

EXPLORING THE LINK BETWEEN FOREIGN INVESTMENT AND DOMESTIC  
WAGE THEFT

By

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## ABSTRACT OF THE THESIS

### Exploring the Link Between Foreign Investment and Domestic Wage Theft

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Wage theft, or the deprivation of legally mandated wages by an employer (Bobo, 2012), continues to be a pervasive issue within today's workforce (Bernhardt et al., 2013; McNicholas et al., 2017; Weil, 2014). An emerging literature has attempted to estimate the incidence of wage theft in the U.S. and explain its prevalence (e.g., Bernhardt et al., 2009; Bernhardt et al., 2013; Ji & Weil, 2015). While scholars acknowledge the potential link between foreign investment and domestic wage theft (Bobo, 2012; Weil, 2014) and globalization has been linked empirically to individual perceptions of economic insecurity (Scheve & Slaughter, 2004) and domestic wage inequality (Keller & Olney, 2017), the relationship between foreign direct investment (FDI) by U.S. multinationals and domestic wage theft violations has yet to be empirically tested. Using 2009-16 data from the U.S. Bureau of Economic Analysis (BEA) and Current Population Survey Merged Outgoing Rotation Groups (CPS-MORG), this study uses a series of random-intercept logistic regression models to test the relationship between industry level of outward foreign direct investment (FDI) and minimum wage violation rates. The results

provide support for the negative relationship between industry level of outward FDI by U.S. multinationals and minimum wage violation rates across service industries; no significant relationship is found between outward FDI and minimum wage theft in goods-producing industries. Considerations for future research are discussed.

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## Introduction

Wage theft, defined as “when an employer violates the law and deprives a worker of legally mandated wages” (Bobo, 2012; 6), has become an accepted practice within many profit-seeking firms and pervasive in its varied forms within competitive industries. Nearly \$2 billion in stolen wages were recovered in 2015 and 2016 by the U.S. Department of Labor, state departments of labor and attorneys general, and class action settlements (McNicholas et al., 2017). Moreover, the academic literature on the poor state of labor policy enforcement within the United States suggests that recovered wages are just the “tip of the iceberg,” representing a small fraction of the billions in wages stolen from particularly low-wage and vulnerable workers each year (e.g., McNicholas et al., 2017; Fine & Gordon, 2012; Weil & Pyles, 2005). A 2008 survey of workers employed in low-wage industries found that 26% of respondents were paid less than the state-mandated minimum wage in the previous work week and 76% who worked more than 40 hours during the previous week were not paid the legally required overtime rate (Bernhardt et al., 2009).

The growing literature on wage theft attempts to explain its varied presence across firms and industries and identify the precursors of employer wage violations. The weakened state of federal and state enforcement agencies poses little consequence to employers who seek to cut costs on labor through the illegal deprivation of entitled compensation (Weil & Pyles, 2005; Fine & Gordon, 2012); states that implement strong penalties for wage theft violations have been shown to have fewer minimum wage violations (Galvin, 2016). The increasingly common practice by large employers of shifting risk and responsibility of labor to smaller, highly competitive contractors and

franchisees—known as the “fissuring” of the workplace—has also been linked empirically to heightened levels of minimum wage and overtime violations (Ji & Weil, 2015). The prevailing ideology of U.S. employers promoting a focus on short-term profit and expansion at all costs, as well as the decline of unions in recent decades, have further been suggested as important antecedents of widespread wage theft (Bobo, 2012).

