

An Economic Analysis of Overtime Pay Regulations

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Abstract

This paper examines the US Department of Labor's proposed regulation to extend overtime pay to employees with base salaries of \$23,660 to \$50,440. We find that the department provides no evidence that an "underpayment" or "overwork" problem exists in the United States.

Nonetheless, we evaluate the stated policy objectives. The Department of Labor indicates that the proposed regulation will meet three policy objectives: spread employment, improve worker health and well-being, and increase wages for employees. We find problems in the theoretical mechanisms by which these policy objectives are to be met and conclude that those mechanisms are not supported by economic theory. Furthermore, in a review of the empirical literature, we find no empirical support for achieving any of the policy objectives. That is, there is neither theoretical nor empirical support that the proposed regulation will meet its stated objectives; in fact, evidence suggests that moonlighting may increase in response to regulations. Finally, we anticipate that the proposed regulation would have a structural impact on the economy because salaried jobs may turn into hourly wage jobs. We believe such a shift will have a negative impact on certain labor contracts that would be ill suited to hourly pay—specifically, technology start-up and telecommuting jobs. Given that the birth of start-ups is on a decline and the death of start-ups is at a peak, we believe it would be unwise to further hamper the technology start-up market by adopting the proposed regulation.

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An Economic Analysis of Overtime Pay Regulations

Donald J. Boudreaux and Liya Palagashvili

1. Introduction

The US Department of Labor (DOL) has proposed to make more salaried employees subject to overtime pay requirements under the Fair Labor Standards Act (FLSA). In particular, the DOL has proposed to reduce the number of salaried workers who are currently exempt from the FLSA's requirement that employees who work more than 40 hours a week be paid time and a half for every hour over 40. Although there are a number of exemptions to the requirement, the proposed rule affects salaried workers who have executive, administrative, or professional (EAP) duties and have annual base salaries of \$23,660–\$50,440.

Currently, workers with EAP duties whose annual base salaries are \$23,660 are exempt from the FLSA's overtime pay requirement (the so-called EAP exemption). The proposed rule would expand the overtime pay requirement to employees who earn salaries up to \$50,440. The DOL estimates that nearly 5 million workers now subject to the EAP exemption (and, hence, whose employers are not required to pay them time and a half for overtime hours) will be covered by the new rule.¹

According to the notice of proposed rulemaking (DOL 2015, 38519), the new requirement will achieve two principal policy objectives: (1) “spread employment by incentivizing employers to hire more employees rather than requiring existing employees to work longer hours, thereby reducing involuntary unemployment” and (2) “reduce overwork and its detrimental effect on the health and well-being of workers.” A third policy objective, mentioned in public discussion of the proposed rule, is to increase the incomes of affected

¹ Workers who are not subject to this “salary test” include teachers, academic administrative personnel, physicians, lawyers, judges, and outside sales workers.

workers. Secretary of Labor Thomas Perez claims that the proposed rule “could add as much as \$1.3 billion nationwide to workers’ pockets” (Mai-Due 2015).

In this study, we first examine whether the DOL provides evidence that there is a sufficient “underpayment” (or “overwork”) problem across all industries in the US labor market. We find that the DOL does not provide theoretical or empirical evidence of a problem to warrant the proposed regulation. Still, we proceed to analyze the likelihood that the new overtime pay rule will promote each of the three stated policy objectives. We find that there are strong theoretical reasons for employers to cut base salaries in response to the new regulation. If employers cut salaries, neither of the DOL’s policy objectives will be met. Furthermore, not only are there strong theoretical reasons to question the DOL’s analysis, but also there is empirical evidence that employers will cut base salaries in response to the new overtime pay regulation. We also find in the empirical literature only weak evidence, at best, that overtime pay mandates increase overall employment.

Lastly, we find that the DOL has not fully analyzed the impact of the new proposed rule on the diversity of labor contracts in the United States. As a consequence of the new regulation, employers will be required to track employees’ work times and will move toward hourly wage contracts. Yet treating salaried employees as hourly employees undercuts a principal reason for paying salaries rather than hourly wages. Among the reasons that a worker is more likely to be paid a salary than an hourly wage are (1) the employer values that worker’s ability and willingness to flexibly perform a wider range of duties than typically performed by hourly workers and (2) the employer can better evaluate a worker’s value over a longer period than an

hour or a day.² In short, the value of a salaried worker to his or her employer is not a simple sum of the value of that worker's hourly outputs. The relevant unit of a salaried worker's output is neither produced nor measured in brief time increments of hours or days but instead in months or years. The department's proposal compels employers to turn employee labor contracts into hourly contracts, which we believe would have a negative impact on the diversity of labor contracts throughout the entire US economy. Such a change would affect pay on commission, equity holdings, bonuses, and profit sharing. We analyze the impact on industries that offer employees mostly equity pay—mainly technology start-ups—and find that there would be an unintended harmful impact on the tech industry. In our most conservative estimate of compliance costs, we predict the proposed rule will cost the tech start-up industry at least \$3.7 million. Given that the number of new start-ups is in decline and the death of start-ups has reached a peak, we believe it would be unwise to further hamper the technology start-up market. We also find that the proposed rule would negatively affect workers' ability to engage in telecommuting. Overall, we conclude that the DOL's proposed regulation is unwarranted, that the DOL has made an incomplete analysis of the rule's negative consequences, and that the evidence that the new rule will meet the DOL's stated policy objectives is insufficient.

In section 2, we attempt to analyze the problem that would warrant the proposed regulation. In section 3, we explore the theoretical mechanisms for the policy objectives. In section 4, we summarize the empirical results on this question. In section 5, we discuss further

² A third reason that makes a worker more likely to be paid a salary rather than an hourly wage is the worker's own preference for more stable income. If a worker is averse to suffering periodic dips in income when the hourly or daily demand for his or her services temporarily falls, that worker might agree to work for a stable monthly or annual salary in exchange for the employer supplying this stability in the worker's pay. By paying the worker a salary (rather than an hourly wage), the employer ensures that the worker's pay does not fall when hourly or daily demand for the worker's services is unusually low—an assurance for which the employer is compensated when the worker's pay does not rise when hourly or daily demand for the worker's service is unusually high.

implications of the proposed regulation for labor market contracts, with emphasis on telecommuting and start-ups. In section 6, we present our conclusions.

2. Analysis of the Problem

The DOL's proposal does not provide any evidence of a chronic underpayment (or overwork) problem for EAP workers with salaries of \$23,660–\$50,440 across all industries in the United States. To support its proposed new regulation, the DOL must first establish evidence of the problem to be solved and must identify the industry or industries in which the problem exists. As it stands, the DOL has proposed a new regulation for the labor market in every industry in the United States without evidence of a problem that the proposed regulation would attempt to remedy.

The DOL's proposal directly affects only workers with low- to medium-level skills. The base salaries of most high-skilled workers are above the proposed \$50,440 threshold, beyond which the new overtime pay rule would not apply.³ The consensus in the economics literature is that labor markets in the United States, especially those for low- to medium-skilled workers, are quite competitive (see Kuhn 2004; Cowen 2015). Only in a few special cases do labor markets in the United States not have these characteristics,⁴ and these cases are studied precisely because they are exceptions.

Of course, to call real-world labor markets competitive does not mean they are textbook models of perfect competition. No real-world market is ever perfectly textbook competitive.

Instead, what economists mean by a competitive market is that the following conditions apply:

³ There is no objective definition of *high-skilled worker*. Our claim here is based on the fact that median annual earnings of US workers with a bachelor's degree were \$57,252 in 2014 and that workers with advanced degrees earn even higher salaries (US Bureau of Labor Statistics 2014).

⁴ See Scully (1974) and Kahn (2000) regarding professional baseball players and the reserve clause, Ransom (1993) regarding university professors, and Boal (1995) regarding coal miners in the early 20th century. Findings are mixed for nurses (Hurd 1973; Robinson 1988; Boal and Ransom 1997; Sullivan 1989).

- It is easy for new firms to enter, for successful firms to expand, and for failing firms to contract or even exit their industries altogether.
- Few, if any, barriers prevent new workers from entering the industry.
- Few, if any, formal regulations or informal customs prevent employers from bidding workers away from other firms.
- The skills used in such jobs are seldom specific to any particular employer and often are not specific to any particular kind of job.
- Information about alternative employment opportunities is widely available and typically inexpensive to disseminate and to acquire.
- Switching employers is relatively easy for workers who find better employment prospects elsewhere.
- Employers and employees, in bargaining with each other, have a large number of margins on which they can adjust to each other's demands and offers, meaning the typical employment arrangement includes many features beyond the few that are normally specified contractually (e.g., salary and formal job description). Typically, such features include the employer's tolerance for workers conducting personal phone calls during work hours, workers' expected flexibility when asked to do different duties or to work different schedules, the cleanliness of the work environment, the frequency of company-sponsored picnics and other events, the depth of employee discounts on company merchandise, and so forth.

