.5% of employee relationships, whereas 16.9% of employee relationships had tenures of 10 or more years in 2016 compared to 8.2% of contractor relationships.

The next measure I consider is compensation volatility (Figure 7, *infra*), which is limited to relationships that are also observed during the prior tax year. The distributions for both employee and contractor relationships tend to cluster near zero, where compensation is unchanged from one tax year to the next. However, compared to the employee distribution, significantly more of the contractor distribution is located to the left of zero, implying that compensation in these relationships declined in 2016 relative to the year prior. This difference between contractor and employee relationships is likely due to several factors, including minimum-wage laws that set a floor for employee compensation, as well as a phenomenon known as downward wage rigidity in which employers seldom cut wages for employees.¹⁴⁴ Figure 7 shows that although contractor relationships are more likely to see compensation fall, they are also more likely to see compensation rise from one tax year to the next.

Table 3, *supra*, reports the results of quantile regressions on compensation volatility. At the 10th and 50th percentiles, a contractor's compensation volatility is 1.8 percentage points and 2.3 percentage points lower than that of an employee relationship, respectively. At the 90th percentile, however, a contractor's compensation volatility is 8.5 percentage points higher than that of an employee relationship. This underscores the point that the compensation of contractors is more volatile overall than that of employees.

The final measure I consider is deduction-taking among contractors in 2016 (Figure 8, *infra*). As discussed above in Section I.B, contractors are generally indirectly reimbursed by payers for their expenses. Therefore, it is particularly striking how many contractors do not claim *any* deductions. For the sample in 2016, more than a third of contractors (35.6%) reported zero deductions, and more than half of Schedule C filers (57.1%) claimed less than \$5000 in total deductions. Similarly, only 9.1% of the sample of contractors reported a loss.¹⁴⁵ The types of deductions that contractors take are also revealing. Labor-associated deductions make up the majority of

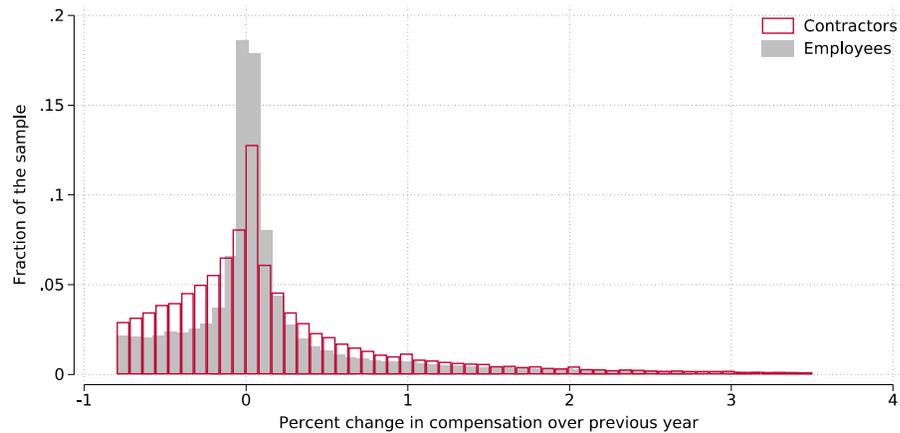
¹⁴⁴ See generally Joseph G. Altonji & Paul J. Devereux, *The Extent and Consequences of Downward Nominal Wage Rigidity* (Nat'l Bureau of Econ. Rsch., Working Paper No. 7236, 1999), <https://www.nber.org/papers/w7236> [<https://perma.cc/F5DB-ZS9E>] (finding that employers rarely cut employees' wages).

¹⁴⁵ This number is difficult to interpret without its analog among employees. However, it raises the question of what a profit/loss realization measure tells us. In addition to direct financial costs incurred while performing work, an employee and a contractor both have an opportunity cost of their time and effort. Opportunity costs are not observable, much less tax-deductible. Given that the vast majority of contractors are claiming low dollar amount deductions, if any, it seems plausible that incurred opportunity costs exceed any direct financial costs in value. This reasoning would suggest that the economically meaningful measure (if not the legally meaningful one) of cost may be relatively similar between contractors and employees, as employees cannot report a loss on wage income.

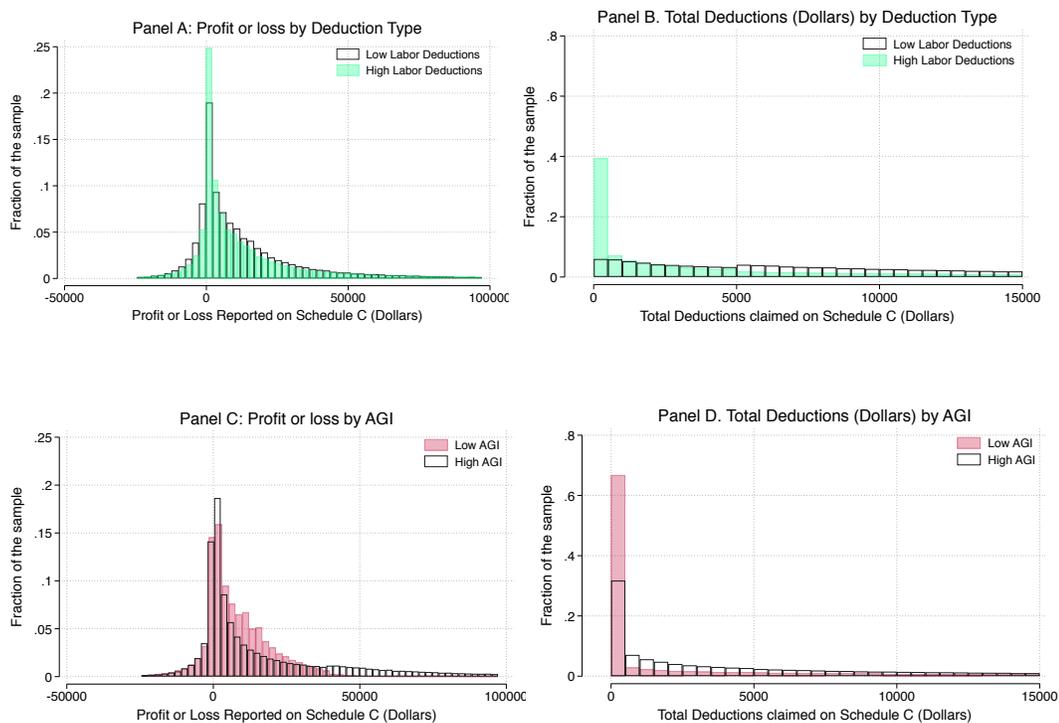
deductions under \$5000, suggesting that the division between contractor and employee is more administrative than substantive. Contractors are largely claiming small amounts of expenses that would have been reimbursed by their employer had they been employees, rather than structurally different capital investment expenses that could be used to provide services to other clients.

Overall, in tax filings data from 2016, employee and contractor relationships differed substantially on some measures, such as levels of compensation, tenure, and compensation volatility, but were substantively similar on others, such as income dependence, number of payers, and distance to payer.

Figure 7. Compensation volatility, by classification, 2016



Notes. This figure shows the distributions of percent changes in compensation relative to the previous year. Percent change is defined as the difference between the compensation in the sampled tax year and the compensation in the prior tax year, divided by compensation in the prior year. This measure is inherently limited to relationships observed in the prior tax year. For readability, percent changes below the 5th percentile or above the 95th percentile of the contractor distribution are not plotted. A value of 1 means that compensation increased by 100%, or doubled, over the previous tax year. Much of the mass in both distributions is clustered around zero, which implies no year over year change in compensation. However, there are a few differences meriting attention. First, there is significantly more mass to the left of zero for contractors than for employees, meaning that contractors are more likely to see reductions in compensation from one year to the next than employees. Several factors may contribute to this, including minimum wage laws that may prevent downward wage adjustments for full-time employees, and a well-documented pattern of wage rigidity, particularly downward wage rigidity, for employees. Contractors may also be more likely to work for varying amounts of the tax year, such as a full tax year followed by only a portion of a tax year. Second, as with other metrics, there is a considerable right tail for contractors, suggesting that their compensation volatility is symmetric (e.g., large increases year to year, in addition to large decreases). Finally, the median percent change in compensation for contractors is zero, whereas the median for employees is 2.2%, suggesting that wage growth for employees is modestly positive, unlike for contractors.

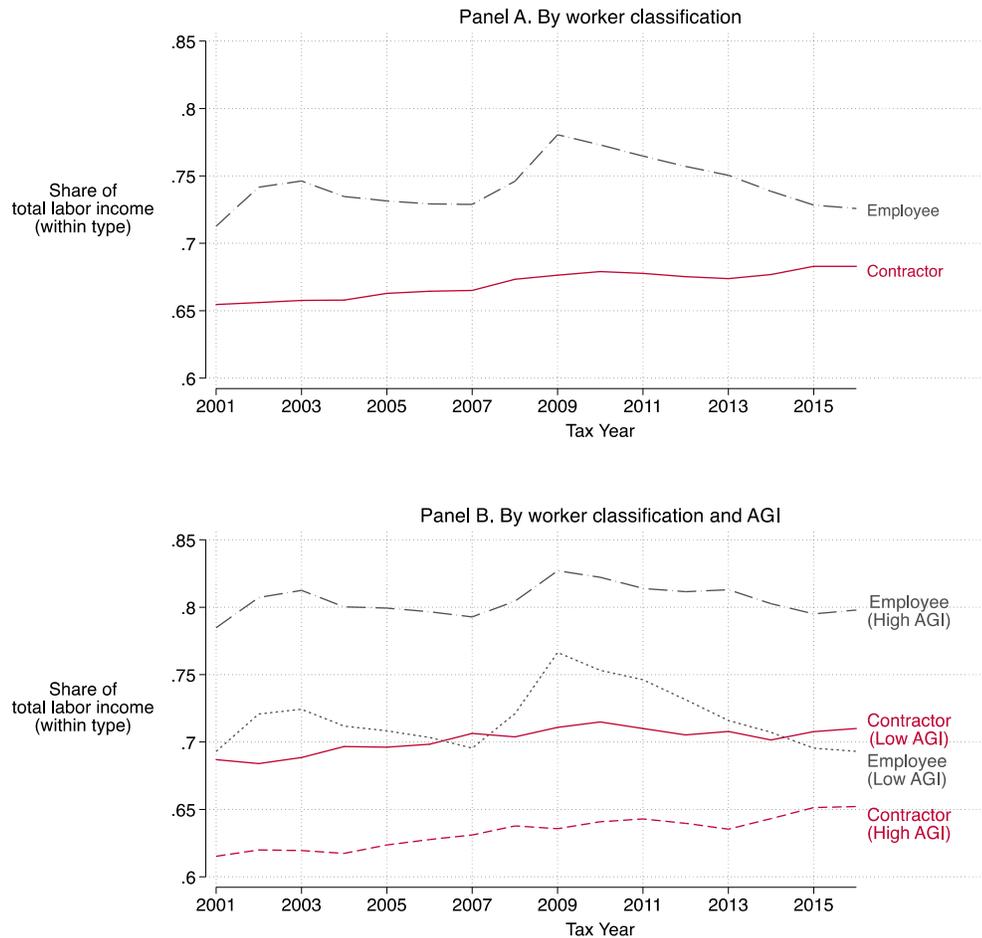
Figure 8. Histograms of the amount and nature of contractor Schedule C deductions, 2016

Notes. These figures display distributions of profit/loss and deductions in 2016. The sample for all figures is limited to contractor relationships where the payee could be matched to a Form 1040 Schedule C, or approximately 75% of all contractor relationships (see Table 1). Panels A and B split the sample based on whether 50% or more of the payee’s deductions were for “labor” expenses, defined as the sum of the three line-item deductions most strongly associated with service provision: car and truck (Line 9), travel (Line 24(a)), and meals (Line 24(b)). See, e.g., Knittel et al. (2012) for an extended discussion of which deductions are associated with service provision. Two points stand out in the histogram in Panel A: Relatively few contractors claim losses (18%), while those who report majority labor deductions are even less likely to claim a loss (11%). In Panel B, contractors claiming no deductions are dropped from the sample. Among those claiming positive deduction amounts, those with mostly labor deductions are disproportionately likely to deduct less than \$500. Panel C reiterates the point that relatively few contractors claim a loss, and low AGI households are about as likely to claim a loss, conditional on filling out a Schedule C, as high AGI households. However, Panel D shows that low-income households are significantly less likely to claim any deduction.