The relationship between foreign direct investment by U.S. multinationals<sup>1</sup> and the violating tendencies of domestic employers has been suggested both directly (e.g., Bobo, 2012) and indirectly (e.g., Weil, 2014). Increased foreign investment by U.S. companies has been shown to contribute to both increased individual perceptions of economic insecurity (Scheve & Slaughter, 2004) and widening U.S. inequality (Keller & Olney, 2018). Little research, however, exists that attempts to empirically connect global integration with domestic wage theft incidence. This paper uses data from the U.S. Bureau of Economic Analysis (BEA) and Department of Labor’s Wage and Hour Division (WHD) to explore this relationship. Specifically, I seek to address the question: *How are outward foreign direct investment (FDI) and domestic minimum wage violations related across industries?*

Strategic choice theory suggests that employers in footloose industries will have greater opportunities to escape institutional pressures from the government through outsourcing; employers in more localized industries, being unable to escape these pressures, will be more likely to defy law as an alternative to saving on labor costs. This implies a negative relationship between outward foreign investment and minimum wage

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<sup>1</sup> Defined here as “investments in which the firm acquires a substantial controlling interest in a foreign firm or sets up a subsidiary in a foreign country” (Markusen, 1995; p. 170).



violation rate, leading to the first hypothesis. On the other hand, the economic and minimum wage noncompliance literature (e.g., Ashenfelter & Smith, 1979) suggests through the ideas of factor price equalization (Samuelson, 1948; Helpman, 1984; Freeman, 1995) and the rising elasticity of labor demand (Scheve & Slaughter, 2004) that industries with greater foreign investment will have higher levels of domestic minimum wage compliance, implying a negative relationship. These principles however are argued to apply more directly to industries with high proportions of so-called vertical FDI— involving the offshoring of portions of the production process to take advantage of foreign inputs—as opposed to horizontal FDI, or producing similar goods in geographically segregated markets (Caves, 1971). This theory ultimately leads to the second hypothesis that the negative relationship between industry outward FDI and minimum wage theft rate will be weaker across goods-producing industries where the principles of vertical FDI apply.

Using data from the Current Population Survey Merged Outgoing Rotation Groups (CPS-MORG) and Bureau of Economic Analysis (BEA) from 2009-16, I use a series of random-intercept logistic regression models to test the relationship between industry level of outward foreign direct investment (FDI) and minimum wage violation rates. In what follows, I review the relevant literature and hypotheses, followed by a description of my methods and results. The paper will end with a discussion of the results, limitations of the study, and avenues for future research.

A focus on minimum wage violations is warranted for several reasons. First, the deprivation of wages through failing to pay the mandated minimum wage is widespread. Over 2.4 million workers in the ten most populous states alone lose over \$8 billion

annually from minimum wage violations. The impact on individuals is significant; the average worker facing minimum wage violations is not paid 23.9% of earned wages (Cooper & Kroeger, 2017). Second, while it is difficult to gauge the incidence and impact of wage theft in its varied and complex forms, minimum wage violations can be estimated across states and industries using data from the Current Population Survey Merged Outgoing Rotation Groups (CPS-MORG). And finally, a developed theoretical literature exists on the predictors of minimum wage noncompliance by employers. I turn to a review of this body of work and the broader wage theft literature next.

## **Wage theft and FDI**

Broadly speaking, wage theft occurs when an employer fails to pay a worker wages they are legally or contractually entitled to (Bernhardt et al., 2009; Bobo, 2012). The complexities of federal, state and local legislation—along with the varied types of work and compensation arrangements individuals experience in the workplace today—have resulted in a number of potential forms of wage theft. Recent studies have suggested how pervasive the issue of wage theft is across the U.S. today. Workers in Chicago, Los Angeles and New York City lose nearly \$3 billion a year due to wage theft violations, with the average worker losing 15% of their earned income (Bernhardt et al., 2009). The results of this survey further suggest that minimum wage noncompliance is one of the most pervasive types of wage theft; over 1 in 4 workers were paid below the minimum wage in the week prior to the survey (Bernhardt et al., 2009). If this type of violation persists across the entirety of an individual's working hours, the impact on one's income can be substantial. Workers in the ten most populous states in the U.S. collectively lose over \$8 billion a year to minimum wage theft alone, nearly a quarter of the average worker's earned wages (Cooper & Kroeger, 2017). While state and federal enforcement bodies and private, civil litigation class action settlements together recovered \$2 billion in stolen wages for workers in 2015 and 2016 (McNicholas et al., 2017), the above estimates suggest that this constitutes only a small fraction of total wages stolen across the country each year.