These characteristics of the labor market for most low- to medium-skilled workers ensure that there are generally no excess employer profits from these employment arrangements. Put differently, the competitiveness of the market ensures that most workers at any point in time are

paid the value of their marginal products, which is the economist's way of saying that employees are generally neither underpaid nor overpaid. If, in a particular circumstance, workers are underpaid, not only do they have an unusually strong incentive to search for and accept better jobs elsewhere, but so, too, do profit-motivated employers have unusually strong incentives to seek out and recruit underpaid workers, whether by locating near these workers, offering them better pay, or taking other cost-effective measures to entice these workers. These processes of adjustment by both workers and employers eventually push employment arrangements in general, and worker pay in particular, up to competitive levels.⁵

Competitive labor market characteristics differ from those of a labor market that is infected with monopsonistic power, which can promote employer exploitation of employees. Monopsonistic power exists when one company has significant market power over the workers it employs. Most obviously, such power exists when an employer is the only employer of a certain kind of worker. This situation normally occurs for geographic reasons (e.g., a small rural town may have only one employer) or for jobs that require a highly specialized skill set. Special cases of monopsonies have been documented by Scully (1974) and Kahn (2000) for baseball players subject to the reserve clause.⁶ There has also been some monopsonistic exploitation of university professors (less than 5 to 15 percent; Ransom 1993) and of less than 5 percent of coal miners in

⁵ Just as there will always be, at every point in time, some workers who are underpaid because of market imperfections, there will also always be some workers who are overpaid. Neither economic theory nor the empirical record offers any reason to suppose that the absence of textbook perfection in real-world markets occurs only against the best interests of workers. Real-world imperfections are just as likely to result in instances of workers being paid more than the value of their marginal products as they are to result in workers being paid less than their value. And just as competitive forces operate to raise the pay of underpaid workers, these forces work to lower the pay of overpaid workers.

⁶ As explained by *Baseball-Reference.com*, the reserve clause "was a clause in player contracts that bound a player to a single team for a long period, even if the individual contracts he signed nominally covered only one season. For most of baseball history, the term of reserve was held to be essentially perpetual, so that a player had no freedom to change teams unless he was given his unconditional release. The clause was widely believed to have been overturned in the 1970s, but in practice young players today are still bound for up to 12 years (6 in the minors and 6 in the majors) before they have free agent rights." "Reserve Clause," *Baseball-Reference.com*, last modified November 30, 2012, http://www.baseball-reference.com/bullpen/Reserve_clause.

the early 20th century (Boal 1995). Economic historian Price Fishback (1997) finds that monopsonistic power even in isolated company towns has not been as prevalent or as serious a problem as is commonly believed.

Alan Manning (2003) offers a different concept of monopsonistic labor markets. He attempts to show the presence of monopsonies in the United States and the United Kingdom as a whole. Manning's argument has since been refuted and has not convinced the economics profession (Kuhn 2004; Bellante 2007). Manning argues that the existence of search costs in finding employment implies that there is a monopsony even when employers are small relative to the labor market. Kuhn (2004) points to a number of deficiencies in Manning's model and illustrates how the entire monopsony claim regarding job search costs is predicated on unrealistic assumptions about diminishing returns to scale in recruiting workers. Kuhn also argues that, even if these assumptions about a monopsony might hold in the very short run, the effect disappears in the medium to long run. He explains that the empirical evidence suggests it is quite unreasonable to claim that any individual firm in a labor market as large as those of the United States and United Kingdom will have monopsonistic characteristics in the long run. Kuhn (2004, 376) concludes that the presence of a monopsony in US and UK labor markets is highly unlikely "unless one focuses on workers with very specific skill types in very defined geographical areas."

Furthermore, even if we grant Manning's argument about the monopsony-enhancing effects of job search costs, the risks that labor markets will be marred by monopsonistic power in the future are surely falling as barriers to the flow of goods and inputs across regions and countries continue to fall and because the Internet and other technologies have reduced job search costs (Kuhn 2003, 2004). Manning's book was published just as Internet job search tools

and recruitment were taking off. In the years since publication of his book, search costs and search frictions⁷ have been reduced, and no credible claims have been made that the trend will be reversed. Thus, although there is some evidence of the existence of monopsonies in fairly specialized labor markets, the consensus is that this model does not describe the US labor market and certainly not the low- to medium-skilled sector. Instead, Cowen (2015) argues that labor market sectors in the United States are generally competitive.

Another way to gauge the competitiveness of labor markets is to investigate the movement of worker wages and productivity over time. If wages and productivity move in tandem, the implication is that workers are being paid the value of their marginal products, which is a result of competition in labor markets. Some scholars present evidence that worker pay and worker productivity have been decoupled since the 1970s (Mishel 2012; Mishel et al. 2015; Bivens and Mishel 2015). But these studies are misleading for two reasons: they neglect to include the value of employer-provided fringe benefits in worker pay, and they use an inconsistent measure for inflation adjustment. When these changes are taken into account, researchers find that worker pay and productivity have been moving together (Anderson 2007; Lazear 2007; Feldstein 2008; Pessoa and Van Reenen 2013). We discuss these findings elsewhere:

[Harvard economist Martin] Feldstein and a number of other careful economists—including Richard Anderson of the St. Louis Federal Reserve Bank and Edward Lazear of the Stanford University Graduate School of Business—have compared worker pay (including the value of fringe benefits) with productivity using a consistent adjustment for inflation. They move in tandem. And in a study last year, João Paulo Pessoa and John Van Reenen of the London School of Economics compared worker compensation and productivity in both the United States and the United Kingdom from 1972–2010. There was no decoupling in either country.

The empirical reality in both countries is consistent with economic reasoning. Firms cannot afford a misalignment of their workers’ pay and productivity increases—the

⁷ Search frictions are obstacles that make it difficult for employers and employees to “locate” each other.

employees will move to other firms eager to hire these now more productive workers. Higher economy-wide productivity, after all, means that workers add more to the bottom lines of employers throughout the economy. To secure the services of these more-productive workers, firms bid up worker pay. This competition for labor services is what links pay to productivity. (Boudreaux and Palagashvili 2014)

Again, the argument that labor markets are competitive does not imply that employment arrangements for every worker and at every time are ideal and hence without need for improvement. We argue the opposite—that any prevailing imperfections in employment arrangements are profit opportunities that can be exploited for mutual gain by employers and employees. The resulting market processes of employees searching for better jobs and of employers searching for ways to attract better employees at lower net costs ensure not only that relatively few workers are underpaid at any given time but also that whatever excess profits employers reap today from such underpayment are competed away tomorrow, as the terms of employment arrangement change in response to competitive pressures.

The bottom line is that there is every reason, theoretical and empirical, to believe that most prevailing employment arrangements reflect competitive bargains between workers and employers. These bargains guarantee that few, if any, terms of employment arrangements are arbitrarily imposed rather than competitively contracted for. Nearly all terms of employment arrangements, formal and informal, are the result of competitive forces that adjust each term to the others. With little or no arbitrariness—that is, with little or no excess profit for employers (or for employees)—in competitive employment arrangements, an arbitrarily imposed change in one term of an arrangement will set in motion market forces that cause offsetting changes in the other terms, including in some cases a reduction in the number of employees.

The US economy and its labor market are largely open: entrepreneurs are free and eager to launch new firms, employers are free to expand existing firms and to compete for the workers they need to operate as efficiently as possible, and almost all workers are free to quit their jobs

without suffering legal penalties. Hence, the strong presumption must be that the existing complex mix of both formal and informal terms of employment is optimal. A heavy burden of proof rests on anyone who asserts or implies that underpayment (or overwork) is such a chronic problem in the real-world US labor market that the federal government should make a change to those employment terms. Thus, it is significant that the DOL offers no evidence that EAP workers with a salary up to \$50,440 are consistently harmed in a manner that, according to economic theory, can be remedied by a government-imposed change in the terms of their employment.⁸ Pointing out that the salary threshold for exemption from the federal regulation for mandated overtime pay has not changed for many years does nothing to meet the burden of proof that must be met by those who endorse regulatory change premised on a major malfunction of the US labor market.

In short, the DOL's proposal, although presented as if it addresses a problem that is real and manifest, addresses a problem that is merely presumed to exist. We argue that not only is there no good reason to presume that such an underpayment or overwork problem exists but also that to address the presumed problem in the manner that the DOL proposes will at best have no effect on the welfare of the workers it is meant to help and is likely to inflict actual harm on many of them.

⁸ Imagining that workers could be even better off than they currently are does not demonstrate that workers are currently underpaid or overworked. For example, no one doubts that an employee who works an average of 45 hours each week for a weekly salary of \$650 would be better off if the average weekly hours of work fell to 40 *with no other changes in the terms of the employment arrangement*. But the questions at the heart of the analysis here of the DOL's new proposed rule, or rather the questions that should be at the heart of an analysis, are the following: (1) Will a government-imposed change in one term of the employment arrangement cause offsetting changes in other terms? (2) If offsetting changes do occur, what sort of changes are they likely to be? (3) Is there any reason to believe that the value to EAP workers of mandated overtime pay for those with salaries between \$23,660 and \$50,440 will be greater than the cost to workers of any resulting offsetting changes made by the employer?