2. *Work Relationships Have Converged*

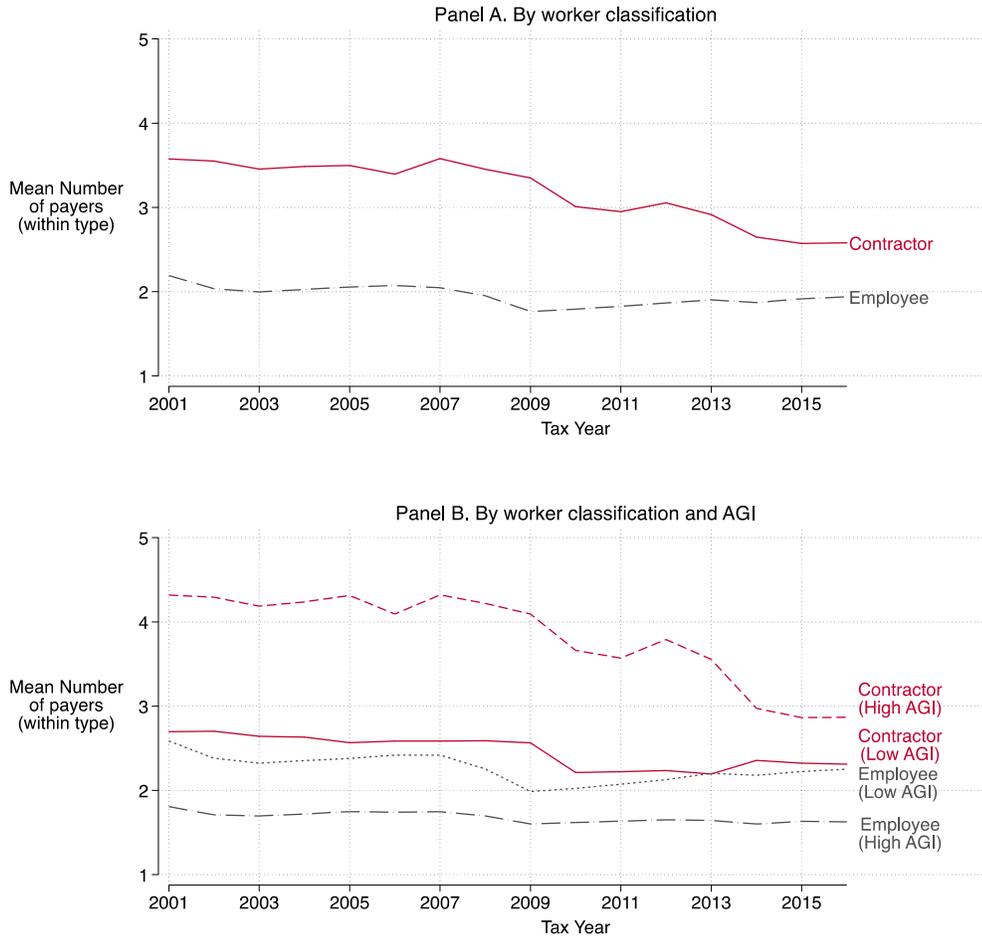
Instead of comparing employee and contractor relationships at a single point in time (tax year 2016), I now turn to comparing the *dynamics* of these relationships over time, using a similar set of measures. First, I consider changes in the degree of income dependence among employee and contractor relationships (Figure 9, Panel A, *infra*). In 2001, the average sampled contractor relationship represented just over 65% of a worker's total contractor income, and the average sampled employee relationship represented just over 70% of a worker's total employee income. By 2016 that gap has narrowed modestly, mostly due to an increase in the dependence of contractors on a single contractor relationship.

Second, I examine the evolution in the number of payers of contractors and employees (Figure 10, Panel A, *infra*). As expected, contractors have, throughout this period, had on average a larger number of payers than employees, particularly due to the long right tail of this distribution. However, while in 2001 contractors had, on average, just over one additional payer relative to employees, by 2016 this gap was cut almost in half.

Figure 9. Income Dependence: Share of total labor income represented by sampled relationship, 2001-2016

Notes. These figures plot the average share of a worker's total labor income, by classification, represented by the sampled relationship. For example, in 2001, the average firm-contractor relationship captured on a Form 1099-MISC or 1099-K represented approximately 65% of a worker's total contractor income, defined as the sum of compensation reported on the Forms 1099-MISC or 1099-K issued to that worker in 2001. As expected, a given contractor relationship constitutes a smaller share of a worker's total contractor income, compared to a given employment relationship as a share of a worker's total employee income. However, this gap has narrowed considerably from 2001 to 2016, as the dependence of contractors on a single contractor relationship has grown. Fluctuations in employees' dependence on a single employment relationship corresponds to business cycle activity—rising during recessions and declining during expansions. The Forms W-2 sampled during a recession are more likely to be the only employment relationship of those workers during the sampled year, for example. Panel B plots the same measure disaggregated by whether the worker's AGI was above or below the median during that tax year (calculated over the universe of filers). Panel B is limited to contractor relationships that could be linked to 1040 returns (see Table 1). Interestingly, while high AGI workers are distinguishable on this metric, low AGI workers trend similarly. The convergence between employees and contractors observed in Panel A seems to be driven not only by an upward trend in income dependence among low AGI contractors, but also a downward trend among low AGI employees.

Figure 10. Number of Payers: Average number of unique payers, 2001-2016

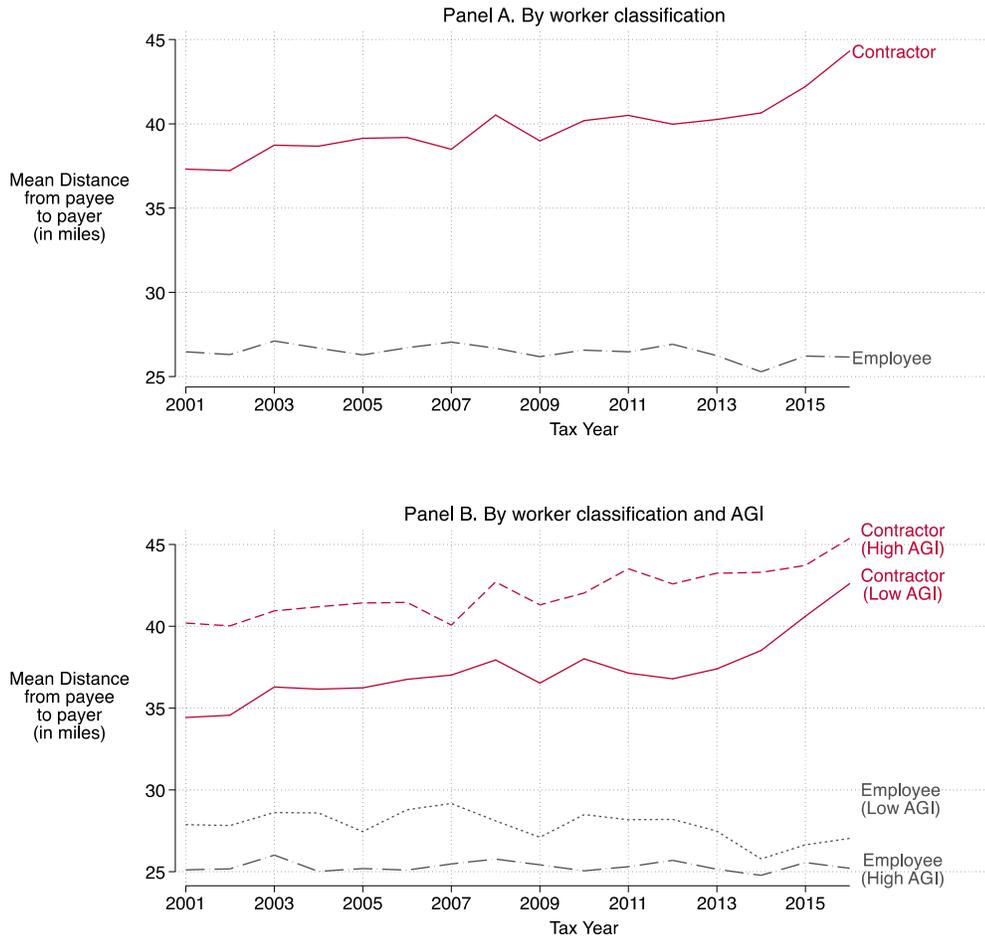


Notes. These figures show the average number of firms or “payers” with which workers contract, by classification. A worker’s number of payers is calculated as the number of unique firms issuing Forms W-2 (for employees) or Forms 1099-MISC or 1099-K (for contractors) to the worker in a given tax year. The number of distinct payers from which contractors receive compensation has declined steadily over the study window, from 3.5 to 2.5 payers. The number of payers per worker with an employment relationship has declined slightly over the same period. The levels themselves are worth noting; even in 2001, the average number of payers a sampled contractor had was relatively small—fewer than four, while the average employee at that time had two employers. Recognizing that the distribution of number of payers for contractors has a long right tail, if we focus on those below the 95th percentile, the resulting average number of payers looks much more similar to employees. Panel B breaks out this trend by a worker’s AGI, again limited to relationships where the payee could be matched to a Form 1040. As with income dependence, low AGI contractors and employees trend similarly. While high AGI employees have the fewest payers, the convergence seems to be primarily driven by the reduction in the number of payers among high AGI contractors.

Third, I explore how the distance between payer and payee for contractors and employees has changed (Figure 11, Panel A, *infra*). As with the number of payers, the average for contractors is consistently higher than the average for employees, especially seen in the long right tail of the contractors' distribution. Unlike the preceding series, the gap between contractors and employees does not narrow but actually widens with time. This may be partially explained by the introduction of Form 1099-K in 2011. This form, which captures contractor income made through credit card transactions, is typically issued by credit card companies or other market makers, often with a corporate address rather than one associated with where the work takes place.

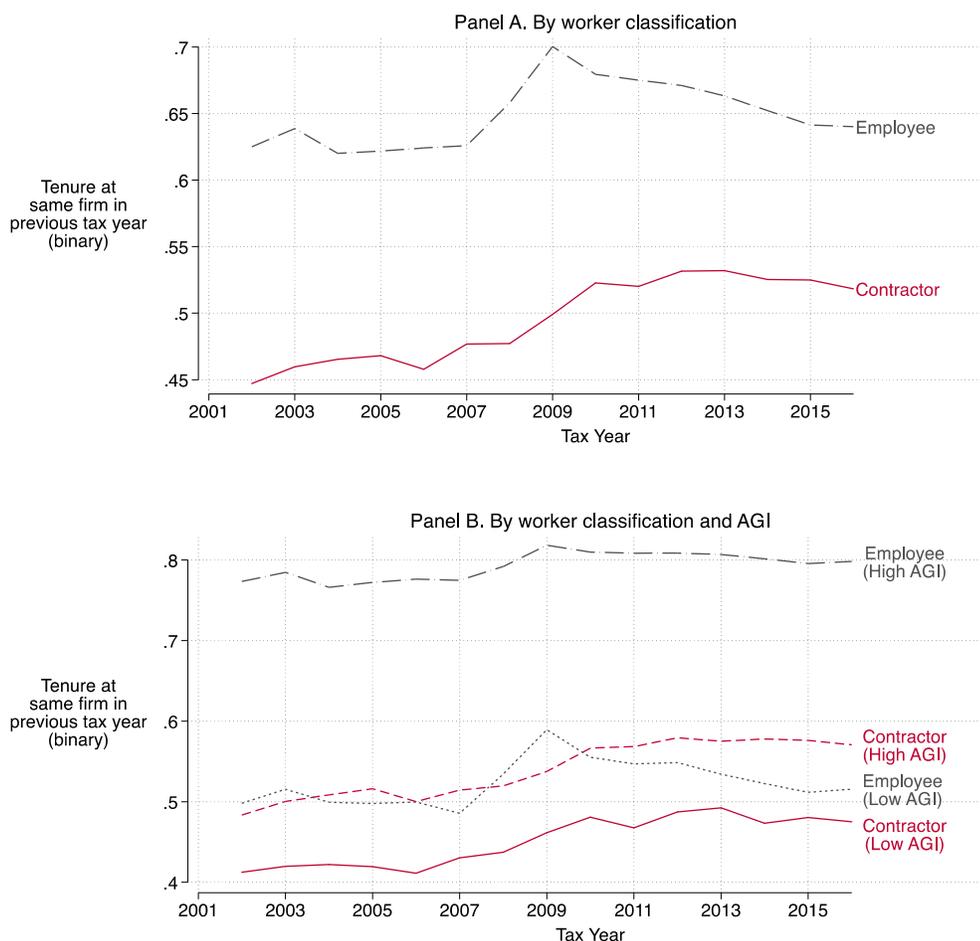
Fourth, I consider the evolution of relationship tenure (i.e. relationship duration) for contractors and employees (Figure 12, Panel A). Unlike the tenure measure described in Section III.B.1., this definition of tenure measures whether the relationship existed in the prior tax year and is therefore reported only from 2002 onward. Employee relationships are more likely to have existed in the prior year than contractor relationships. However, the gap between these two rates has diminished substantially from 2002 to 2016, implying that contractor relationships have grown stabler over time.