The prevalence of wage theft across the country may be explained in part by current regulatory and economic trends. Perhaps the greatest contributor in this regard is the weak state of labor standards enforcement at both the federal and state levels. In

2014, the U.S. Wage and Hour Division (WHD)—tasked with administering and enforcing federal labor standards legislation such as the Fair Labor Standards Act, the Family and Medical Leave Act, and the Davis-Bacon Act, among other relevant laws—employed 1,132 inspectors; this translates to one inspector responsible for approximately 120,000 workers (Fine, 2017; Wage and Hour Division, 2014). It has been suggested that this ratio is even larger at the state level. A 2010 survey of state enforcement agencies found that 659.5 inspectors were employed by the 43 states (and District of Columbia) that answered the survey, with the average inspector in charge of representing roughly 146,000 workers (Schiller & DeCarlo, 2010).<sup>2</sup>

The weak state of the nation's labor standards inspectorate is due in large part to insufficient funding by federal and state governments; of the 45 states that passed new labor standards policies between 2012 and 2016, 27% received no additional funding for enforcement and 13% received \$50,000 or less (Fine, 2017). The resultant regulatory landscape in which employers operate today opens the door for employers to violate labor standards with little chance of repercussion. States with strong employment laws and sufficient enforcement mechanisms have been shown to have significantly lower rates of minimum wage violations, providing evidence for employers' response to increased potential costs of violating labor standards (Galvin, 2016). Several strategies have been proposed and implemented to increase the strength of enforcement given limited resources, such as strategic enforcement focusing on industries with high levels of labor standards violations (Weil & Pyles, 2005; Weil, 2018), as well as a co-enforcement

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<sup>2</sup> The survey also notably found that over half of U.S. states (26) employed fewer than 10 investigators (Schiller & DeCarlo, 2010).

system giving organizations such as unions and worker centers a formal role within the enforcement process (Fine & Gordon, 2010; Fine, 2017).

A discussion of wage theft and enforcement strategies is incomplete without discussing why employers do or do not comply with such laws in the first place. Those that do choose to comply may do so on a moral basis or due to normative pressures from outside actors (Kagan et al., 2003; Kagan et al., 2011; DiMaggio & Powell, 1983). Some employers may not willingly violate regulations such as the minimum wage, but rather may not have received the proper information and outreach when the regulations were enacted (Ayres & Braithwaite, 1992; Weil, 2018). Employers that choose to evade labor standards in violation of federal, state or local law may do so for different reasons. Some may see government regulation as overly burdensome and unfair, an “onerous ogre” that does not provide any real benefit to the organization (Weil, 1996). Others may not comply due to perceptions of enforcement regimes as “toothless tigers,” choosing to run the risk of prosecution and punishment in their pursuit of profit-maximization (Weil, 1996).

According to the economic theory of crime and punishment, in a regulatory landscape where enforcement agencies are defined by their limited resources and reactive strategies—as is largely the case today—the “risk” of detection and prosecution in the eye of the employer may not be much of a risk at all. The economic analysis of crime and punishment began with Gary Becker’s seminal 1968 article in the *Journal of Political Economy* exploring both the determinants and ideal strategies of enforcement for various forms of legislation. Becker derives a model of optimal enforcement based on a function of five key determinants of the costs of enforcement, including the social costs of crimes;

the costs associated with apprehension and conviction; the supply of offenses; the type of punishment (i.e., fines versus imprisonment); and the “private expenditures on protection and apprehension” (Becker, 1968; p. 172).