3. Theoretical Considerations for Policy Objectives

Impact on Employees

As noted above, the proposed rule regarding overtime pay for EAP workers with salaries up to \$50,440 would be an arbitrarily imposed change to the terms of employment arrangements for millions of workers and tens of thousands of employers. Specifically, for affected workers, the new regulation would raise their average weekly pay by the expected dollar amount of the overtime pay they would receive. Because these workers' weekly pay is already adjusted to reflect their weekly value to their employers, the new rule would cause the weekly pay of many of these workers to increase above their value to their employers. In the same way—and for the same reason—that a hike in the federal hourly minimum wage would render the employment of some minimum wage workers unprofitable to their employers and thus would lead to their dismissal if no offsetting adjustments occurred, a hike in the weekly pay of EAP workers with base salaries up to \$50,440 who work overtime would render the employment of some of them unprofitable and thus lead to their dismissal if no offsetting adjustments occurred.

For illustrative purposes, consider the following hypothetical example. Jones is an EAP salaried worker who earns \$800 a week. Her implied hourly base wage for a normal 40-hour workweek, therefore, is \$20. During a typical year, Jones works an average of 10 overtime hours for each of 24 weeks (two weeks per month). For the other 28 weeks of the year, she works 40 hours. With an annual salary of \$41,600, Jones is exempt from the current overtime pay regulation, and her weekly pay is always \$800. Her weekly pay is the same in weeks when she works overtime as it is in weeks when she does not.

It is important to recognize that Jones's implicit average hourly wage under these circumstances is less than \$20, even though for legal purposes her hourly wage is reckoned as

\$20 (again, her \$800 weekly pay divided by 40 hours of nonovertime work each week). The reason that Jones's implicit average hourly wage is less than \$20 is that she regularly works overtime for no additional pay. In this example, Jones works a total of 2,320 hours annually (2,080 regular hours plus 240 overtime hours) in exchange for an annual base salary of \$41,600. That works out to an actual average hourly wage of \$17.93.⁹

With overtime pay required for EAP employees with base salaries up to \$50,440, Jones is no longer exempt from the overtime pay requirement, and she must now be paid \$30 (1.5 times her regular hourly rate of \$20) for each overtime hour she works. So for each week that she works 10 hours overtime, her weekly pay rises to \$1,100. This figure is the sum of her base weekly salary of \$800 plus \$300 (her time-and-a-half hourly rate of \$30 multiplied by 10 hours of overtime). If Jones logs an average of 10 hours of overtime for 24 weeks each year, the expanded overtime pay mandate would cause Jones's annual pay to rise by more than 17 percent—from \$41,600 to \$48,800. On an hourly basis, the mandate would cause her average hourly wage to rise by more than 17 percent—from \$17.93 to \$21.03.¹⁰

The new overtime pay mandate for EAP workers with a base salary up to \$50,440, in short, is likely to destroy jobs for some workers. If Jones's average hourly contribution to her employer's revenue is less than \$21.03, the mandate will result in Jones and EAP workers like her losing their jobs (or others not being hired to begin with).

The specific numbers used in this example are only illustrative. The absolute and percentage increases in a given worker's implicit hourly wage brought about by that worker no longer being exempt from the FLSA's overtime pay mandate will be larger or smaller depending on the number of overtime hours the employee works. The key point is that, because the

⁹ Specifically, $\$41,600$ [annual salary] \div $2,320$ [total number of hours worked annually] = $\$17.93$ per hour.

¹⁰ Specifically, $\$48,800$ [total annual pay] \div $2,320$ [total number of hours worked annually] = $\$21.03$ per hour.

proposed overtime pay mandate for workers with a base salary up to \$50,440 increases affected workers' total pay but not their productivity, their employers will find it unprofitable to keep all such workers on the payroll at their current salaries.

A prediction central to the DOL's proposal is that, because paying time and a half for overtime hours to existing EAP employees with a salary up to \$50,440 will be too costly for most employers, employers' main response to the mandate will be to have affected employees stop working overtime. By being spared overtime hours, those employees will thus be better off, and their health and well-being will improve. Moreover, additional workers will be hired at regular hourly rates to perform the tasks previously performed by the salaried employees when they worked overtime.

This prediction by proponents of the DOL's proposed rule fails. First, even if the expanded overtime pay rule leads employers to stop having affected employees work overtime, the mandate will force the pay of many of these workers to increase above the value of their marginal productivity. Second, because salaried workers are on the job full time and have unique skills and knowledge that they bring to their duties, it is unlikely that any part-time workers hired to perform the tasks that led to the overtime hours will perform those tasks as efficiently as did the salaried workers. Thus, it is simplistic to conclude that employers will simply hire part-time workers to perform the overtime tasks formerly performed by salaried workers now subject to the overtime pay mandate. Third, as we will discuss later, the expanded overtime pay mandate will fundamentally alter the nature of many jobs. As a result, we are reasonably certain that the mandate will harm many current workers whose base salaries will make them subject to it, and we find little reason to be confident that the mandate will increase the total number of jobs.

Response by Employers

Suppose that the new mandate works as advertised. The only effect on Jones is that her employer no longer has her work overtime. So Jones works fewer hours annually: 2,080 hours rather than the 2,320 hours she worked before the new mandate took effect. In reality, this outcome is unlikely. From the perspective of her employer, the expanded overtime pay mandate makes Jones a more expensive worker even if she works no overtime. Previously, her average hourly wage was \$17.93. With the new overtime pay mandate—and with Jones now working fewer hours (because she now works no overtime) for the same total annual pay—her average hourly wage rises to \$20.00.¹¹ That is an increase of about 12 percent.

Here is another way to grasp this point: Because the employer hired Jones before the expanded overtime pay mandate took effect, the employer offered to pay Jones—and she accepted—an annual salary of \$41,600 in exchange for a certain output over the course of a year. That output comprises the value of what Jones produces during weeks when she works no overtime and the value of what she produces during weeks when she does work overtime. With Jones now working no overtime, she produces less output over the course of a year than she did before the new mandate caused her employer to stop having her work overtime. Therefore, Jones's total pay does not change, but the employer gets less output from Jones than was anticipated when the employer agreed to pay her an annual salary of \$41,600.

It is now easy to see the error in the prediction that the new mandate will simply cause employers to halt their practice of having salaried employees work overtime and have no further effects on the employees. The value of the output produced during overtime work is part of what employers bargained for when they agreed to pay particular salaries to their workers (and, not

¹¹ Specifically, $\$41,600 \text{ [annual pay]} \div 2,080 \text{ [total number of hours worked annually]} = \20 per hour .

incidentally, what workers such as Jones agreed to produce). Because the mandate effectively strips employers of this part of the bargain, many workers who are affected by the new mandate will become unprofitable to employ. Those workers will lose their jobs unless employers can find ways to either reduce the nonwage costs of employing them or increase the value of their output. Fortunately, for many such salaried workers, the scope is wide for them, along with their employers, to alter the terms of their employment arrangements to nullify the cost-raising effect of the mandate.

Cutting base salaries. The most obvious adjustment that employers can make to escape the cost-raising effects of the mandate is to lower affected workers' base salaries while continuing to have them work overtime hours, so that the total annual amount paid to each worker does not change. For Jones, her annual value to her employer is \$41,600, with overtime hours. So if her base salary is adjusted downward to ensure that her total pay over the course of a year is no more than \$41,600 even though she is now being paid explicitly for overtime work, her employer will continue to find it profitable to employ her.

This outcome is ensured if Jones's annual base salary is cut by \$6,139—from \$41,600 to \$35,461. At this lower salary, Jones's implicit hourly base wage is \$17.05.¹² By continuing each year to work a total of 240 overtime hours but now at a time-and-a-half hourly rate of \$25.58,¹³ Jones will earn \$6,139 each year in overtime pay. When her overtime pay is added to her base salary, her annual pay remains at \$41,600.

¹² Specifically, $\$35,461$ [Jones's new, lower annual base salary] \div 2,080 [total number of hours she works annually] = \$17.05 per hour.

¹³ Specifically, $\$17.05 \times 1.5 = \25.58 per hour.

The only difference for Jones is that her weekly paychecks will now vary depending on whether she worked any overtime hours. Before the new mandate, the dollar amount of her weekly paychecks was the same (\$800). Now the paychecks she receives for weeks with no overtime will be smaller than the paychecks she receives for weeks when she does work overtime. Importantly, her total annual pay is unchanged, as are the total number of hours that she works and the kinds of duties she performs.

Adjusting the overall compensation package. In some real-world cases, cutting the worker's base salary provides an easy and complete fix to the problems created by the mandate. In such cases, the practical effect of the mandate on both employers and workers will be negligible. In other cases, such adjustments will be too difficult to make or will not be possible legally. Jones might resist having her nominal base salary cut even though her total annual pay and total number of work hours will not change. Moreover, if Jones's base annual salary were lower (say, \$24,000), making the cuts necessary to fully offset the effects of the mandate might not be legal, because doing so would drop her implicit hourly wage below the federal minimum wage or below the state or local minimum wage, which often is higher than the federal minimum wage. In cases where adjusting a base salary downward is not practical or legal, employers must find other ways to adjust to the new mandate.

One possible adjustment is to cut the value of affected employees' fringe benefits. If Jones is paid fringe benefits that are at least as great in dollar value as the additional amount of overtime pay that the new mandate requires her employer to pay her (\$7,200), Jones's employer can respond by cutting the value of her benefits by \$7,200 to offset the cost-increasing effects of the mandate. What Jones loses in benefits she will gain in overtime pay. In many cases, such a

change will likely be easier for employers to implement than cutting annual base salaries. And because minimum wage requirements govern only nominal hourly wages and not the value of fringe benefits, such a cut in fringe benefits does not run afoul of the minimum wage constraint.