Figure 11. Distance: Median distance between payer and payee, 2001-2016



Notes. These figures show the median distance between firms and workers, using information contained on the information report (i.e., Forms W-2, 1099-MISC, 1099-K). The distance measure is the Cartesian distance, in miles, between the centroid of a worker’s zip code and the centroid of a firm’s zip code. An important caveat is that the address associated with the payer is not always the same as the address associated with the work location. While stability in the IRS data is quite high, the address of the payer is at the EIN level, which is not the same as the plant or establishment level address. This may explain the increase beginning after year 2011, when Form 1099-K was introduced as an additional source of information on contractor income. Form 1099-Ks are typically issued by market makers (i.e., Uber) or credit card companies. It is unlikely that the corporate headquarters of the market maker is close to the recipient’s home address. Despite this limitation, it is striking how the employee and contractor series move together until just after 2011. In general, it has been well documented that the effective size of the labor market is expanding, as commuting times increase and work-from-home arrangements have become more common among both employees and contractors. Panel B shows that the trend in Panel A affects low and high AGI workers in largely the same way, although, again, it is low AGI employees and low AGI contractors that are closer than their high AGI counterparts.

Figure 12. Tenure: Share of workers continuing a relationship from the previous year, 2002-2016



Notes. These figures show a simplified tenure metric: the share of relationships that existed in the year prior to the year in which the relationship was sampled. For example, among contractor relationships sampled in 2002, approximately 45% also existed in 2001. Under this definition, the tenure of employment relationships is generally higher than the tenure of contractor relationships, as we would expect. However, this gap has gradually narrowed over the analysis period. In 2016, 63.2% of employment relationships existed in the prior tax year, down from a peak of 70% in 2009. Panel B shows the significant difference in the likelihood of staying in a relationship for high AGI employees and all other workers. While low AGI contractors are the least likely to continue, high AGI contractors have been more likely to continue a relationship into a second year than low AGI employees.

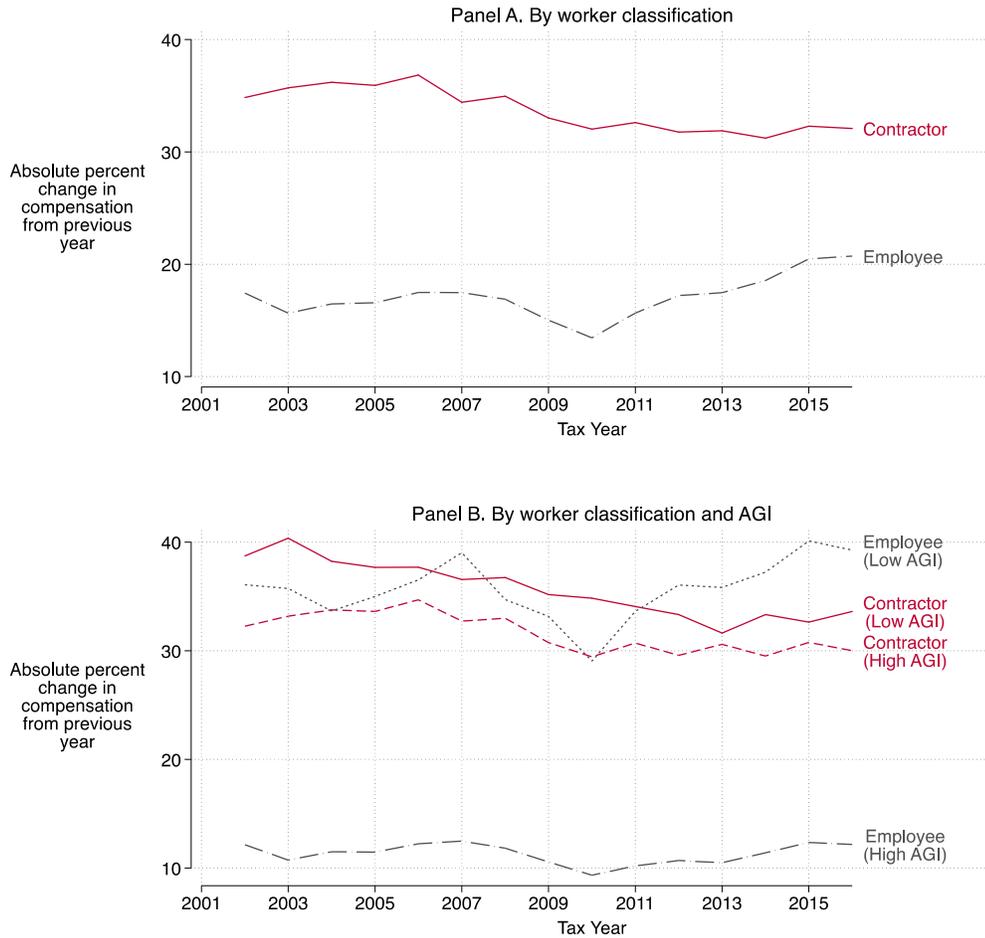
Fifth, I study changes in workers' compensation volatility for contractors and employees (Figure 13, Panel A, *infra*). Note that here I consider absolute changes in compensation from one tax year to the next, treating increases and decreases in the same way. In 2002, the average sampled contractor relationship had compensation that differed by 35% from the year prior, compared to just under 20% for the average sampled employee relationship. This gap of over 15 percentage points narrowed to almost 10 percentage points by 2016, as both employee compensation volatility increased and contractor compensation volatility decreased.

Finally, I examine changes in contractors' deduction-taking (Figure 14, *infra*). Contractors exhibit a trend of decreasing deductions as a share of gross receipts, which is shown separately by workers' adjusted gross income (AGI). The sharp drop in 2007 might be explained in part by a reluctance of contractors to make investments (and incur outlay costs) in the uncertain conditions surrounding the financial crisis.¹⁴⁶ Whatever the cause for this drop, if we assume that most employees have a deduction to gross-receipts ratio near zero,¹⁴⁷ then contractors have observably converged toward employees over the sample period. There has also been a steady rise in the fraction of deductions for labor-associated expenses, again indicating that contractors and employees are becoming more alike in economic substance. This is because employees are often reimbursed for labor-associated expenses. For example, if two workers incur the same expense in the course of performing tasks, such as taking a client out to dinner or purchasing gas for delivery, and one worker is reimbursed for these expenses by her employer while the other includes this cost in her gross compensation and then deducts it, this is a distinction without an economic difference.

¹⁴⁶ See Michael D. Hurd & Susann Rohwedder, *Effects of the Financial Crisis and Great Recession on American Households* 13-15 (Nat'l Bureau of Econ. Rsch., Working Paper No. 16407, 2010) (finding that after the crash, people tended to decrease their stock holdings in retirement accounts).

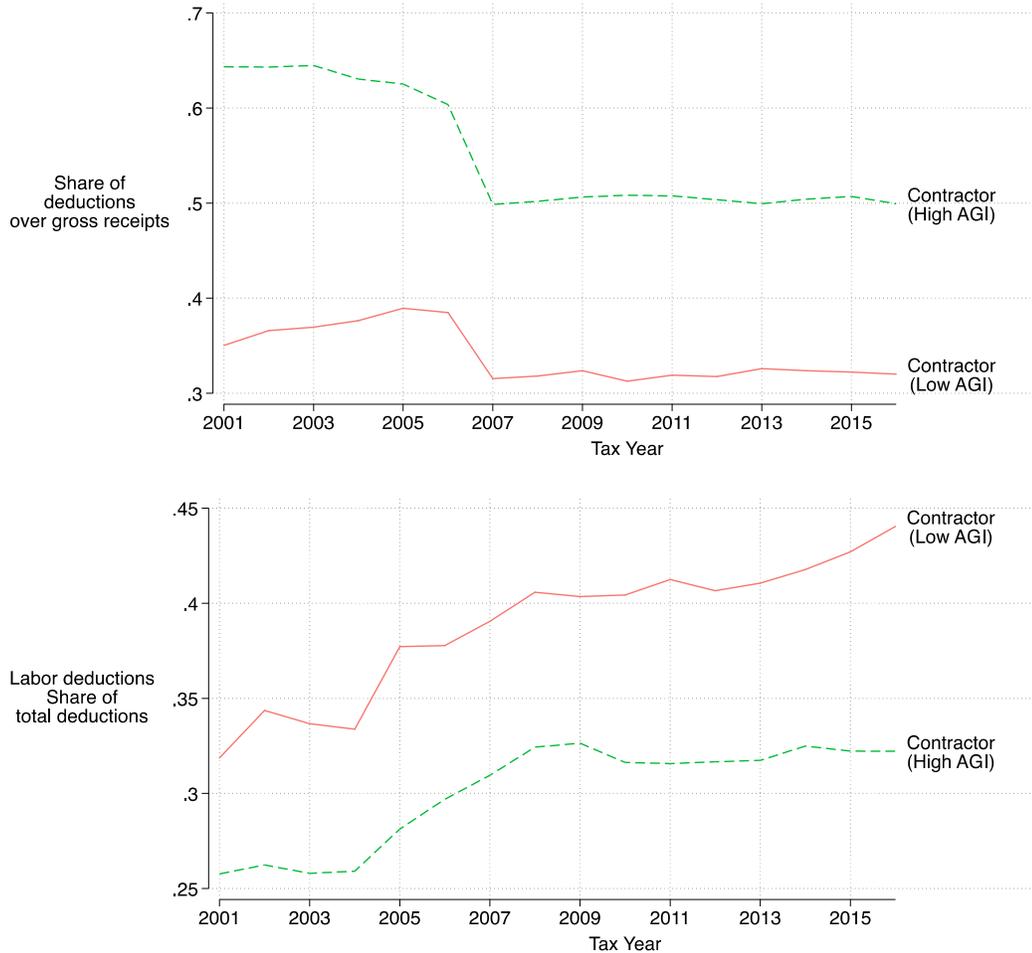
¹⁴⁷ See *supra* note 142 for further discussion of the reasonability of this assumption.

Figure 13. Compensation volatility: Magnitude of percent change from the previous year, 2002-2016



Notes. This figure plots the magnitude of the percent change in a worker’s compensation relative to the previous year, for those workers who had a relationship with the same firm in the previous year. For example, on average, the compensation received in a contractor relationship in 2002 was 35% different (higher or lower) than the compensation received in that same contractor relationship in 2001. The volatility of contractor compensation is uniformly higher, on average, than the volatility of employee compensation. However, this gap has narrowed considerably over time as contractor compensation volatility has declined and employee compensation volatility has increased. Panel B here tells a similar story to Panel B in the previous figure. High AGI employees have the lowest volatility in year over year compensation, while all other workers have considerably higher volatility. While volatility for both high and low AGI contractors has decreased, the compensation of low AGI employee relationships has become more volatile, perhaps reflecting wage increases that were delayed in the immediate aftermath of the recession.

Figure 14. Deductions: Change in the magnitude and nature of Schedule C deductions, 2001-2016



Notes. These figures show the ratio of deductions to receipts (Panel A) and the share of total deductions that are for “labor” or service associated expenses (see Figure 8 Notes). Contractor relationships are limited to those that could be matched to a Schedule C (see Table 1). In Panel A, which plots the median ratio of deductions to receipts, high AGI contractors claim a higher amount of deductions throughout the series, but all contractors have seen a secular decline in deductions and a corresponding increase in profit share. This may be a selection effect related to the influx of contractors into the economy between 2008 and 2015 (see Figure 1). Panel B plots the median share of “labor deductions” over the same time frame. While low AGI contractors always have a higher share of labor expenses, and both types of contractors exhibit a secular increase in the labor share of deductions, this share has also grown faster for low AGI contractors.