While Becker is able to derive a number of important propositions related to optimal enforcement strategies from his model, two are particularly of note. The first—and perhaps most critical to the development of the literature on the economics of enforcement moving forward—is related to the individual determination of participation in criminal activity. According to Becker:

The approach taken here follows the economists’ usual analysis of choice and assumes that a person commits an offense if the expected utility to him exceeds the utility he could get by using his time and other resources at other activities . . . this approach implies that there is a function relating the number of offenses by any person to his probability of conviction, to his punishment if convicted, and to other variables, such as the income available to him in legal and other illegal activities, the frequency of nuisance arrests, and his willingness to commit an illegal act (Becker, 1968; p. 176-7).

Put simply, Becker proposes that one’s decision to commit a crime is a function of the potential benefits to the offender of committing a crime, the potential costs associated with the possibility of being convicted of said crime, and one’s potential utility from other activities (Becker, 1968). The application of economic analysis in modeling these individual behaviors further allows for the determination of more nuanced predictions related to why crimes are committed and how enforcement bodies may best be able to subdue this type of behavior. For example, Ehrlich (1973) builds on Becker’s model of criminal behavior to account for individuals’ preference for risk, concluding that,

Assuming that the opportunities available to offenders were independent of their attitudes toward risk, it can . . . be shown that a risk-neutral offender will spend more

time in illegitimate activity relative to a risk avoider, and a risk preferrer will spend more time there relative to both. Moreover . . . offenders who are risk preferrers would necessarily specialize in illegitimate activity . . . In contrast, offenders who are risk avoiders are likely to combine a relatively safe legitimate activity with their illegitimate activity to hedge against the relatively greater risk involved in a full-time pursuit of the latter. Whether offenders are likely to specialize illegitimate activity thus becomes an aspect of their attitudes toward risk, as well as their relative opportunities in alternative legitimate and illegitimate activities (Ehrlich, 1973; p. 528).

The limited extant research that seeks to identify predictors of wage theft has identified significant differences in violation rates based on individual-, job-, and industry-level characteristics. For individual-level predictors, young workers face higher rates of minimum wage violations than older and mid-career workers (Bernhardt et al., 2009; Eastern Research Group, Inc., 2014). Female workers and less educated workers face higher rates of both minimum wage (Bernhardt et al., 2009; Eastern Research Group, Inc., 2014) and overtime violations (Bernhardt et al., 2009); it should be noted, however, that the relationship of both gender and educational attainment to total wage theft violations has been shown to be insignificant when using regression analysis to control for other individual, job, and industry characteristics (Bernhardt et al., 2013). While minorities have previously been suggested to face higher levels of minimum wage theft (Bernhardt et al., 2009), recent research does not find a significant relationship between race/ethnicity and wage theft violations (Bernhardt et al., 2013; Eastern Research Group, Inc., 2014). Both non-citizens and unauthorized immigrants face significantly higher levels of wage theft than native-born workers (Bernhardt et al., 2009; Bernhardt et al., 2013; Eastern Research Group, Inc., 2014).

Although a portion of these differences may be attributed to employer discrimination, these findings can be discussed in relation to the economic theory of

crime and punishment. Undocumented workers are unlikely to report wage and hour violations due to the fear that their legal status will be uncovered if interacting with a domestic governing body and may lead to their deportation (Fine, 2006). Those without knowledge of the appropriate laws are similarly unlikely to submit complaints, as they generally will be unaware of violations taking place in the first place. When the majority of agency inspections are catalyzed by worker complaints, hiring workers who are unlikely to complain when experiencing violations will drastically decrease the probability of non-complying employers being caught breaking the law, and therefore will decrease the potential costs of noncompliance as suggested by the models developed by Becker (1968), Ehrlich (1973), and the like.

Several employer characteristics have been empirically linked to wage and hour law noncompliance. For example, employer size has been found to be positively related to compliance both within (e.g., Weil, 2005) and across industries (e.g., Bernhardt et al., 2013). Industry variance in wage and hour compliance can be tied in part to industrial composition in regard to the individual and employer characteristics identified as significant predictors of noncompliance. It has been suggested that, while worker characteristics play a notable role, job and employer characteristics such as those mentioned above play a more important part in assessing inter-industry violation rates (Bernhardt et al., 2013). The probability of compliance with overtime pay regulations has been shown to be significantly higher in industries that are heavily concentrated among fewer, larger employers than those that are more decentralized (Ehrenberg & Schumann, 1982), lending support to the conclusion that compliance varies positively with firm size (Weil, 2005; Bernhardt et al., 2013).