One way that some employers can offset the cost-increasing consequences imposed by the expanded mandate is by shifting the value of fringe benefits into employees' base salaries. If the value of Jones's fringe benefits is high enough, paying this value to Jones in the form of an increased base salary will push her into the ranks of employees for whom the EAP exemption applies (that is, her salary will now exceed \$50,440). If the employer makes this adjustment, the cost of employing Jones will not change, but the employer will escape the requirement to pay Jones overtime pay for any weekly hours above 40.

Although such a modification to Jones's fringe benefits will not cause Jones's pretax income to fall, it is likely to make Jones somewhat worse off.¹⁴ Fringe benefits, in contrast to cash income, are generally nontaxable. Hence, if Jones's employer converts some or all of her fringe benefits into a higher base salary for Jones, her annual taxable income will rise even though the total value of her annual compensation—cash income plus fringe benefits—does not change. In short, such a change in Jones's pay package will likely reduce her after-tax income.

Finally, not all fringe benefits are formally recognized as such. Employer payments of employee health insurance premiums and employer contributions to employee pension funds are common types of formal fringe benefits. But in addition to formal fringe benefits, employers typically give workers a range of informal fringe benefits, such as free food for restaurant workers, employer-funded employee picnics and other events, and workplace safety and

¹⁴ This modification to Jones's employment term actually protects Jones from the possibility of suffering an even worse outcome, however. Were Jones's employer unable to switch the value of Jones's fringe benefits into Jones's base pay, Jones might well lose her job.

cleanliness above the minimum standards required by government. Indeed, employers offer informal fringe benefits for the same reason they offer formal ones, as well as competitive hourly wages or salaries: to attract and retain good workers so as to enhance their bottom lines. This fact diminishes neither the reality of these informal fringe benefits nor their value to workers.

Such informal fringe benefits, like formal ones and like wages and salaries, are employer expenses that can be reduced as employers adjust to government-mandated higher monetary payments for workers' overtime hours. Jones's employer might respond to her no longer being subject to the EAP exemption with a combination of cuts to her annual base salary, cuts in the value of her formal fringe benefits, and cuts in the value of her informal fringe benefits. The particular mix of cuts will vary from industry to industry, from employer to employer, and even from employee to employee, but the total value of such cuts will generally be equal to the value of whatever increased employment expenses result from an expanded overtime pay mandate. Employers typically have several different types of worker-related expenses that they can cut when they are obliged to spend more of another kind of expense (here, monetary payments to nonexempt employees for overtime hours). Without doubt employers will make such cuts even though they are often difficult to detect and quantify with reliable empirical data.

One possible adjustment involves employee performance bonuses. If Jones is eligible for annual performance bonuses, the value of these bonuses, like the value of her fringe benefits, can be reduced or converted into Jones's base salary to eliminate or at least substantially reduce her employer's exposure to the higher overtime labor costs that would otherwise arise from the new mandate.

There is an additional downside to employers of eliminating or reducing performance bonuses. Such bonuses, when they are used, are an especially effective means of encouraging

workers to put forth greater productivity and higher-quality work. By eliminating or reducing these bonuses in response to the expanded overtime pay mandate, employers lose an important tool for better ensuring adequate worker performance. Thus, changing performance bonuses in response to the expanded mandate is likely to be rare and to be a move made only as a last resort. If such an adjustment is made, it will almost certainly be accompanied by other adjustments, which will not be beneficial to the employee. For example, without a means of rewarding employees for favorable performance, the employer may lower overall employee compensation to make up for the lower standard of work.

Other adjustments are possible when the government mandates that the pay of particular workers be raised. As economists who analyze the effects of minimum wage legislation recognize, employers can sometimes respond to government-imposed hikes in labor costs by expecting more output from their workers—that is, by arranging for workers to increase their productivity.¹⁵ Employers can, for example, more strictly supervise their workers' on-the-job activities, give workers fewer or shorter breaks, be less tolerant of workers who show up late for work or leave early, or treat employee absences more stringently. Such adjustments ensure that workers, in response to mandated gains on some margins (such as monetary compensation), lose on other margins valuable features of their employment arrangements (such as the ease of their work requirements or the pleasantness of the work environment).

Making capital and higher-skilled labor substitutions for low-skilled labor. Of course, some employers may not be able to adjust nonexempt salaried employees' pay packages and methods of payment adequately to shield themselves from the higher labor costs resulting from the

¹⁵ See, for example, Wilson (2012) and Wessels (2001).

overtime pay mandate. Employers can attempt to keep their production costs from rising by changing their mix of capital to labor or by changing the kinds of workers they employ. Either way, employers' costs are likely to rise at least somewhat and, therefore, cause them to reduce their outputs.

Suppose that adjustments made to Jones's employment arrangement in response to the overtime pay mandate do not fully shield the employer from higher labor costs. Suppose, in particular, that after all possible adjustments, the annual cost of employing Jones under the new overtime mandate rises from \$41,600 to \$42,100. Suppose also that Jones's labor can be replaced by a mechanized process for a total annual cost of \$42,000. In this case, which is by no means extraordinary, Jones may be replaced by the less costly mechanized process even though the overtime mandate causes her employer's annual cost of employing her to rise by a mere \$500.

Alternatively, consider how the expanded overtime pay mandate might artificially increase the demand for higher-skilled workers, whose salaries would render them exempt from the mandate, by artificially making the employment of lower-skilled workers more costly. Suppose that, before the expanded overtime mandate taking effect, Jones's employer had three workers of Jones's caliber and pay scale. The total annual cost of employing these three workers is \$124,800 ($\$41,600 \times 3$). Jones's employer could have instead employed two higher-skilled workers, each at an annual salary of \$64,000, to perform the same tasks that are performed by the three workers. But because the total cost of the three workers (\$124,800) is lower than the total cost of two higher-skilled workers (\$128,000), employing three workers is the employer's best option.

With the new overtime mandate in place, though, the calculation changes. If Jones's employer is unable to restructure the three employees' employment arrangements to sufficiently

shield itself from the higher labor costs, the employer may choose to fire the workers. By firing the three lower-skilled workers and replacing them with the two higher-skilled workers, the employer escapes the bite of the new overtime pay mandate because the two higher-skilled employees, each paid an annual salary of \$64,000, are exempt from the overtime pay mandate.

We realize that the scenarios we have depicted for Jones, the hypothetical salaried employee, do not describe every possible real-world situation. Nevertheless, we believe that our analysis is useful because it explains several different outcomes, each plausible, that contradict the assertions of champions of the expanded overtime mandate. Our analysis shows that it is untrue that the proposed extension of so-called overtime pay protections to EAP employees who are currently exempt because the existing salary threshold is \$23,660 will protect these employees as advertised. At best, the mandate will result in a restructuring of the many methods for and timing of employees' pay without increasing their total pay or decreasing the number of hours they work. For affected employees whose employment arrangements cannot be successfully rearranged in ways that protect their employers from higher labor costs, the mandate will either cost these workers their jobs or cause the nature of their jobs to worsen.

The bottom line is that it is cavalier to assert that simply having the government declare that certain salaried workers are now eligible for overtime pay protections will result in these employees' being paid more for the same amount (and kind) of work they previously did or in being paid the same amount for doing less work than previously. In fact, economic analysis warns that many affected employees will lose their jobs or wind up working at more onerous jobs. Our analysis also shows that it is by no means certain that employers will hire additional workers to perform the tasks no longer done by existing employees who once worked overtime.

4. Summary of Empirical Results

In this section, we review the literature to examine whether the objectives of the DOL and the objective espoused by President Obama and some public commenters are grounded in empirical research. We find no strong empirical support for any of the three policy objectives.

Objective 1: Increase Employment

A number of empirical papers examine the question of whether overtime pay regulations are an effective means of creating employment opportunities and spreading employment.¹⁶ The theoretical mechanism in all cases is that, because employers will find it more costly to use an employee who is eligible for overtime pay to produce a given output, they will respond by hiring more workers to achieve output goals.

This mechanism is grounded in the fixed-wage model (Ehrenberg 1971). The crucial assumption in this model is that total wages are fixed and determined independently of competitive market forces. Thus, when there is a new regulation, such as the imposition of a time-and-a-half overtime pay requirement for EAP workers with a salary up to \$50,440, it increases the employer's total labor costs. Because wages in this model are fixed, the higher costs incentivize employers to substitute cheaper alternatives for the now more expensive workers. This outcome might be achieved by an employer who hires new employees at regular hourly rates to complete the duties formerly done by salaried workers who are no longer exempt from overtime pay, or it might result in employers substituting capital for labor by investing in new machines and technologies to do those jobs.

¹⁶ Trejo 1991, 2003; Barkume 2010; Bell and Hart 2003; Kuroda and Yamamoto 2009, 2012; Hamermesh and Trejo 2000; Friesen 2001.

The alternative model is the fixed-job model. Following labor economist H. Gregg Lewis (1969), this idea postulates that overtime pay regulations have little impact because employers reduce base salaries or wages to offset the anticipated increased cost of employees working overtime. In this model, employees and employers negotiate a contract that covers both wages and hours and neither cares what the particular wage will be for each hour. In other words, both employee and employer care only about total hours and total pay. In the fixed-job model, none of the policy objectives will be met because employers respond to the expanded overtime pay regulation by cutting base salaries. Worker pay and overall hours, as well as worker output, stay the same.