3. *Convergence Most Pronounced for Lower-Income Workers*

The patterns I have documented so far have considered all sampled employee and contractor relationships equally. However, this approach masks important differences in how the two types of workers compare—and how comparisons between them have evolved over time—based on a worker’s place within the income distribution. Specifically, these phenomena have not been shared or experienced equally by low-income and high-income workers, which I can measure by linking workers to their Forms 1040 to recover their AGI. Categorizing workers as low-income if their AGI is below the median in a given tax year and as high-income otherwise, I reexamine the evidence presented in the previous two Sections.

First, the gap between employees and contractors in their income dependence on a single relationship appears to be driven almost entirely by high-income workers. Among low-income workers, the degree of income dependence exhibited by employees and contractors is, and has been for many years, quite similar (Figure 9, Panel B).¹⁴⁸ This suggests that low-income workers are equally dependent upon a given relationship, whether employee or contractor.

Second, the gap between employees and contractors in their number of payers is also driven almost entirely by high-income workers. Throughout the period studied here, among low-income workers, the average number of payers for employees and contractors has been almost identical (Figure 10, Panel B).¹⁴⁹

Third, when comparing employee and contractor relationships in the distance between payers and payees, the large gap narrows somewhat for low-income workers and widens for high-income workers (Figure 11, Panel B).¹⁵⁰ Both high- and low-income contractors experience the same uptick in distance in the years following the introduction of Form 1099-K.

Fourth, high-income workers’ employee relationships have, by far, the highest likelihood of continuing from one year to the next, and low-income workers’ contractor relationships have the lowest likelihood (Figure 12, Panel B).¹⁵¹ Interestingly, there is much less dispersion among contractor relationships in this measure of tenure, regardless of a worker’s level of income; both high- and low-income contractors have relatively low rates of tenure. By contrast, low-income workers’ employee relationships are much

¹⁴⁸ See *supra* Section III.B.2.

¹⁴⁹ See *id.*.

¹⁵⁰ See *id.*.

¹⁵¹ See *id.*.

less stable than those of high-income workers, more closely resembling contractor relationships.

Fifth, and as with tenure, high-income workers' compensation volatility in employee relationships is very low, compared to all other workers and relationship types (Figure 13, Panel B).¹⁵² Contractor relationships, regardless of a worker's income level, demonstrate high compensation volatility. Low-income workers' employee relationships once again appear very similar to those of contractor relationships.

Finally, the deduction-taking behavior I measure for low-income workers in contractor relationships suggests an even greater similarity in the nature of their work to that of employees (assuming a deduction to gross-receipts ratio is close to zero for employees as stated above). The deduction share of gross receipts is closer to zero for low-income workers, and the labor-associated share of total deductions is higher.

IV. INTERPRETING CONVERGENCE IN PROXY MEASURES OF CONTROL

The results presented in Section III.B, *supra*, demonstrate that employees and contractors have grown more similar over time on several proxy measures of the worker–firm relationship related to financial and behavioral control. What can explain this pattern of convergence in the control proxies? I consider four hypotheses: (1) an increase in legal uncertainty about which workers are contractors; (2) a change in firms' propensity to intentionally misclassify employees as contractors or vice versa; (3) a change in how predictive the control proxy is of actual control; and (4) a structural shift in the labor market away from supervised work. These hypotheses are not mutually exclusive.

This Section proposes a framework for understanding more clearly how each of these hypotheses could give rise to the observed convergence in the control proxies. The object of providing this framework is not to promote one hypothesis as more important or more likely than the others. Rather, it is to formalize the relationship between four elements: the concept of “control,” the law that creates a binary classification based on control, workers' reported classifications, and the “control proxy” measures used to estimate actual control. Both law and reality are messy—this formalism, while reductive, permits a more structured discussion of the findings.

A. Framework for Interpreting Observed Convergence

Before we begin, it is helpful to precisely define the framework's key elements:

¹⁵² *See id.*

Control (c_i): As discussed earlier, control is a multifaceted and complex concept. In this framework, control exists along a continuum and is denoted by the variable c . The degree of control exercised by a firm over the work of worker i is denoted by c_i .¹⁵³ For example, if a worker uses her own tools to complete a project for a firm and will be paid upon its completion, then the firm exercises relatively little control over that worker, corresponding to a low value of c_i . Alternatively, if a worker performs routine tasks at a firm's office using a firm computer and is paid hourly, then the firm exercises a lot of control over that worker, corresponding to a high value of c_i . The firm knows the value of c_i for each of its workers.¹⁵⁴ However, determining the value of c_i for any given firm–worker relationship for an outsider, whether the IRS or a researcher, is difficult and costly.¹⁵⁵ Determining c_i involves gathering many different inputs, some of which must be directly observed by an auditor at the work site.

The Law (c^*): While a worker's c_i is continuous,¹⁵⁶ how she is classified under the law is binary: A given firm–worker relationship is *either* that of an employee *or* that of an independent contractor—the relationship cannot be classified as both for purposes of the same application.¹⁵⁷ In this framework, we represent the law's imposition of this dichotomy by a threshold value of c , denoted by c^* . The true classification of a worker's relationship is fully determined by her value of c_i relative to c^* . If $c_i < c^*$, the worker is appropriately classified under law as a contractor; if $c_i > c^*$, the worker is appropriately classified an employee. Put another way, c_i determines whether a worker in a relationship with a firm *should* be classified as an employee or a contractor: her “real” classification under the law, or how the IRS would classify her if it conducted an audit to reveal all of the particularities of her relationship relevant to the common law standard.

¹⁵³ I make two simplifications here. First, we treat c_i as a single continuous (scalar) variable, though in reality control is a multidimensional concept and c_i is most accurately thought of as a vector, a variable which varies along multiple dimensions. For example, height is a scalar variable, measured along a single dimension (inches); in contrast “attractiveness” likely has several components (e.g. height, earnings, weight, clothing choice, etc.), which a researcher would represent in a matrix or vector variable. Second, I assume that worker i is engaged in a relationship with a single firm, so I do not consider her value of c_i across firms.

¹⁵⁴ The firm “knows” the value of c_i in the sense that the firm dictates the level of supervision and constraints for a given position or task.

¹⁵⁵ Of course, c^* is itself defined by the case law, including administrative rulings by the IRS.

¹⁵⁶ By “continuous,” I mean that c_i can take on infinitely many values, reflecting the real and significant diversity of working relationships that exist in reality.

¹⁵⁷ That is not to say that a given worker cannot be classified as a contractor for the purposes of one regulatory system and as an employee for another. As was discussed in Part II, *supra*, the definitions used by different agencies overlap, but not perfectly. For example, the IRS has a special designation, “statutory employee,” which refers to a worker who is classified for tax purposes as an employee but does not meet the common law definition of an employee. See IRS, STATUTORY EMPLOYEES, *supra* note 1.

While we assume that the firm knows the value of c_i for each of its workers, the firm may be in the dark about the value of c^* . For example, the firm may have two workers who perform services. The firm knows that it exercises more supervision over worker 1 compared to worker 2 ($c_1 > c_2$). However, the firm may not know whether the amount of control exercised translates into worker 1 being properly classified as a contractor—that is, whether $c_1 < c^*$. But if worker 1 should be classified as a contractor, then it follows that worker 2 must be one as well, because $c_2 < c_1 < c^*$.

Reported Classification: In contrast with a worker’s “true” classification under the law, a worker’s “reported” classification is how the firm represents their relationship to the IRS. The firm may report the relationship as being either type regardless of the value of c_i , though the closer c_i is to c^* , the less likely the firm is to have their classification audited.

Misclassification occurs when there is a discrepancy between the true classification (based on the value of c_i in relation to c^*) and the reported classification. Misclassification may be deliberate on the part of the firm, or the firm and the worker, but, in some cases, misclassification is likely inadvertent, and any benefit incidental. First, a firm may *intentionally* misclassify a worker to avoid regulatory costs that are only incurred for workers of a certain classification. An example is the ACA employer mandate, which required all firms of a certain size to provide health insurance to their employees, but not to their contractors.¹⁵⁸ To the extent that the firm is unable to pass through the full cost of providing health insurance to employees, it might choose to report a worker whose true classification is employee ($c_i > c^*$) as a contractor to avoid that cost. Though most regulatory costs adhere to the employee classification, there are exceptions. For example, firms have a much stronger claim to certain intellectual property rights associated with work product created by an employee, as compared to a contractor.*

Second, a firm may *unintentionally* misclassify a worker if the firm does not know the value of c^* and therefore cannot determine the position of c_i in relation to it. Generally, this type of mistake of law is more likely to occur for workers with c_i close to c^* , or when there is substantial legal uncertainty created by seemingly contradictory applications of the standard

¹⁵⁸ The ACA employer mandate requires “an employer who employed an average of at least 50 full-time employees on business days during the preceding calendar year” to provide health insurance to their employees. 26 U.S.C. § 4980H.

(e.g., in the federal context, a circuit split), or if there are many relationships that could be appropriately classified either way.¹⁵⁹

Control Proxy (x_i): As mentioned above, measuring c_i for any particular worker–firm relationship is fact-intensive and likely to be prohibitively costly at scale. In contrast, let x_i be a continuous proxy measure of control that can be readily observed by researchers and the IRS in administrative tax data, such as the distance between a firm’s headquarters and the worker’s address considered in Section III.A, *supra*.¹⁶⁰ We assume that x_i and c_i are positively correlated, but the correlation is imperfect: A worker with a higher value of x_i is also more likely to have a higher value of c_i and thus is more likely to have a true classification of employee, but her true classification is based on c_i and c^* and not on x_i . While we cannot directly observe how a worker *should* be classified based on c_i , we can directly observe how a worker *is* classified in the tax data, which allows us to measure how the distribution of x_i varies for workers by their reported classification. For example, if x_i is distance from the employer’s address, it stands to reason that true employees, who are more likely (pre-pandemic) to be required to work on-site, will have lower values of x_i on average than do true contractors. Yet there are bound to be exceptions: Some true employees have flexible work arrangements that allow them to live farther from their employer (high x_i), while some true contractors may only service customers within a short distance of their home (low x_i). Though x_i is not determinative of c_i , it can be predictive, and this could give rise to aggregate patterns in the distribution of x_i that differ based on reported classification.

* * *

For a visual representation of how these concepts relate to one another, consider Figure 15, which features generated data. Panel A presents a hypothetical distribution of c_i in the population of workers. This distribution

¹⁵⁹ There is another conceivable source of unintentional misclassification—that which results from measurement error in c_i , or a mistake in fact. In this circumstance, there is daylight between the actual value of c_i and the firm’s estimate of c_i . This might happen if there is a communication failure between a worker’s direct supervisor and the person or department responsible for making the classification decision. For instance, firms may have centralized HR departments that are located at corporate headquarters, rather than on-site where the work is performed; in such a situation, if the direct supervisor neglects to relay to HR that the worker provided her own tools, HR may infer a different value of c_i than they would if in possession of all relevant facts. In practice, discovery of these mistakes in fact are comparatively rare, both because HR departments specialize in making this determination and will solicit all relevant facts, and because this error would only be discovered by the IRS if its auditors directly observed behavior inaccessible to the decision maker (e.g., a multiday site visit and/or extended interview with the worker herself).