Much of the empirical literature surrounding the question of overtime pay attempts to either support or refute the validity of one model over the other. Taken together, there is no conclusive evidence that expanding the overtime pay regulation will increase employment. The studies that seem to support the fixed-job model usually find a base salary adjustment to offset the additional cost of an expanded overtime pay rule (e.g., Trejo 1991, 2003; Barkume 2010; Bell and Hart 2003; Kuroda and Yamamoto 2009, 2012).¹⁷

Conversely, Hamermesh and Trejo's (2000) comprehensive study of California's overtime pay regulation supports the fixed-wage model. A 1980 California law stipulated that employers pay men time and a half for working more than 8 hours a day, as opposed to 40 hours a week (women already received this treatment). Hamermesh and Trejo find that the proportion of men in California working more than 8 hours a day has decreased by 25 percent. They conclude,

¹⁷ Trejo (1991) has a bit of a mixed result. He finds that, in response to new overtime pay regulations, wage adjustments occurred to mitigate the effect of a more costly worker—thus supporting the fixed-job model. He also argues that, although these wage adjustments occur, they are not very large and the regulations can thus have an impact on additional hours needed to maintain a given amount of output for an employer. However, Trejo does not include fringe benefits, which make up a large part of an employee's overall compensation package.

We find strong evidence that the distribution of daily work hours responded to the California overtime law exactly as the theory of labor demand predicts. After California's daily overtime penalty was extended to men, overtime hours and the incidence of overtime workdays declined substantially for male workers in California relative to men in other states, and the prevalence of eight-hour workdays rose by roughly the same amount that overtime incidence fell. (Hamermesh and Trejo 2000, 47)

According to the fixed-job model, the base salaries should have decreased in response to the new regulation. Instead, employers reacted by having workers not work overtime.

These results should be taken with caution when considering the extension of overtime pay to salaried workers. Hamermesh and Trejo look only at hourly wage workers rather than salaried workers, which makes comparison difficult when analyzing salaried workers because hourly workers are employed to do sufficiently different kinds of tasks than those expected of salaried workers. The time period over which a salaried worker's contribution to the employer's business is judged is normally longer than that of an hourly worker. Presumably, an hourly worker's contribution can be adequately measured each hour, and the hourly worker makes a meaningful contribution to the employer's bottom line by working in increments as short as an hour. One more hour of an hourly worker's time on the job adds a measured and meaningful unit to the employer's output.

In contrast, the typical salaried employee's contribution in any single hour to the employer's output might be meaningless, hard to define, or impossible to measure. Alone, it might have no value. The salaried employee is hired to contribute value that can best be contributed only over a time span longer than one hour. In other words, the value of a salaried employee's output is indivisible into hourly chunks. Thus, there is no reason to expect that a mandate that artificially raises the cost of employing a salaried worker for more than 40 hours in any one week will be met by the employer ensuring that the salaried worker works 40 hours and no more. If efforts that the salaried worker contributes in hours exceeding 40 are lopped off, the

value of having the salaried worker on the job during weekly hours up to 40 might fall significantly enough to make the salaried worker unprofitable to employ, at the current wage, for only 40 hours weekly and no more.

Furthermore, when labor costs increase, employers may respond by either cutting production or substituting capital for labor. In such a case, a labor substitution would mean that employment could indeed increase. It is also possible, however, that employers will respond by making investments in capital and new technologies, thereby engaging in capital substitution. In fact, even under the fixed-job model, overtime pay regulations do not necessarily increase employment because the employer may instead engage in a capital substitution.

Costa (2000) also finds that overtime workweeks fell considerably in response to new regulations in the period following the 1938 enactment of the Fair Labor Standards Act. Costa suggests that between 1938 and 1950 a 5 percent reduction in the length of the standard workweek reduced by at least 18 percent the proportion of men and women working more than 40 hours a week and that this effect was significantly larger in the South than in the North. This finding may initially be seen as evidence in support of the fixed-wage model. However, although the workweeks did fall, they fell most substantially for low-wage employees primarily in the South—employees for whom it is difficult to cut base salaries because of policies such as the minimum wage. Costa (2000, 662) concludes,

The decline in hours of work of southerners was greater because the minimum wage provisions of the FLSA had a much bigger impact on southern wages than on northern wages, thus preventing southern firms from adjusting straight-time wages in response to overtime provisions.

In other words, employers were not able to offset the overtime pay regulations for this group of people, which may explain why we see the overall effect of workweeks falling rather than wages changing.

On this differential impact of overtime regulation, Trejo (1991) also finds some evidence of the fixed-job model when testing overtime compliance from 1974 to 1978. As the fixed-job model predicts, there is a differential response between minimum wage and nonminimum wage workers. Overtime pay regulation does not have an impact on nonminimum wage workers because their salaries adjust, but it did have an impact on minimum wage job workers because employers are precluded from reducing their wages. Trejo also finds that, in response to overtime regulation, offsetting adjustments occur to “limit the potential usefulness of overtime pay regulations as a job-creation device” (1991, 739).

An important theoretical aspect of this mechanism of overtime pay and greater employment is that the response of employees actually depends on a number of market considerations. Hamermesh (1993) finds that the impact of overtime pay regulation will depend on the structure of labor costs, the flexibility of wages, and the type of labor market institutions that are present, such as unions. Hamermesh argues that the variability of these features creates a significant problem for researchers attempting to compare results across countries that do not have similar labor market institutions. As a result, studies that predict employment increases or decreases in the United States in response to overtime regulation on the basis of results from Europe are incomplete and inaccurate. Instead, scholars encourage overtime pay analysis in countries that have comparable labor market institutions.

Friesen (2001) uses a natural variation in Canadian overtime regulation rules to estimate the effect of overtime regulation on increasing employment. Friesen argues that Canada offers a better comparison when trying to predict results in the United States because the US and Canadian labor markets are more similar and consequently the employer response is likely to be similar. Friesen finds that in Canada a reduction in standards hours has promoted work sharing

but that the effect is meaningless because it actually led to moonlighting—workers taking a part-time second job. Specifically, Friesen (2001, 708) finds that “an increase in the predicted probability that a covered worker moonlights of 1.1 percentage points when standard hours [are] decreased from 44 to 40 h, and by 3.2 percentage points when standard hours [are] decreased from 48 to 40 h.” Friesen (2001, 710) concludes,

To the extent that overtime pay regulation is successful at spreading work over a larger number of jobs, it is less successful at spreading it over a larger number of workers. . . . These results are less supportive than previous research of the notion that overtime pay regulation might be an effective means of creating employment opportunities for a larger number of workers.

Friesen’s result that overtime pay regulation leads to greater moonlighting is similar to other findings for the United States. Renna (2006) analyzes the effect of contractual hours and overtime premiums on the decision to take a second job or work overtime hours and finds that the shortening of workweeks as a result of an expanded government overtime pay mandate may lead to underemployment. In a bivariate probit model, Renna (2006, 589) finds that shortened workweeks increase the probability of moonlighting: “Because of the reduction in the workweek from 39 to 35 hours, the incidence of moonlighting may increase by more than one percentage point.” Because the theoretical effect of workweek time regulations on employment hinges on the effect of such mandates on hours worked, Renna suggests, given his results, that the power of work-sharing policy to generate new (extensive) employment is weak in the countries in his sample.

Trejo (2003) also finds that increasing the statutory overtime premium or expanding FLSA coverage does not increase employment. Trejo (2003, 550) concludes that his empirical findings are “consistent with the compensating differential model of overtime pay regulation, and they suggest that raising the statutory overtime premium or expanding FLSA coverage may not have the intended effects of reducing overtime hours and creating additional jobs.” His

results, however, are contingent on the estimation framework. Using a standard labor demand model generates a slightly different result than using a compensating differentials model.

We find no conclusive evidence that an increase in overtime pay regulation leads to greater employment. In fact, much of the evidence from prior empirical research seems to indicate that there will be a cut in base salary to offset the wage increases that would result from the DOL's proposed rule change. In the case of Hamermesh and Trejo (2000), who do not find a cut in the base salary of hourly workers, we do not believe these results are comparable to the likely effects of the proposed overtime pay mandate for salaried workers who earn up to \$50,440. Furthermore, in the studies that do find some evidence of pressure on employers to increase employment, there is also strong evidence of moonlighting. In other words, if it is the case that the number of jobs increases, they are not going to new entrants to the work force. Instead, employees are responding by picking up part-time second jobs—that is, they are moonlighting. Hence, we find that there is no conclusive evidence that expanded overtime pay regulation acts as a make-work project.

Objective 2: Increase Employee Health and Well-Being

The DOL claims that it can achieve its policy objectives of increasing employee health and well-being with the proposed overtime pay regulation. The DOL (2015) cites two papers that summarize a variety of health studies on long hours (Keller, 2009; Loeppke et al., 2007). The summary papers provide citations to studies that are mostly on long health hours and problems of cardiovascular disease. For example, Hayashi et al. (1996) and Iwasaki et al. (1998) look at longer work hours and high blood pressure. A newer study also examines evidence relating long work hours and coronary heart disease (Virtanen et al. 2012).