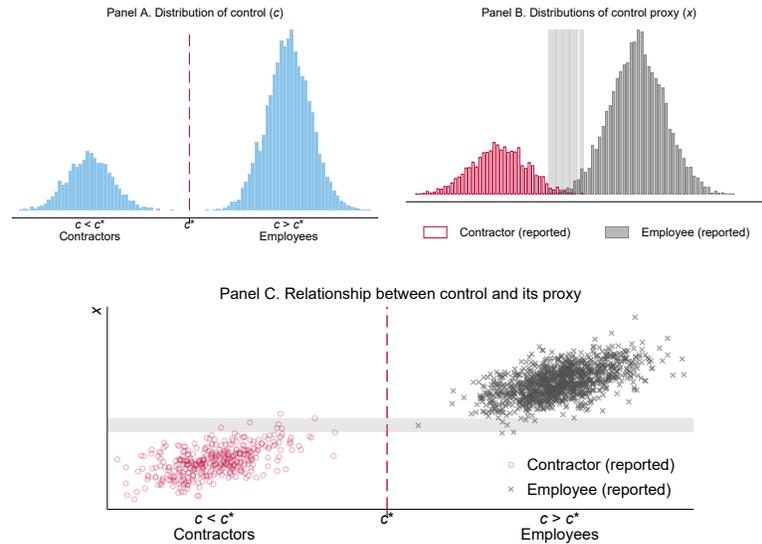
¹⁶⁰ As with c_i , we treat x_i as a scalar variable, even though there may be multiple proxy measures for control and therefore x_i is most accurately thought of as a vector.

is characterized by two features: a clear definition of c^* , and a bimodal distribution of c_i featuring one larger group of workers with $c_i > c^*$ (true employees) and another smaller group of workers with $c_i < c^*$ (true contractors). There are almost no workers located near the c^* threshold; from a classification perspective, this is an idealized setting, as there are few workers with c_i close to c^* whose true classification might be ambiguous to a firm.

Panel B presents hypothetical distributions of a control proxy measure, x_i , separately by workers' reported classification. In this example, we assume that there is no misclassification, intentional or otherwise: Each worker is correctly classified by her firm as an employee (if $c_i > c^*$) or a contractor (if $c_i < c^*$). Nevertheless, because x_i is a proxy that is only imperfectly correlated with c_i , we see that the distribution of x_i , while also bimodal, features more overlap than the distribution of c_i , as indicated by the shaded area. Using the example above where x_i represents proximity to an employer's address, the workers in the overlap may be employees with a low value of x_i who live farther from their employer and the contractors with a high value of x_i who only service customers close to where they live.

Finally, Panel C provides a visual representation of the relationship between x_i and c_i , with each worker represented as a point on the graph and distinguished by their reported classification. The shaded area represents the range of values of x_i in which there is overlap in workers' reported classification, analogous to the shaded area in Panel B.

I treat the data displayed in Figure 15 as a baseline. In what follows below, I consider how each of the four hypotheses introduced above would apply to this framework, and how each would be represented in these data. The observed pattern of convergence in the control proxies refers to the degree of overlap in the distributions of x_i by workers reported classification, or the size of the shaded areas in Panels B and C of Figure 15. The greater the degree of convergence, the more workers whose reported classification differ have similar values of x_i on average.

Figure 15. Baseline distributions of, and relationship between, control (c) and the control proxy (x)

Notes. This figure plots distributions of generated data designed to highlight the relationship between components of the framework described above. Panel A shows the distribution of c_i , a measure of the true control exercised by a firm in its relationship with a worker. Panel B shows distributions of x_i , a proxy measure of true control, separately by workers' reported classification. Panel C shows the relationship between x_i and c_i , separately by workers' reported classification. The shaded regions in Panels B and C denote ranges of x_i in which there is overlap between workers of each reported classification.

B. Four Hypotheses that May Explain the Results

In what follows, I offer four non-mutually-exclusive hypotheses for why the measured convergence in observed proxy measures for control may be occurring, each represented as a panel in Figure 16.

1. An Increase in Legal Uncertainty

The first convergence hypothesis is that the legal distinction between employees and contractors, represented in my framework and in the baseline scenario as a sharp threshold c^* , became much less sharp due to changes in the common law definition of a contractor (Panel A.1, Figure 16). Instead of a single sharp threshold determining whether a worker should be classified as an employee or contractor, there is now a range of control values $[c^-, c^+]$, describing firm-worker relationships that could plausibly be classified either as employees or contractors. As a result, a worker who had previously been unambiguously an employee ($c_i \in [c^*, c^+]$) might now be appropriately classified as a contractor, and a worker who had previously been

unambiguously a contractor ($c_i \in [c^-, c^*]$) might now be appropriately classified as an employee. A direct result of this increased legal uncertainty is greater overlap in the distributions of x_i by workers' reported classifications (Panels B.1 and C.1, Figure 16), with the degree of convergence growing with the “fuzziness” of the boundary separating these two worker classes (e.g., the width of $[c^-, c^+]$).

2. *An Increase in Intentional Misclassification*

The second convergence hypothesis is that firms intentionally misclassify workers in ways that are financially advantageous, typically by classifying would-be employees as contractors to avoid complying with costly regulations. Under this hypothesis, the threshold distinguishing employees from contractors remains clear (c^*) and the distribution of c_i remains unchanged (Panel A.2, Figure 16), but firms take advantage of limited enforcement resources—and the significant cost inherent to the IRS determining the true value of c_i in any given case—to misclassify workers, particularly near the threshold. As with the previous hypothesis, this would cause the distributions of x_i for workers reported to be employees and contractors to converge (Panels B.2 and C.2, Figure 16).

Misclassification risks penalty if discovered.¹⁶¹ However, if firms are risk neutral, many more may decide that the gamble is worthwhile as additional regulatory costs were attached to employee classification.

3. *Change in Correlation Between Actual and Observed Control*

The third convergence hypothesis is that the relationship between the actual level of control characterizing a firm–worker relationship (c_i) and the proxy measure we have available for it (x_i) is changing over time. Similar to the previous hypothesis, the underlying nature of work and the threshold for determining a worker's true classification remain unchanged (Panel A.3, Figure 16), but there is greater overlap in the proxy measure distributions by workers' reported classifications (Panels B.3 and C.3, Figure 16).

4. *Change in the Underlying Distribution of Control*

All of the preceding hypotheses show that the distribution of the true degree of control, c_i , remains unchanged, and the convergence is caused

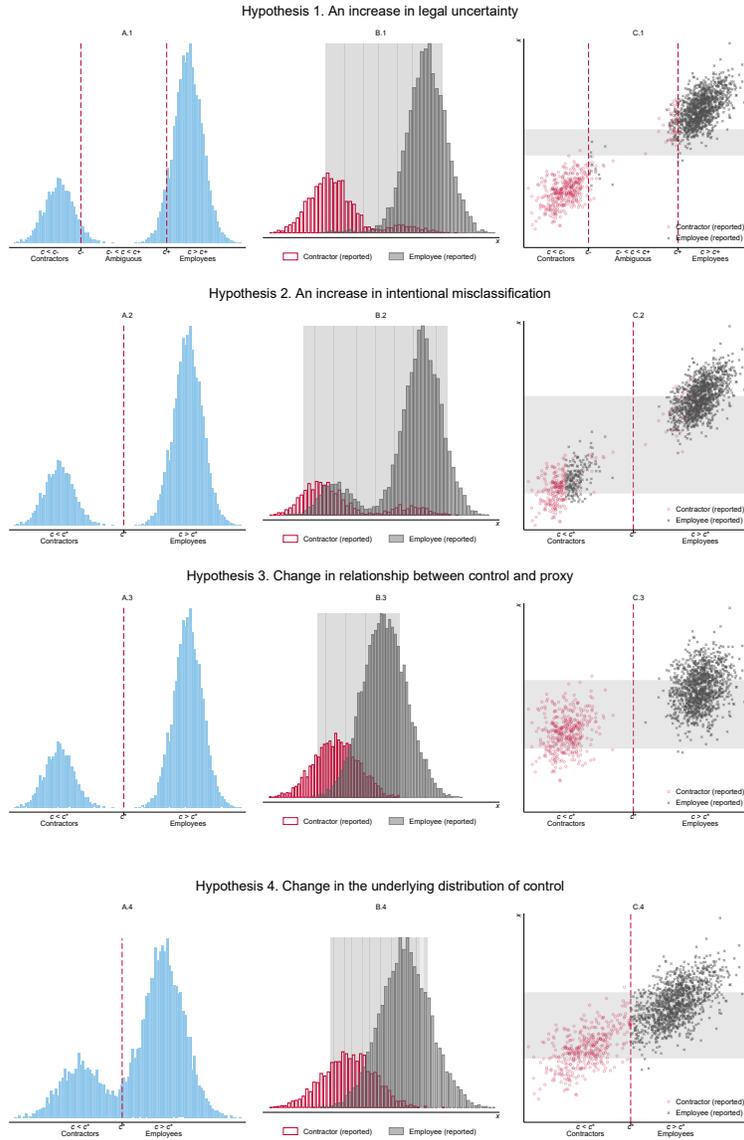
¹⁶¹ “If the IRS determines that an individual has been misclassified, it may levy penalties against the employer, including, but not limited to, a \$50 fine for each Form W-2 the employer failed to file on such employee for each tax year, a penalty of up to 3% of the wages, plus up to 40% of the FICA taxes that were not withheld from the employee and up to 100% of the matching FICA taxes the employer should have paid. If the IRS determines that an employer misclassified its employees willfully, the penalties are even greater.” Cayman Caven, *2021 Update – IRS Misclassifications and Costly Penalties: Independent Contractor or Employee*, JD SUPRA (June 16, 2021), <https://www.jdsupra.com/legalnews/2021-update-irs-misclassifications-and-8009270/> [https://perma.cc/KVA7-A3Q3].

either by reclassification (hypotheses 1 and 2) or measurement error (hypothesis 3). In contrast, the final convergence hypothesis is that the distribution of c_i itself has changed. For example, if the distribution of c_i became less clearly bimodal and began to feature significant overlap around the threshold (Panel A.4, Figure 16), then the convergence we observe in x_i results from convergence in c_i itself (Panels B.4 and C.4, Figure 16).

* * *

Each of these four hypotheses could give rise to the observed convergence in the control proxies described in Section III.B, *supra*. Although the framework does not promote any hypothesis over the others, the results discussed in Part V, *infra*, suggest that intentional misclassification (hypothesis 2), is likely responsible for a meaningful part of the observed convergence. One potential reason for this is that the code is rife with discontinuous tax treatments that render misclassification financially advantageous to the worker, the firm, or both.

Figure 16. Illustration of hypotheses on contractor-employee convergence in the control proxy (x)



Notes. Each panel represents a hypothesis for the measure convergence in the observed proxy measure, x_i , illustrated using the graphs from Figure 15. Hypothesis 1 is that there is increased legal uncertainty about the location of the threshold, c^* . Hypothesis 2 is that firms intentionally misclassify their workers at higher rates. Hypothesis 3 is that there has been a change in the relationship between the control proxy measure, x_i , and the true measure of control, c_i . Hypothesis 4 is that there is a change in the distribution of the true measure of control.

V. CAUSAL ANALYSIS: AN EXAMPLE OF COST-MOTIVATED SUBSTITUTION

This Part describes the motivation behind, and the results from, a causal analysis of firm behavior in response to an increase in the cost of an employee relative to a contractor. Using a feature of the Medicare eligibility rules that affects small and large firms differently when an employee turns sixty-five, I demonstrate that firms' decisions about how to classify a worker are not motivated solely by the criteria featured in multifactor balancing tests but also by financial incentives.

A. Firm Size and Medicare Eligibility Rules

Medicare is a national health insurance program intended primarily for older individuals.¹⁶² Americans aged sixty-five and older are automatically eligible for Medicare regardless of where they live, whether they are employed, or whether they are covered by any existing form of health insurance.¹⁶³ Prior to becoming eligible for Medicare, many people obtain health insurance coverage through their employer as part of a group health plan offered to employees.¹⁶⁴ When someone is employed and receiving group health insurance coverage through their employer at age sixty-five, they become eligible for Medicare on top of their existing insurance.¹⁶⁵

Medicare's rules state that when a person is covered by a group health plan and also eligible for Medicare, the determination of which insurance plan pays first for any medical expense is determined based on the firm's size.¹⁶⁶ Specifically, if a firm has twenty or more full-time employees, the firm's group health plan must pay the worker's medical expenses first, with Medicare covering the remainder.¹⁶⁷ In contrast, if a firm has fewer than twenty full-time employees, Medicare becomes an employee's primary payer.¹⁶⁸

¹⁶² 42 C.F.R. § 406.5 (describing Medicare eligibility requirements, including that an applicant be at least sixty-five years of age).

¹⁶³ Insurance through Medicare is an "entitlement"—a type of government program in which recipients automatically receive benefits that they are eligible for based on the applicable federal legislation. In practice, this insulates receipt of the benefit from political volatility, by removing states' discretion to alter eligibility rules.