Examination of these studies, however, shows no conclusive evidence that working extra hours contributes to or causes any of these health problems. For example, Hayashi et al. (1996) find higher average blood pressure in people who choose to work more overtime hours compared to those who do not. But the study contains a strong selection bias effect and provides no evidence that long work hours cause higher blood pressure. No cause or impact can be drawn from the study because higher blood pressure is also associated with eating an unhealthy diet (including too much sodium), high alcohol and tobacco consumption, and little physical activity. These risk factors may be also associated with individuals who choose to work longer hours. Thus, individuals who choose to work longer hours may be at risk of higher blood pressure for reasons not associated with the mechanisms of working longer hours. Cardiologist and Mayo Clinic Professor of Medicine Stephen Kopecky explains the problem: “Somebody who works hard may eat fast food and not be very active, so it may not be the long hours that give them heart disease. It’s eating fast food and being inactive” (Gardner 2011).

Furthermore, individuals who choose to work more overtime hours could also have generally higher levels of stress (and thus generally higher blood pressure) than those who choose not to work extra hours. In other words, the Hayashi et al. (1996) study could be capturing the idea that individuals who naturally have a higher baseline of stress and anxiety are also the ones choosing to work longer hours, and thus the studies may just be capturing the impact of stress on higher blood pressure. Moreover, the study could have a reverse causality problem: higher blood pressure causes individuals to experience anxiety and to choose to work longer hours to get all their work done.

These same problems are evident in the work of Iwasaki et al. (1998) and Virtanen et al. (2012). Virtanen et al. compile all the research in this area and link coronary heart disease with

long hours of work. However, none of the quoted studies properly controlled for all associated factors of coronary heart disease. For example, staying late at work may be an indicator of an unhealthy lifestyle in general (bad diet, no physical exercise), with an unhealthy lifestyle being the cause of heart disease rather than longer worker hours.

Additionally, many of the studies cited in the DOL's report permit only cautious comparisons with the current situation in the United States. For example, Iwasaki et al. (1998) examine salesmen in a machine manufacturing company in Japan in the 1990s. The "short-hour" work week during that time in Japan is defined as 57 hours a week, while the long-hour work week (overtime) is defined as working 61–68 hours a week. The study found elevated blood pressure for people who worked 61–68 hours a week as opposed to those who worked 57 hours a week. It is unclear how comparable these results are to the 21st century United States, where the average work week is typically 40 hours and overtime averages to about 3.3 hours (Bureau of Labor Statistics 2016).¹⁸ Furthermore, many of these studies measure short-term health indicators rather than attempting to measure long-term indicators. For example, Iwasaki et al. (1998) rely on data such as employees' blood pressure readings taken once during the workday. Their results might be useful if the DOL's policy goals include maintaining workers' blood pressure during the workday, but it's unclear whether they contribute to any larger endeavor.

The works cited here are a few examples of the studies we investigated.¹⁹ After reviewing some of the medical literature on long work hours and health, we found no studies that effectively conducted a randomized trial to isolate the impact of working overtime on a person's health. As discussed, there are certainly studies that find an association between longer hours

¹⁸ In fact, most of the DOL-cited reports are studies done in Japan and South Korea.

¹⁹ See, for example, Bergqvist et al. 1995; Ettner and Grzywacz 2001; Nakanishi et al. 2001; Park et al. 2001; Liu et al. 2002.

worked and a person's health, but the causal implications are unclear. Therefore, we cannot conclude that there is any causal evidence of a negative impact on health from working overtime.

Moreover, it is unclear from the DOL (2015) report what constitutes too much work. DOL does discuss the tradeoffs between working longer hours and decreased health. If its goal is to increase employee health and well-being, would the DOL be willing to cut worker hours to zero? The DOL's policy objective to improve workers' health and well-being should specify the level at which the department is willing to accept the tradeoff between individuals choosing to work longer hours and the potential decreased health effect.

Finally, even if health studies were conducted that provided evidence of a negative impact of longer work hours on employee health, it is unclear that the DOL would still meet its policy goals. The department's policy objective of better health and well-being stems presumes that employers would choose not to incur greater costs to pay employees to work overtime. As a result, workers would work regular hours and their health would improve.

This objective is actually contingent on the mechanism of the first policy objective. If it is the case that base salaries are cut to offset an expanded overtime pay regulation, a worker's hours will not change. As we will discuss in detail, there is substantial evidence that employers will cut base salaries in response to anticipated overtime pay costs. Thus, employees will not work fewer hours in response to the overtime pay regulation. Hence, there does not seem to be support for the DOL's objective of improving employee health and well-being.²⁰

Furthermore, studies such as Friesen (2001) and Renna (2006) find that overtime pay regulation leads to moonlighting—findings that directly challenge the DOL's objective of

²⁰ However, Kuroda and Yamamoto (2012) do find that during a recession workers who are exempt from overtime work longer hours than those who are eligible for overtime. We discuss this paper later.

improving employees' health and well-being. For employees who moonlight, no health benefits are gained from working fewer hours at their first job.

Objective 3: Increase Pay

In the economics literature, there is little evidence that overtime pay regulation would result in greater pay in the United States. Employers are found to react to overtime pay regulation by cutting employees' base salaries, unless there are strong labor market regulations and restrictions, such as those caused by the presence of unions.

In a comprehensive study of changes in FLSA requirements in 1974 and 1977, Trejo (1991) finds no significant differences in earnings between employees who are covered by overtime pay regulation and those who are not. Trejo also finds that in response to the overtime pay regulation, a downward wage adjustment occurred to mitigate the effects of more costly worker pay. Trejo argues that, although these wage adjustments occurred, they were not complete, and thus overtime pay regulation can have an effect on additional work hours needed to maintain a given amount of output for the employer. Trejo (1991, 739) concludes,

No significant differences in weekly earnings were discovered between the covered and non-covered sectors [of overtime regulation], which is consistent with the fixed-job model. However, the analysis of hourly wages indicate[s] a substantial but incomplete adjustment of straight-time wages to overtime pay regulation.”

Trejo carries out his study by analyzing the impact of extending overtime regulations to industries that were previously exempt from the FLSA. In a later study, Trejo (2003) examines overtime hours between 1970 and 1989, when Congress and the US Supreme Court expanded the FLSA to cover more industries. Trejo finds no statistically significant effect on average work hours after controlling for preexisting trends in hours worked. Trejo (2003, 530) states that his

finding is “consistent with a model of labor market equilibrium in which straight-time hourly wages adjust to neutralize the statutory overtime premium.”

Barkume’s (2010) findings are similar to those of Costa (2000) and Trejo (1991, 2003). Barkume finds that employers offset the impact of the time-and-a-half overtime pay requirement by cutting the straight-time wage rate in jobs with usual overtime work. But wages are not cut for jobs that pay close to the minimum wage because the minimum wage prevents the downward adjustment that employers might seek to use.

In studying the impact of overtime pay in European countries, some scholars have found the opposite results. For example, Hunt (1999) finds that German unions were able to negotiate wage increases to offset a loss of weekly hours. Hunt thus finds that limiting workweek hours led to an increase in wages and a fall in hours worked. A one-hour decrease in weekly hours worked led to an actual decrease of about 0.88 to 1 hour worked and a straight-time wage increase of about 2.0 to 2.4 percent.

These results should be applied with extreme caution to the United States because European countries tend to have a much greater presence of unions across industries, and unions have great bargaining power. For example, in 2015, the union membership of wage and salary workers in the United States was 11.1 percent, whereas at the time of Hunt’s study from 1984–1994, Germany averaged a 33 percent union membership rate.²¹ Comparisons with other European countries may be even more problematic. For example, the union membership rate in Denmark is 66.8 percent; in Sweden, 67.7 percent; and in Norway, 53.5 percent. Because of the large presence of unions in Europe, when overtime regulations come into effect, European firms are usually unable to negotiate reductions in straight-time wages to offset increased overtime costs.

²¹ These statistics are from the trade union density table in the Organisation for Economic Co-operation and Development’s OECD.Stat database, which is available at https://stats.oecd.org/Index.aspx?DataSetCode=UN_DEN#.

Bell and Hart (2003) analyze salary differences of firms in the United Kingdom. The United Kingdom does not legally oblige companies to pay employees more for overtime hours, but some voluntarily choose to do so. A typical British firm pays a 28 percent overtime premium. Bell and Hart find that comparable UK firms that choose voluntary overtime payment pay lower wages to their employees and that firms that do not have this overtime premium pay their employees higher wages.

Kuroda and Yamamoto (2009, 2012) examine the pay differences in Japan for “name-only managers,” who do work that is virtually the same as regular hourly employees but who are exempt from overtime pay because of their classification as managers. They find that managers earn the same effective hourly rate as overtime-eligible workers, and this finding holds true even during the 2007–2010 recession. Kuroda and Yamamoto’s (2012, 261) results imply that “exempt employees are paid higher base salaries in order to compensate for their loss of overtime pay, keeping their effective hourly wages as high as those of other employees.” However, they also find that during the 2007–2010 recession, overtime-exempt workers worked longer hours than did overtime-eligible workers. This finding was more dominant for nonuniversity graduates. Although exempt nonuniversity graduates worked about 10 percent more hours than nonexempt workers, their hourly wage was 6 percent lower than that of nonexempt university graduates.