¹⁶⁴ Henry S. Farber & Helen Levy, *Recent Trends in Employer-Sponsored Health Insurance Coverage: Are Bad Jobs Getting Worse?*, 19 J. HEALTH ECON. 93, 93–119 (describing the long history of worker reliance on employer-sponsored plans).

¹⁶⁵ *Id.*

¹⁶⁶ See 42 C.F.R. § 422.

¹⁶⁷ 42 U.S.C. § 411.100 (describing conditions under which Medicare is the secondary payer).

¹⁶⁸ See *id.*

This distinction in Medicare's eligibility rules based on firm size has significant implications for a firm's finances. Older employees are, on average, more expensive to insure than younger employees.¹⁶⁹ Consequently, whether a firm is large enough to self-insure or whether it purchases insurance from a private company on its employees' behalf, the premiums that the firm must pay are higher the older are its covered employees.¹⁷⁰ For small firms, the cost of retaining an employee who turns sixty-five declines significantly, as the firm is not required to provide that employee health insurance coverage and can require that she obtain Medicare coverage instead.¹⁷¹ Large firms, on the other hand, cannot force older employees to disenroll from the group health plan even though they have an alternative insurance option in Medicare.¹⁷² Therefore, large firms close to the threshold face a sharp financial incentive to induce their older employees to disenroll from the group health plan and be primarily insured through Medicare.¹⁷³

One way in which large firms may respond to this financial incentive is by reclassifying an older employee as an independent contractor. Typically, group health plans that cover a firm's employees do not also provide coverage to nonemployee workers, including contractors.¹⁷⁴ Reclassifying an employee, therefore, allows the firm to lower its health insurance premiums while still retaining a potentially valuable and highly experienced worker.

B. Firms' Financial Incentives on Workers' Classification

In order to determine the financial incentives faced by large firms to reclassify older employees as contractors, we must identify a comparison group of firms and workers that are otherwise similar but where the same incentives are absent. Simply comparing older and younger workers at large

¹⁶⁹ Jon Gabel, Steven DiCarlo, Cynthia Sullivan & Thomas Rice, *Employer-Sponsored Health Insurance in America*, 8 HEALTH AFFS. 161, 116-28 (Fall 1990) (summarizing the major determinants driving costs of employer-sponsored health plans and noting the importance of employee age).

¹⁷⁰ The size of the firm's financial incentive will depend on the marginal premiums paid for older workers as well as the extent to which the savings from regulatory arbitrage are "passed-through."

¹⁷¹ See 42 U.S.C. § 1395y(b)(1)(A)(ii) (setting out exception to secondary payer policy for firms with fewer than twenty employees).

¹⁷² *Can My Employer Force Me to Enroll in Medicare at Age 65?*, SIXTY-FIVE INC. (Mar. 3, 2020), <https://www.65incorporated.com/topics/enrolling-medicare/can-employer-can-my-insurance-when-i-turn-65/> [<https://perma.cc/7X3U-REAS>] (explaining that an employee at a large firm who turns 65 cannot be forced off of the employer plan, even if they are eligible for Medicare).

¹⁷³ See Luis Garicano, Claire Lelarge & John Van Reenen, *Firm Size Distortions and the Productivity Distribution: Evidence from France*, 106 AM. ECON. REV. 3439, 3443 (2016) (finding that, in France, there is a distortion to the distribution of firm size where firms close to a regulatory size threshold "bunch up" below it, along with a drastic reduction in firms just over the threshold).

¹⁷⁴ See Gabel et al., *supra* note 169 at 119 (discussing grounds for exclusion from employer based health insurance programs).

firms is unlikely to provide a reliable estimate of the impact of these incentives; apart from Medicare eligibility, many other changes occur when a worker turns sixty-five. For example, for many years, the age at which workers could claim full Social Security retirement benefits was sixty-five.¹⁷⁵

By distinguishing between small and large firms, the Medicare eligibility rules provide a natural comparison group. Employees at small firms who turn sixty-five also become eligible for Medicare, in addition to experiencing any other changes that occur at that age. The only meaningful distinction between employees at small firms and those at large firms is the absence of an incentive for firms to reclassify the former as contractors to avoid paying higher health insurance premiums.

The empirical approach I use to estimate the effect of an employee becoming relatively more costly is known as difference-in-differences (DD).¹⁷⁶ The DD estimate of the effect, π^{DD} , can be represented by two differences in the probability of an employee being reclassified as a contractor (L):

$$\pi^{DD} = (L_{large,old} - L_{small,old}) - (L_{large,young} - L_{small,young})$$

The first difference is between the reclassification probabilities for older workers in large and small firms. A naive empirical approach might focus just on this difference, but it is susceptible to bias. For example, small firms may predominantly be in industries where rates of reclassification are higher, relative to large firms. Failing to account for this difference would yield a misleading result. Therefore, I subtract from this first difference a second difference: between the reclassification probabilities for younger workers in large and small firms.

To estimate this effect, I rely on a sample drawn from U.S. tax filings that is distinct from the one used in the descriptive analysis described earlier in Part III (Table 4, *supra*). In this causal analysis sample, I am interested in observing the classification transitions of workers within the same firm as those workers approach and pass the age of sixty-five. Because a worker's likelihood of being employed at sixty-five may be influenced by the phenomenon I am interested in studying, I construct the causal sample by starting with a group of workers who are employed at age sixty. To distinguish between employees at firms that do and do not face a financial incentive to reclassify at or after age sixty-five, I use information about the

¹⁷⁵ 42 U.S.C. § 1382c. *But see* Patrick J. Purcell, *Employment at Older Ages and Social Security Benefit Claiming*, 76 SOC. SEC. BULL., No. 4, at 11–12 (suggesting that for some workers, the Social Security Amendments of 1983 and the Senior Citizens' Freedom to Work Act of 2000 worked in conjunction to effectively transform the full retirement age from 65 to 66 in 2000).

¹⁷⁶ *See* Bruce D. Meyer, *Natural and Quasi-Experiments in Economics*, 13 J. BUS. & ECON. STAT., 151, 154–56 (1995) (providing an extended discussion of natural experimental methods).

employee's firm at age sixty. Though it is certainly possible that an employee may leave that firm before age sixty-five, most workers employed by a firm at age sixty remain with that firm as they approach sixty-five.¹⁷⁷ In addition to knowing which firm employed the worker at age sixty, I also know, in most cases, the zip code in which a worker lived. Using this information, I am able to gather, from the Dartmouth Atlas Project, annual data on per-patient Medicare expenditures in the hospital service area (HSA) in which a worker lived. As is well documented, Medicare expenditures for the same procedure, even after adjusting for a patient's age, race, and sex, vary significantly across the country.¹⁷⁸ This variation is likely to influence firms' group health insurance premiums as well, making the financial incentives for large firms to reclassify older employees greater in high-cost areas than in low-cost areas. I incorporate this cost variation into the analysis.

¹⁷⁷ From 2010 to 2020, worker tenure rises with age, with the 55 to 64 demographic and the 65 and older demographic maintaining tenure at their respective workplaces for approximately 10 or more years. BUREAU OF LABOR STATISTICS, EMPLOYEE TENURE IN 2020 5 (Sept. 22, 2020) <https://www.bls.gov/news.release/pdf/tenure.pdf>. *But see* NELA RICHARDSON & SARA KLEIN, PEOPLE AT WORK 2021: A GLOBAL WORKFORCE VIEW 24–25 (2021) https://www.adpri.org/wp-content/uploads/2021/04/17124050/Updated_WFV-Global_2021_US_Screen_697691_162389_FV.pdf (suggesting that the COVID-19 pandemic has led older workers to be “most open to the idea of shifting into contract work”).

¹⁷⁸ *See, e.g.*, Joseph Paul Newhouse & Alan M. Garber, *Geographic Variation in Medicare Services*, 368 NEW ENGLAND J. MEDIC. 1465, 1467 (2013) (showing a total spending range of at least \$300).

Table 4. Causal analysis sample summary statistics

Cohort	Sampled Employees	Average Wage	Median Firm Size	Median Firm		% in High- Wage Firms	% in High- Cost HSAs
				Average Wage			
	(1)	(2)	(3)	(4)	(5)	(6)	
<i>Small Firms (<10 W-2s)</i>							
2005	3,326	52,691	4	21,555	44	53	
2006	3,942	63,177	4	23,403	46	51	
2007	4,319	55,936	4	23,141	44	50	
2008	4,068	51,680	4	23,841	43	50	
<i>Large Firms (>50 W-2s)</i>							
2005	20,838	56,100	2,456	24,860	52	50	
2006	25,065	64,026	2,486	25,772	51	50	
2007	28,115	59,098	2,586	26,984	52	50	
2008	26,297	58,045	2,690	28,540	52	49	

Notes. Causal analysis sample comprises individuals employed at age sixty and observed through age seventy. Small firms are defined as those issuing Forms W-2 to fewer than ten individuals. Large firms are defined as those issuing Forms W-2 to more than fifty individuals. Cohorts are defined based on the tax year when an employee turned sixty.

Table 5. Effect of financial incentives on firms' worker classification decisions

	DD: Older Employees at Large Firms	DDD: Older Employees at Large Firms in High Medical Cost HSAs	DDD: Older Employees at Large Firms Paying High Wages
	(1)	(2)	(3)
Estimate	0.000834*** (0.0002625)	0.0001154 (0.0009873)	-0.0002173 (0.000514)
N	1,275,670	1,075,701	1,275,670

Notes. Coefficient estimates from difference-in-differences (DD) or triple-difference (DDD) model reported. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

A significant limitation of the tax filings data is that I am unable to determine the number of full-time employees that a firm has in a given tax year. This is important because the Medicare eligibility rule turns on whether a firm has twenty or more full-time employees. To overcome this limitation in my data—and reduce the possibility that the firms I identify as “large” may actually be small firms not facing this financial incentive, and vice versa—I err on the side of caution and exclude from the analysis any employee working for a firm at age sixty that issued between ten and fifty Forms W-2. This conservative approach divides the sample into employees working for large firms (> 50 W-2s) that are very likely to face the incentive, and employees working for small firms (< 10 W-2s) that almost certainly are not.

Using the causal analysis sample, I estimate the following model to recover the DD estimate, π^{DD} :

$$\begin{aligned} Contractor_{ijst} = & \alpha + \gamma_t + \gamma_s + \beta_1 X_j + \beta_2 Z_{it} + \pi^{DD} X_j Z_{it} \\ & + \varepsilon_{ijst} \end{aligned} \quad (1)$$

The dependent variable, $Contractor_{ijst}$, is a binary variable equal to 1 if worker i , who was employed at firm j at the age of sixty and living in state s , transitions from being an employee to an independent contractor with firm j in tax year t . I am interested in whether a worker is more likely to make this transition after she turns sixty-five and if she worked at a large firm. I control for factors common to all workers in the sample within a given tax year (γ_t) or from a given state (γ_s). To identify and account for persistent differences among large firms, I control for a binary variable equal to 1 if firm j issued Forms W-2 to more than fifty distinct individuals ($X_j = 1$) or if it issued forms to fewer than ten ($X_j = 0$). The binary variable Z_{it} is equal to 1 if worker i is at or above age sixty-five in tax year t . Finally, the DD estimate of the effect, π^{DD} , is the coefficient on a binary variable equal to 1 if a worker is sixty-five or older and if they were employed for a large firm at age sixty.

C. Evidence of Cost-Motivated Substitution Toward Contractors

The results of the DD estimation from Equation 1 are reported in column 1 of Table 5.¹⁷⁹ Compared to older employees at small firms, older employees at large firms are 0.08 percentage points more likely during a given year to transition from receiving a Form W-2 from a firm to receiving a Form 1099-MISC from the same firm after turning sixty-five. This estimate

¹⁷⁹ See *supra* Section V.B.

is statistically significant ($p = 0.001$). To understand the magnitude of this estimate, an employee aged sixty-five and older at a small firm has a 0.27 percent probability of being reclassified as a contractor in any given year; therefore, a 0.08 percentage point increase amounts to a 30% greater likelihood of reclassification each year for similar workers at large firms.