Kuroda and Yamamoto (2012) also note that after a major lawsuit was filed against McDonald’s in Japan regarding the reclassification of managers to earn overtime pay, McDonald’s responded by reducing managers’ base pay. Kuroda and Yamamoto (2012, 261) explain, “When name-only managers are included in the non-exempt status, their base salaries

are usually reduced in order to ensure that their effective hourly wage remains unchanged.” They note, however, that more research is needed in this area.

Anecdotal evidence supports Kuroda and Yamamoto’s statement. IBM recently acted in a similar manner in the United States. After settling a class action lawsuit, IBM voluntarily reclassified 7,000 of its salaried technical and support workers as hourly employees. The salaried workers were earning an average of \$77,000 annually. After transitioning them to hourly workers, IBM cut their base pay by 15 percent in anticipation of potential overtime pay costs (Davidson 2012).

In sum, there are both strong evidence and anecdotal accounts to indicate that employers respond to overtime pay regulations by cutting base salaries, if they are able to. Employers appear to act otherwise only when there is some restriction to salary decreases—mainly, the minimum wage or strong labor market regulations and unionization, as characteristic of European economies.

5. Costs and Further Implications

An important aspect not yet addressed is that the regulatory change under consideration by the DOL will likely unleash compensating adjustments in employment arrangements that are more fundamental than the adjustments discussed in section 3. Throughout our analysis, we assume it is relatively cost-free for both employers and regulators to monitor and document the number of hours that salaried employees work each week. Although this assumption might hold for some types of salaried employees, it likely does not hold for many of them and surely does not hold for all of them.

According to a study by the American Action Forum, the proposed overtime rule would impose about \$255 million in direct employer costs each year, and employers would face about \$2.5 billion in compliance costs over 10 years (Goldbeck 2015). The Oxford Economics Group and National Retail Federation (2015) find that it would cost as much as \$874 million for the retail industry to update payroll systems, convert salaried employees to hourly workers, and track their hours if the proposed overtime rule were imposed. In the retail and restaurant industries, the proposed overtime pay rule would affect 2.2 million workers.

The DOL neglected to analyze one of the greatest changes that would occur with the proposed rule: clocking workers. In cases in which it is too difficult or costly to monitor and document the number of hours worked each week by salaried employees, employers' practical response will be to convert salaried employees to hourly employees, which means requiring them to punch a time clock or implement software that tracks login times (or using some other means of measuring work time by the hour). Such measures are necessary because employers need a reliable means of ensuring that workers do not pad the number of overtime hours they report and also a means of documenting their workers' overtime hours for regulators. Not all industries would make this switch—as is already common in some industries, firms may choose to keep track of workers by their billable hours. But even in industries that use billable hours, such as accounting or legal services, there is an industry code to regulate the practice.²² Whatever method is used, monitoring employees' work inputs will not be cost-free. For industries where using billable hours does not make sense, employers will have to find some other mechanism to

²² It is important to note here that the model of billable hours is inappropriate for many industries. The model may make sense in legal services and accounting because these industries are heavily regulated, have benchmarks and standards for performance, and allow little flexibility in what can be counted as “billable hours.” Conditions are not the same in industries such as consulting, where there are no strong “global” standards of performance, it is difficult to assess relative performance, and there is no formal body of law stipulating how to award costs, as there is in legal services.

monitor worker input—no sensible employer will rely exclusively on workers to report their overtime hours honestly and without bias.

Even without employers' own incentives to arrange for an objective method of monitoring their employees' work hours, such a method is mandated by the FLSA. The DOL (2015, 38545–46) writes,

The FLSA requires employers to: (1) Pay employees who are covered and not exempt from the Act's requirements not less than the Federal minimum wage for all hours worked and overtime premium pay at a rate of not less than one and one-half times the employee's regular rate of pay for all hours worked over 40 in a workweek, and (2) make, keep, and preserve records of the persons employed by the employer and of the wages, hours, and other conditions and practices of employment.

Aside from employers in the specific industries using the billable hours model, many employers (under current regulations) track hours worked only for employees who are not exempt from the overtime pay mandate or only if their business model means it is appropriate to have hourly workers.²³ However, a major consequence that the DOL neglected to analyze is that previously salaried workers will have to be turned into hourly workers for employers to meet the FLSA's recordkeeping requirements. Although it is true that employers may be able to keep some workers in technically salaried positions, they will still have to keep records of how many hours these employees work. In the past, some employers have used timesheets as a clocking-in method.²⁴ Using the DOL's estimate, we note that 21.4 million workers could be put back on the time clock.

²³ For example, some companies chose to put their customer service representatives on hourly for reasons that may have to do with the relatively low cost of monitoring them (answering phones tracks hours working).

²⁴ Firms may have a system in place that tracks their hourly workers separately from their salaried workers. But this does not mean that the system is easily transferable from hourly workers to all other roles in the firm. For example, one such system used by customer service firms tracks hours on the phone. Firms cannot apply this same system to non-phone-intensive roles. It's costly for firms to track hours and it's costly to maintain a system to track hours—these are part of firms' monitoring costs. If a firm currently has a system in place for some roles and not for other roles, this suggests that an hourly model does not make sense for the other roles (taking into account all the costs of having an hourly worker, including the monitoring costs).

The regulation will require a large structural change in the United States, where labor contracts that differ depending on the type of work. For example, employers often offer contracts that include provisions regarding bonuses, profit sharing, commissions, and equity. In these cases, the total compensation for an employee includes a salary and another form of payment that ties pay to the employee's output. Research shows that in cases where compensation is tied to output, workers tend to be more productive, and overall output increases (Baker 1992; Lazear 2000). In general, hourly pay compensation is a major cost for employers, because it tends to result in lower output. As a result, employers that voluntarily choose to pay hourly wages do so because the benefits of paying the hourly wage (i.e., the lost cost of monitoring effort) outweigh the costs in the form of lower output (Lazear 1986). In jobs where effort is very costly to monitor, an employer will offer a salary that ties an employee's output to compensation. Hourly wage positions make sense for certain types of jobs—but not for all jobs.

The DOL has overlooked the diversity of labor contracts that exist in the United States, and the proposed regulation would force some labor contracts, which were negotiated between employee and employer, to turn into another type of labor contract—one that is based on hourly wages. The diversity of labor contracts exists as a result of specific problems in each industry or type of job. A labor contract based mostly on commissions rather than hourly wages makes sense in sales but does not make sense in manufacturing. Thus, if employers and employees are, in effect, forced to use a specific labor contract—one based on hourly wages—significant structural changes will arise in the affected industries.

Consider, for example, the labor contracts that exist in technology start-ups. Employees who work in tech start-ups are paid a low salary but also receive equity in the firm. Tech start-ups tend to pay employees in this manner because they do not have enough

funds early on to pay employees the salaries they might receive elsewhere. Start-ups thus offer equity arrangements to compensate for lower salaries. Another rationale for paying in equity is that it ties the employee's efforts to the success of the company. Such arrangements provide an incentive to employees to work hard to make sure the company is successful, because employees who are paid in equity will benefit if the firm is successful. Employees of start-ups are known to work late hours, often from home. They may choose to do so because their efforts are tied to the employer's success. If employees were forced to account for their hours, any number of scenarios could arise that would have a negative impact on the tech start-up industry.

One benefit of paying employees in the form of equity is that doing so provides an incentive for increased productivity. Shifting away from a compensation method that encourages productivity is a large cost for a start-up (and for any business in general). In this case, the DOL's proposed overtime pay regulation would force employers to shift employees away from labor contracts that emphasize greater productivity and output. We believe start-ups will be among the most affected companies because (1) they place great emphasis on equity arrangements that provide incentives for productivity and company success and (2) they may not have access to the funds that will allow them to shift to a structure that relies on increased pay. Indeed, one reason they compensate employees with equity is lack of funding. Tech start-ups generally are unable to get bank loans because they lack standard collateral and do not have the typical loan evaluation characteristics. As a result, start-ups get their funds from investors, but the investor market is mostly a buyer's market. Raising funds is one of the biggest hurdles that start-ups face, especially if they do not have a group of venture capitalists investing in their product. Early start-ups tend to engage in continuous rounds of fundraising to stay afloat.

Although established companies have more flexibility in offering a variety of compensation packages, start-ups cannot easily increase salaries to move employees past the overtime pay threshold. The decision to increase an employee's salary past the threshold means that more time and resources will have to be diverted into fundraising and away from developing and launching the product or service.

We predict that the proposed regulation will harm the start-up industry at a time when it is fragile. The rate of new start-ups in this country is on the decline (Kauffman Foundation 2014). An article summarizing reports by the Kauffman Foundation and the Brookings Institute, using Census data, finds that the number of existing companies that are less than a year old declined as a share of all businesses by nearly 44 percent between 1978 and 2012 (Buchanan 2015). In the late 1970s, new firms made up approximately 16 percent of total firms. By 2011, the figure was down to 7 percent (Kauffman Foundation 2015). Decker et al. (2014) find that the pace of business dynamism has declined over recent decades and that an important aspect of this trend is a marked decline in the firm start-up rate, which the authors note naturally leads to a reduction in the number of young firms operating in the economy. Furthermore, business failings are increasing. Business deaths now outpace business births for the first time since 1970, when researchers started collecting such data (Harrison 2015). For tech start-ups, the failure rate is estimated to be 75 to 90 percent (Gage 2012; Carroll 2014; Revzin 2015).