A different way to estimate the same effect is to do so separately by a worker's age, instead of considering all workers aged sixty-five and older together. Doing this allows me to observe whether there are any dynamic patterns in the ages at which workers may be reclassified as they reach and exceed the age of sixty-five. However, because it requires estimating the relative likelihood of reclassification separately at multiple ages rather than once for a range of ages as with the DD estimation, these estimates are less precise.¹⁸⁰ This approach, called an event study, requires estimating a slightly different model:

$$\text{Contractor}_{ijst} = \alpha + \gamma_t + \gamma_s + \beta_1 X_j + \beta_2 Z_{it} + \sum_a \pi_a^{DD} X_j \mathbf{1}[Age_{it} = a] + \varepsilon_{ijst} \quad (2)$$

The event study coefficients of interest, π_a^{DD} , compare workers of age a in large and small firms. The estimate for age sixty-four, just prior to attaining Medicare eligibility, is omitted, and all estimates presented are relative to this age.¹⁸¹ The results of this approach are shown in Figure 17. Beginning at age sixty-five, most of the point estimates are positive, suggesting a higher probability of being reclassified from an employee to a contractor. Only the estimate at age sixty-six is statistically significant at the 95% confidence level, suggesting that the likelihood of an older worker at a large firm being reclassified was particularly high in the year immediately after it may have become financially advantageous to do so.

Finally, I also consider two additional sources of variation that may bear on the degree of financial incentive faced by firms. The first, as described

¹⁸⁰ In statistical analysis, there is frequently a trade-off between “precision”, namely, the exact numerical value of the effect, and confidence, or the distance between the upper and lower bound values within the estimated effect lies. By estimating the effect by age, rather than as a combined effect across two age bins (namely, before and after age 65), there are fewer observations used to estimate each coefficient. If we hold fixed the confidence level at 95%, the smaller number of observations (lower N s) resulting from creating a bin for each age reduces the accuracy of each point estimate compared to the specification in which the observations are pooled together before and after the age threshold.

¹⁸¹ In an event study, a single “lag” or “lead” variable must be omitted to avoid collinearity. All estimates capture differences relative to this omitted variable. It is convention when estimating event study specifications to omit the first lag variable, which in this case corresponds to age sixty-four. The resulting age-specific estimates are therefore interpreted as changes in the likelihood of reclassification relative to the likelihood at age sixty-four.

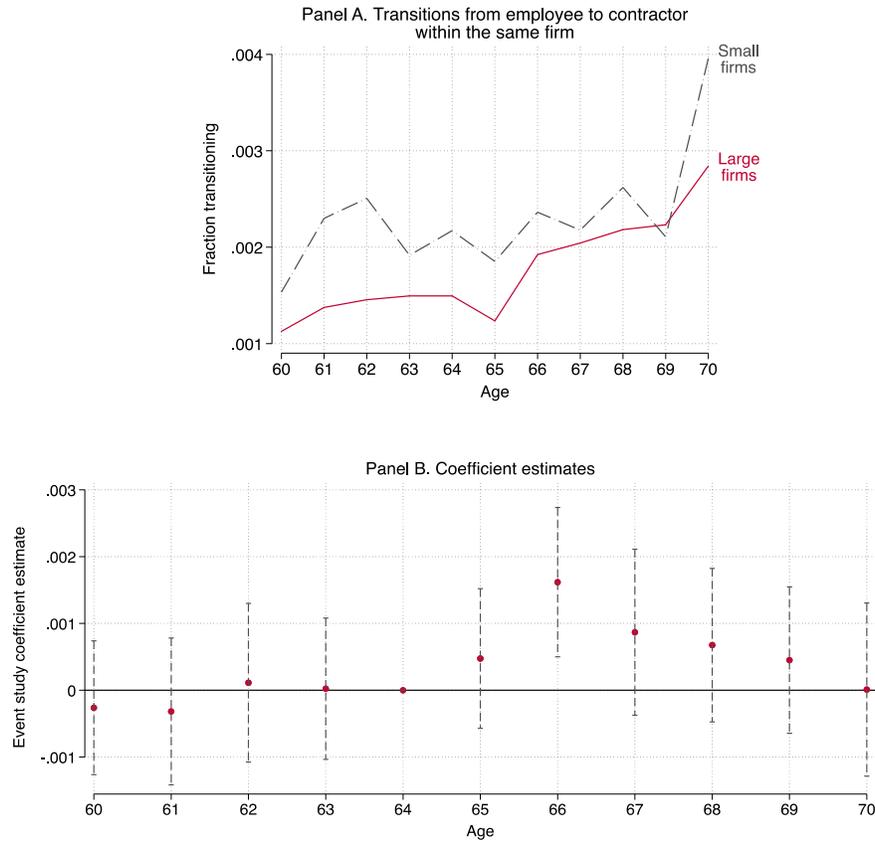
above, is geographic variation in the cost of medical care across the United States. To leverage this variation, I estimate a modified version of equation 1, known as a triple-difference (DDD) estimator:

$$\begin{aligned} Contractor_{ijst} = & \alpha + \gamma_t + \gamma_s + \beta_1 X_j + \beta_2 Z_{it} + \beta_3 T_{st} \\ & + \beta_4 X_j Z_{it} + \beta_5 X_j T_{st} + \beta_6 Z_{it} T_{st} \\ & + \pi^{DDD} X_j Z_{it} T_{st} + \varepsilon_{ijst} \end{aligned} \quad (3)$$

In this model, I additionally control for whether the rate of per-patient Medicare expenditures in a worker's hospital service area (HSA) is above ($T_{st} = 1$) or below ($T_{st} = 0$) the median during that tax year. The coefficient of interest, π^{DDD} , yields the effect estimate across three dimensions of comparison: older versus younger workers, large versus small firms, and high versus low healthcare cost areas. I also estimate a variant of equation 3 where the third difference is replaced by a comparison between firms with average wages above or below the median during that tax year, under the theory that higher wage firms are more likely to offer group health plans to their employees and thus face a greater incentive to reclassify older workers as contractors.

The results of the DDD estimation from equation 3 are reported in columns 2 and 3 of Table 5. Unlike the DD estimates in column 1, neither of these results is statistically significantly different from zero. Introducing an additional dimension of difference, as the DDD specification does over that of the DD, can help estimate the effect of interest provided it is greater for firms in high medical cost areas (column 2) or that pay higher wages (column 3). However, introducing an additional dimension of difference also requires estimating additional parameters beyond that of a DD specification and, therefore, can yield estimates that are less precise, as appears to be the case here.

Figure 17. Transition from employee to contractor status in response to worker Medicare eligibility



Notes. Panel A shows the mean rate of transition from employee to contractor within the same firm, plotted separately by firm size. The sample has five cohorts, drawn by taking a random 10% sample in each tax year 2005-2008 of all employee relationships in which the employee (payee) turned age sixty during that tax year. While the sample of individuals in large firms is much larger than those in small firms, there is an obvious increase in transitions to contractors for the same firm at age sixty-six, the year *after* the first year the employee is eligible for Medicare. Panel B shows the coefficient estimates for an event-study specification analogous to the classic difference-in-differences but estimated separately for each age. While not large in magnitude, there is a statistically significant increase in the probability of a transition when the worker at a large firm turns sixty-five. This suggests that, at least on the margin, firms may respond to regulatory cost pressures by reclassifying workers.

While statistically significant and tightly estimated, the results from the main specification translate into a modest effect on the population of workers as a whole: back-of-the-envelope calculations indicate that the Medicare

payment incentive results in the reclassification of a few hundred thousand workers per year out of a U.S. labor force of close to 160 million.¹⁸²

In addition, the magnitude of the effect belies its importance to the broader inquiry: the monetary value of the Medicare incentive to firms is modest—on average, firms save approximately \$20,000 per misclassified worker¹⁸³—so we should expect a correspondingly small change in behavior. However, there are many other, larger financial incentives where the effect on a firm’s classification choices is more difficult to observe. For example, the ACA only requires firms to offer insurance if the firm employs more than fifty *employees*.¹⁸⁴ This cutoff creates a strong financial incentive to reclassify the fifty-first worker as an independent contractor, as triggering the mandate could result in hundreds of thousands of dollars in additional cost because firms are required to offer insurance to all employees. If firms respond to the Medicare age cutoff by reclassifying workers, it seems likely that they would also respond to much larger incentives that exist elsewhere in the tax system.

D. Caveats

There are several caveats to this analysis that are worth noting. First, as mentioned previously, I am unable to directly observe whether a firm is subject to the Medicare eligibility rule concerning large firms because I cannot measure the number of full-time employees that a firm has. I adopt a very conservative approach here in focusing on large firms that issue Forms W-2 to more than fifty distinct individuals, but in doing so I also discard data from many firms closer to the true threshold, reducing the statistical precision of my estimates.

Second, while I attempt to use additional sources of variation to more precisely identify a set of firms for which the financial incentives to reclassify will be greatest, these measures are also imperfect. Medicare expenditures present an imperfect proxy for the cost of the private health insurance plans that firms often purchase for their employees. Similarly, I am unable to directly observe whether firms offered health insurance to their

¹⁸² This estimate was obtained by extrapolating the effect found in the sample data to the total U.S. working population, as proxied for by the number of W-2 recipients in 2016.

¹⁸³ Ana Aizcorbe et al., *Measuring health care costs of individuals with employer-sponsored health insurance in the US: A comparison of survey and claims data*, 28 STAT. J. IAOS 43, 46 (2012) (stating that the average per employee cost is approximately 20,000, though it is possible that this value has increased in the years since the survey was performed).

¹⁸⁴ 26 U.S.C.A. § 4980H (West); Richard Cauchi, *ACA Requirements for Medium and Large Employers to Offer Health Coverage*, NCSL HEALTH PROGRAM (Jun. 22, 2016) https://www.ncsl.org/documents/health/aca_requirements_for_employers.pdf

employees, and instead rely on whether a firm's average employee compensation was above the median during that year as a proxy for this.¹⁸⁵

Despite these limitations, this analysis provides evidence that firms are swayed in their decision of how to classify some workers—in this case, older employees at large firms—by the relative costs of employees and contractors.

VI. POLICY DISCUSSION AND IMPLICATIONS FOR TAX TREATMENT

The income tax system's disparate treatment of contractors and employees is justified by the implicit assumption that meaningful differences exist between the labor each type of worker performs.¹⁸⁶ But the results presented here suggest that such differences may be much less meaningful now than they were previously. If this is true, then the implicit assumption justifying the tax system's disparate treatment of contractors and employees is significantly weakened, and maintaining this increasingly arbitrary distinction between types of workers—and treating them differently because of it—may exacerbate equity concerns.

More generally, one might ask whether continuing to sort and differentially treat workers using the control standard promotes the objectives of the U.S. federal income tax system. In this Part, I discuss the control standard with respect to the fundamental normative values in tax law: equity and efficiency. My analysis proceeds in two phases. First, I consider the desirability of the control standard over the long term in Section VI.A—what economists refer to as the “first best” policy solution. In this “first best” world, I argue that the control standard has outlived its usefulness and should be excised from the federal tax code. Second, given that the prevalence of the control standard throughout the Code renders its abandonment legally, economically, and politically infeasible, I consider the best policy options in the short term in Section VI.B.

A. The Control Standard in the Long Run

First, let us consider the utility of the control standard “de novo”—i.e., from the perspective of a policymaker designing the U.S. income tax system “from scratch” and thus unconstrained by precedent or legal path dependence. This exercise is helpful for clarifying the ultimate direction

¹⁸⁵ With the exception of unionized positions, low-wage positions do not include health insurance program access. See Gabel, *supra* note 169, at 121.

¹⁸⁶ Cf. David Elkins, *Horizontal Equity as a Principle of Tax Theory*, 24 YALE L. & POL'Y REV. 43, 43 (2006) (defining “horizontal equity” as a characteristic of a tax system in which similarly situated taxpayers receive the same tax treatment).

reform should take in the long run, when there is sufficient time for actors to adjust and the immediate constraints faced by policymakers can be relaxed.

At a high level of generality, the objectives of the income tax system are to ensure the government can collect income tax revenue in a timely manner, equitably, efficiently, and while minimizing the compliance burden on taxpayers. Equity may refer to either vertical equity or horizontal equity. Vertical equity requires taxpayers who make more to have higher tax liability than those who make less. Horizontal equity requires similarly situated taxpayers to pay the same amount of tax. In tax analysis, an efficient tax policy is one that achieves its goal while creating the smallest possible deviation in behavior from that which would have occurred absent the tax. Put another way, a tax is efficient if, among all rules that achieve the same outcome, the rule minimizes distortion relative to the world without the tax.¹⁸⁷

Of course, it is not always possible to satisfy both equity and efficiency simultaneously. Frequently, policies that affirm one value undermine the other. Tax policies that incorporate the control standard, for example, are likely to result in either highly inefficient *or* highly inequitable outcomes. Consider the threshold Medicare reimbursement rule studied in Part V. How this rule affects equity and efficiency depends on whether firms' greater use of independent contractors at the threshold is a result of re-organization or misclassification.