With the decline of entrepreneurship in the United States and the high death rate of start-ups, policies such as DOL's overtime pay proposal could further harm a hampered industry. We found a rough estimate of the number of tech start-ups using 2010 data from Business Dynamics Statistics: there are an estimated 906,241 tech start-ups in the United States, employing a little

over 5 million people.²⁵ Salaries at tech start-ups range from \$42,000 to \$160,000, with the high end almost exclusively for software developers (AngelList). And almost all start-ups provide some form of equity compensation, with individual compensation ranging from a 0.06 to 1.5 share in the company (AngelList).

Start-ups face high legal expenses too for changes in employee classification, changes in pay based on valuation (employees' pay changes when a start-up's valuation changes because pay is tied to equity and stock options), and changes resulting from a host of other employee-related considerations. Lawyers who work with start-ups typically charge between \$350 and \$800 per hour, and legal costs for noncomplex matters, such as payroll and worker classification, are about \$5,000 a year.²⁶ Using the most conservative measure of a start-up company's compliance costs to adjust to the new regulation—one hour at \$350—we estimate this means that the total cost in the tech start-up industry would be at the least \$317 million. In a more realistic estimate, we assume that four hours in legal fees at \$575 per hour are necessary and obtain an estimate of approximately \$2 billion in legal fees for the tech start-up sector alone. At the higher end, assuming \$5,000 in legal fees a year to transition to compliance with the new regulation, we end up with close to \$4.5 billion in legal fees for the tech sector. Thus, compliance costs for the

²⁵ These data came from Business Dynamics Statistics from the US Census Bureau, <http://www.census.gov/ces/dataproducts/bds/>. The estimated breakdown of tech start-ups (using tech start-ups less than 10 years old and with fewer than 100 employees) was reported in Chresten Knaff, answer to “How Many Tech Startups Are There in the US and How Many People Do They Employ?,” *Quora*, August 2, 2012, <https://www.quora.com/How-many-tech-startups-are-there-in-the-US-and-how-many-people-do-they-employ>.

²⁶ The \$350–800 per hour number comes from an estimate in Thorman (2012). This range is similar to the numbers quoted in the *Quora* discussions on “What Are the Expected Costs of a Startup at the Angel and Series A Stages?,” <https://www.quora.com/What-are-the-expected-legal-costs-for-a-startup-at-the-angel-and-Series-A-stages>. We also investigated the websites of a number of start-up lawyers and confirmed that their stated per-hour legal fees fall approximately in that range. However, complex matters, such as transferring intellectual property to investors, can cost start-ups more than \$20,000 a year.

tech start-up industry as whole to adjust to the new regulation will range from \$317 million to \$4.5 billion.²⁷

Start-ups in the areas of consumer Internet, software applications, content organization, personal networking, service networking, and a variety of other industries besides finance and biotech find that it is relatively inexpensive to enter the market and see their products through to launch. The DOL's proposed change to the overtime pay regulation would affect start-ups by adding to their costs, especially their compliance costs. In addition, changes to labor contract structure would be problematic for the industry. Jobs in start-ups are almost exactly the opposite of the standard, hourly paid, nine-to-five job. And because many employees in start-ups are paid in equity, at least some base salaries tend to be much lower than they would otherwise be and would fall in the range of the proposed overtime pay rule. We predict that the proposed change would drastically alter start-ups and have a negative impact on the technology industry. This impact would be in addition to the \$317 million to \$4.5 billion in compliance costs necessary to make the transition.

The transition from different forms of labor contracts to hourly wage contracts would affect not only start-ups and the technology industry but also industries that compensate employees in the form of profit sharing, bonuses, commissions, and other methods. These employer-employee contracts are normally set up so that employers can tie employees' pay to their productivity and output. For tech start-ups and for companies in many other industries, if salaried employees become hourly wage employees, employers may react by cutting other forms of compensation and increasing salaries to move the affected employees past the new overtime

²⁷ There are start-ups that use in-house counsel, but this is rare for small start-ups. Our above estimate for the number of start-ups in the United States already excludes start-ups with more than 100 employees, which is where one would find a greater (yet still small) use of in-house counsel.

pay threshold. This change is not without costs, both monetary and otherwise. These other forms of compensation (profit sharing, bonuses, commissions) are preferred by the industries that use them because they tie total compensation to output.

Furthermore, the DOL has not provided an analysis of the proposed rule's impact on areas such as telecommuting. The DOL (2015, 38522) does acknowledge the problem:

Several employers expressed concern that employees who would become newly entitled to overtime under a higher salary level requirement would lose the flexibility they currently enjoy to work remotely on electronic devices because of employer concerns about overtime liability. Because this concern involves compensation for hours worked by overtime-protected employees, it is beyond the scope of this rulemaking.

The department mistakenly believes it should not evaluate this concern because the matter is out of its purview. But a full analysis of the proposed regulation would take into account any unintended consequences that may occur, including consequences that shift the structural nature of labor markets. In this case, the DOL's analysis is incomplete because the department chose not to investigate the impact of its proposal on telecommuting.

If employers are forced to record and measure employee hours, they will shift away from allowing employees to telecommute because the cost of monitoring hours for telecommuting is significantly higher, although not impossible given new technologies. The proposed regulation would create a scenario whereby telecommuters have an incentive to work overtime because they would get paid 1.5 times the regular rate and, knowing this, employers have an incentive to make sure employees do not work overtime. A mechanism will be needed by which the employer is able to track the work hours of employees such that the employer knows when an employee is working overtime. Showing up at work and clocking in is the mechanism by which employers normally track employees' hours. With telecommuting, it is difficult for an employer to track the number of hours worked. As a result, employers may require telecommuters to start

physically showing up for work so that they to track and monitor the number of hours these employees work.

For certain types of jobs, employers may be able to invest in new technologies that can track log-in times and activities of telecommuters. Telecommuting might still be possible, but it would be more costly because the employer would have to invest in a new recordkeeping system specifically for telecommuters. Furthermore, this type of system might be impossible for some types of jobs. An employee might log in to a system on a computer, but employers (or managers) might still lack the ability to monitor whether the employee was actually working when logged in. We are not claiming that instances of employee falsification of overtime would definitely happen. However, employees would have an incentive to falsify their overtime, and employers know this. The opportunities telecommuters have to falsify their overtime may cause employers to scale back on allowing employees to telecommute.²⁸ When hours are not tracked, telecommuting is a more realistic option because the employer merely cares about the finished product—the output—not the number of hours an employee worked.

In the United States, surveys show that about 3.7 million employees telecommute as a primary aspect of their job. About 50 percent of the employees in the US workforce have a job that is compatible with partial telecommuting, and 20–25 percent of the workforce telecommute with some frequency. The share of the non-self-employed population working regularly from home has grown by 103 percent since 2005, and studies show that employees are not at their

²⁸ One other unintended consequence of overtime pay regulation is ambiguity in what it means to check work email outside “work hours.” If an employee is checking and responding to work email from home, does that now count as working overtime? In response to problems associated with overtime in France, a number of labor unions in France told their employees to not check email after hours. It is unclear how the DOL intends to deal with this issue, especially given the fact that the department chose to not evaluate it in its reports.

desks 50–60 percent of the time (Global Workplace Analytics 2016). We predict that telecommuting will decline drastically as a result of the new overtime pay rule.

6. Conclusion

We believe the DOL’s economic analysis of the impact of overtime pay is deeply flawed and incomplete. The most fundamental problem with the mandate is twofold: it is premised on the illegitimate assumption that a reduction in affected salaried workers’ hours on the job does not diminish the value of these workers to their employers, and it assumes unjustifiably that a portion of work done by the affected salaried workers can be done effectively and at reasonable cost to employers by other workers who are not working overtime hours.

As a result, we cannot conclude that the DOL’s analysis is supported by economic theory. We find that there are strong theoretical reasons for believing that employers will cut base salaries in response to the new overtime pay regulation. If they do so, none of the policy objectives of the department will be met. Theoretical evidence also suggests that layoffs may occur and employees may be replaced with capital or with higher-skilled workers.

Furthermore, not only are there strong theoretical reasons to question the DOL’s analysis, but also there is empirical evidence that employers will cut base salaries in response to the new overtime pay regulation. We do not find strong empirical support that overtime pay regulation tends to increase employment. In fact, the empirical evidence indicates that instead of spreading employment, the regulation may lead to increased moonlighting.

Finally, the DOL has not fully evaluated the impact of its proposed regulation on the diversity of labor contracts in the United States. The proposed regulation would mean that many labor contracts negotiated on another basis would have to be turned into hourly contracts, which

are ill suited for a number of professions. We also believe the proposed regulation would have a negative impact on telecommuting and technology start-ups. In our most conservative estimate, we predict the proposed regulation will cost the tech start-up industry at least \$317 million in legal fees. In a more realistic estimate, it would cost the industry \$2 billion in legal fees. Given that the birth of start-ups is on the decline and the death of start-ups has reached a peak, we believe it would be unwise to further hamper the technology start-up sector. We urge that the DOL consider in full the implications of its proposed regulation. It does not make sense to turn all labor contracts for EAP jobs with salaries between \$23,660 and \$50,440 into hourly pay contracts. These changes would cause significant structural changes in the economy.

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