First, assume this change reflects a re-organization of the firm's labor inputs to rely more on contractors. Such a rule then meets the definition of equity,¹⁸⁸ but the efficiency costs of re-organization in response to the threshold are considerable. If we assume, as seems reasonable, that a firm had optimally organized its labor inputs to maximize profit prior to the policy, then any re-organization as the result of triggering the threshold under the policy will lower profitability.

Alternatively, assume this change reflects the firm misclassifying employees as contractors to remain below the threshold. Such a rule then imposes minimal efficiency costs, as nothing about the firm's production process changes. However, because the firm now faces a different tax liability than another firm that uses identical labor inputs but does not misclassify, then this rule undermines equity.

¹⁸⁷ Note that efficiency is not desirable when the object is to distort consumption that is socially harmful, as is the case with cigarette taxes.

¹⁸⁸ In which firms using roughly equivalent labor inputs (i.e., division of tasks between contractors and employees), and workers performing similar tasks in a similar manner, are entitled to the same protections, and treated similarly by the tax code.

An even simpler illustration of the inadequacy of the control standard is that of federal income tax withholding from employee wages but not from contractor payments.¹⁸⁹ The goal of withholding—to ensure that the government can collect income tax revenue in a timely manner—is balanced against two constraints: first, withholding an amount that accurately reflects tax liability at the end of the year, and second, minimizing the compliance burden on taxpayers.¹⁹⁰ In theory, contractors are exempted from withholding because they have substantial cost of business (COB) deductions, meaning that their gross income diverges from their taxable, or net, income, making it costly for firms to accurately calculate their tax liability. In addition, platonic contractors work for many firms in a single tax period further complicating accurate tax withholding by any single payer.¹⁹¹ In contrast, platonic employees work for a single firm, making the cost of accurate tax withholding manageable for employers. Control over performance *per se* does not determine whether withholding is optimal. Rather, it is assumed to be correlated with characteristics that *do* influence the feasibility and costs of firm withholding (i.e. number of payors and amount of deductions).

But if the true nature of contractors' work and their relationships to firms are converging with those of employees, then the rationale for treating employees and contractors differently for income tax purposes may no longer hold. For example, the median contractor now provides labor to two firms, the same number as the median employee. Further, firms are now required to report contractor payments to the government, and these firms often have employees on whose behalf they already withhold and remit income taxes. The additional cost of withholding on contractor income given the firms already track and report it, seems like a low compliance burden. Finally, contractors are claiming fewer COB deductions, thereby minimizing the expected gap between their gross and net income, and making their tax liability easier to forecast.

For that matter, does sorting workers based on the level of control exercised over them in the course of performance advance the purported objective? If the concern is revenue collection, why not sort workers based on how much they are paid? Imagine a rule that exempts workers from withholding if they are paid less than some nominal amount. This seems far more likely to minimize revenue loss.

Recent legal scholarship concerning the particular needs of platform firms and the workers who provide services through them—the gig

¹⁸⁹ First introduced by Congress in the Current Tax Payment Act of 1943. Pub. L. 68, Ch. 120, § 57.

¹⁹⁰ See Slemrod et. al., *F* note __ (discussing necessity of employer personal income tax withholding to the expansion of the income tax base during World War II). [ERW: Pincite requested by Sarah]

¹⁹¹ Approximately half the sample reported business income but did not take *any* deductions.

economy—offers several alternatives to the status quo treatment of workers by the income tax system. Thomas notes that platform firms are particularly attractive for solving the withholding problem, as they offer a centralized point at which income taxes can be withheld from the earnings of contractors who use the platform.¹⁹² She also argues for the creation of a standardized COB deduction that would partially alleviate the compliance costs currently imposed on contractors by having to itemize.¹⁹³ Oei and Ring consider the potential tax administration consequences of reclassifying platform firm workers as employees, arguing that doing so might enhance transparency and the salience of after-tax wages (because employees cannot deduct COB expenses).¹⁹⁴ Though these suggestions are made in the context of the gig economy, they pertain to contractor income more generally.

A different approach that maintains the binary classification scheme is elective worker classification, or a “check-the-box” system. Under such an approach, workers self-select into whichever form of labor is more advantageous, regardless of the nature of their work or relationship to a firm, similar to how firms have several options for which legal form they take. To an extent, this may already be happening, as the ambiguity in some industries and jobs makes the appropriate classification unclear.

But this begs the question, *why* are we classifying workers based on the control standard for tax purposes at all? What policy objectives does this sorting help us achieve? As in the example of withholding, in most tax contexts the degree of control seems at best orthogonal to the purpose of the underlying tax rule. At worst, it can be used to undermine the policy’s objective. Consider the ACA, which requires certain firms offer health insurance to employees but not contractors. Ostensibly, the goal of the ACA is to enhance access to affordable health insurance. But a worker’s need for affordable health insurance is not related to the amount of control to which they are subject. Excluding contractors merely creates a strong price incentive for firms to shift their workforce composition towards contractors to avoid the costs of providing health insurance.

B. The Control Standard in the Short Run

Given the ubiquity of the control standard in tax and other areas of federal law, what can the IRS do to mitigate disparate treatment of similar workers? Even if one agrees that the control standard should be de-emphasized or eliminated in the long run, the binary distinction between

¹⁹² See Thomas, *supra* note 79, at 1442.

¹⁹³ *Id.* at 1437.

¹⁹⁴ Oei & Ring, *supra* note 2, at 47.

employees and contractors is so prevalent in current tax law that ripping it out root and stem would be immensely costly in the short run.

Several suggestions have been made on this point. One is to harmonize the tests used across federal agencies to determine a worker's appropriate classification. This would facilitate coordination and allow the pooling of enforcement resources.

Another suggestion is to avoid designing laws that sharply change how firms and workers are treated depending on whether a firm's number of employees exceeds one or more specific thresholds. Such laws create strong localized incentives for firms near these thresholds either to change how they classify the marginal worker or re-organize their labor inputs to stay to one side of the threshold. To mitigate these distortions, legislation could gradually phase in any incentive or penalty that is contingent on a firm's size. A prominent example of this is the Earned Income Tax Credit (EITC), a wage subsidy that features both a "phase-in" region where the subsidy grows as wages increase, and a "phase-out" region where the subsidy diminishes before ultimately disappearing once wages exceed a threshold. An analogous design for the Medicare rule or the ACA would see small employers pay a percentage of the healthcare costs of their employees. This percentage would "phase-in" to 100 percent as the number of employees grew to reach a certain threshold. Designing size-based regulations this way is particularly attractive when the subjected can readily manipulate the variable upon which they are based, and any such manipulation is difficult to detect, as is the case with worker classification. Of course, this type of design increases the complexity of the law and tends to raise compliance costs. However, given the increasing frequency with which small firms rely on payroll services, this may prove less burdensome than initially feared.

While not an exhaustive list, these incremental reforms may reduce the disparate treatment of economically similar workers based on how they are classified until the larger system of binary classification can be reconsidered.

CONCLUSION

How individuals providing services to firms are classified has significant implications. Workers' tax treatment and labor protections, and firms' regulatory compliance costs, all depend on whether a worker is classified as an employee or as an independent contractor. Yet, until now, we have lacked the data to measure how this distinction applies in practice.

The findings presented here suggest that employee and contractor relationships increasingly resemble each other, particularly for low-income workers. Most workers who enter employee or contractor relationships do so with only one or a handful of firms, and they depend on this limited set of

payers for most of their income. This runs contrary to the commonly held belief that contractors provide services to many firms; though certainly true for a subset of workers, it is far from representative of contractors as a whole. Likewise, although employee relationships exhibit greater durability and income stability, this gap has narrowed substantially since 2001, as the persistence of contractor relationships has increased while their compensation volatility has decreased. The similarity between employee and contractor relationships—and the arbitrariness of the distinction between the two—is most pronounced among low-income workers.

Furthermore, firms' decisions about how to classify workers appear to be influenced by factors outside of those found in the balancing tests, including the relative regulatory cost of employees and contractors. Using a natural experiment created by Medicare eligibility rules that differentially affects the cost of retaining older employees among small and large firms, I find that an older employee is more likely to be reclassified as a contractor with the same employer if the firm faces a greater financial incentive to do so. This finding has implications for regulations that change the cost differential between employees and contractors. Firms may respond to such regulations by shifting toward one classification or the other, either by manipulating workers' classification (an evasion response) or by materially reconfiguring their production process to satisfy the requirements of multifactor balancing tests (a real response). Either response is undesirable: the first violates basic horizontal equity principles, while the second distorts behavior away from what would have been optimal absent the regulatory change.

The descriptive findings presented here suggest potentially significant structural changes in the labor market and are timely in light of ongoing policy discussions around the gig economy. However, due to limitations in the data I can analyze, they are not dispositive. As I detail in Part IV, several hypotheses may—separately or jointly—explain the convergence detected in the U.S. tax filings data that I study. Resolving this lingering uncertainty will require additional empirical investigation. Specifically, we must invest in better methods of data collection that can document the true nature of worker-firm relationships, which would allow us to directly measure, rather than merely infer, whether the substance of those relationships has changed over time, and for whom. This improved data collection must take particular care to sample low-income workers engaged in employee and contractor relationships, as these workers have experienced the greatest degree of apparent convergence. Furthermore, qualitative data collection from firms about how they make worker classification determinations would

complement the kind of natural experiments I use here to study firm behavior.

Though the major contributions of this paper are positive, in closing I return briefly to the normative literature on how (and when) the law should impose discrete categories upon a continuum of transactions. In his influential early article in this literature, David Weisbach warns against the use of “platonic notions” as the basis for drawing tax lines.¹⁹⁵ Such an exercise, he says, results in lines that lack normative content and do not advance any of the substantive goals of the tax system.¹⁹⁶ Instead, he advocates evaluating policy solutions on the basis of efficiency, where a contemplated line is most efficient if it minimally distorts individuals’ behavior.¹⁹⁷ Many of the examples of lines in the tax law that he cites fail to meet this criterion, in part because the lines often rely on factors that are easy to manipulate, thereby inducing precisely the behavioral change we hope to avoid.

His primary example of outmoded line drawing—the four-factor test distinguishing partnerships and corporations—bears more than a passing resemblance to the tax law’s current twenty-factor test distinguishing contractors and employees. In that instance, the doctrinal ideas distinguishing a partnership from a corporation—for example, lack of central management and an unlimited life—were codified only to discover that these characteristics describing a platonic notion of organizational structure are, in fact, malleable and responsive to the drawing of the line.¹⁹⁸ Even to the extent that characteristics describing a platonic notion are based in seemingly unyielding economic fundamentals, these fundamentals, one day, must waver; over time, large structural changes will occur that render lines based on yesterday’s platonic notions obsolete.

Today, the platonic notions of employees and contractors embodied in the existing lines separating the two are fading as the barriers to self-employment lower and fundamental changes are made in laws governing taxes and social insurance. And with further upheaval in the labor market, technological change on the horizon, and a society unsure whether efficiency is still the paramount criteria and equity the ancillary, one thing is clear: any alternative lines for these two groups will be drawn in shifting sand.

¹⁹⁵ Weisbach, *supra* note 10, at 1627–29.

¹⁹⁶ *See id.* at 1629–30, 1630 n.12, 1664–65.

¹⁹⁷ *See id.* at 1627–42.

¹⁹⁸ *Id.* at 1628, 1628 n.7, 1629, 1629 n.9 (“[I]t could be asserted that, in actual practice, the [four-factor test] had come to be so readily manipulated by tax practitioners as to be effectively elective, so that the adoption of an affirmatively elective regime is a change in form rather than in substance from the former regulations.” (quoting STAFF OF JOINT COMM. ON TAX’N, 105TH CONG., REVIEW OF SELECTED ENTITY CLASSIFICATION AND PARTNERSHIP TAX ISSUES 15 (Comm. Print 1997))).