The prevalence of wage theft across the U.S. has also been linked to broader shifts in business organization and ideology. The push in recent decades towards neoliberalist deregulation of firms and increased focus on short-term profit strategies—coupled with the steady decline of unions as a source of accountability within the workplace—have together created an economy where the fulfilment of employer interests may come at the expense of worker security and well-being (Bobo, 2012; Weil, 2014). An example of this phenomenon can be seen through David Weil’s discussion of the fissured workplace (Weil, 2014). The acceleration of the above trends in the 1980’s prompted an ideological shift among employers in many sectors of the economy toward a focus on the firm’s core competencies, and subsequently toward the shifting of “peripheral” or “non-essential” work to an increasingly complex network of contractors and subcontractors. This shifting of the risk and responsibility of supplying low-wage work has in turn created highly competitive markets where employers operate on small profit margins and have few barriers to entry. As labor costs constitute a high percentage of these subcontractors’ operating costs, compensating workers at levels below that which is mandated has become a common practice in many sectors for getting ahead of the competition (Weil, 2014; Weil, 2005; Weil & Mallo, 2007; Goldschmidt & Schmieder, 2017).

The effects of the fissuring workplace on workers’ wages and employer labor standards compliance have been documented. To the former, wages in domestically outsourced jobs have been shown to fall 10-15% below similar jobs that are not outsourced (Goldschmidt & Schmieder, 2017). To the latter, franchised establishments have been empirically shown to have far higher levels of labor standards noncompliance than comparable company-owned establishments (Ji & Weil, 2015). Innovative

regulatory strategies involving the monitoring of subcontractors by the higher-level companies they work for in partnership with government enforcement bodies have been shown to decrease instances of minimum wage noncompliance, suggesting the need for private monitoring in addition to public enforcement to control the effects of the fissuring workplace on wage theft (Weil, 2005; Weil & Mallo, 2007).

The current paper seeks to explore how another consequential trend within the economy through foreign investment and outsourcing of production plays a role in predicting domestic incidence of wage theft across industries. Scholars have both directly and indirectly acknowledged the potential link between globalization and wage theft:

Even though wage theft existed before the dramatic expansion of globalization, it has exacerbated wage theft problems as companies are allowed to move more of their work around the world searching for low wages and lax or nonexistent worker protections (Bobo, 2012; p. 57).

Even fervent adherents of the classical gains from trade view accept that there may be deleterious distributional impacts from offshoring: the economy can benefit overall, even though certain groups are adversely affected (sometimes severely) by it in the form of lost jobs and earnings (Weil, 2014; p. 171).

Increased foreign direct investment by U.S. multinationals has further been linked to outcomes tangential to wage theft. Industry levels of outward foreign direct investment have been linked to decreasing global wages (Helpman, 1984; Obstfeld, 1998) and increasing domestic labor elasticities (Slaughter, 2001; Senses, 2010). Recent research suggests that increased foreign capital expenditures by U.S. companies has increased U.S. economic inequality (Keller & Olney, 2017). Increased FDI activity has further been linked to enhanced individual perceptions of economic insecurity across industries (Scheve & Slaughter, 2004).

Employers in diverse industries may differ in how they choose to invest in foreign markets based on the types of competitive advantages they are able to derive from the investment. The vast majority of foreign direct investment either comes through *horizontal FDI*, producing similar goods in new markets, or *vertical FDI*, “adding a stage in the production process that comes earlier or later than the firm’s principal processing activity” (Caves, 1971; p. 3). Empirical work has largely supported the notion that horizontal FDI to expand into foreign markets today makes up a much larger percentage of total U.S. outward FDI than vertical FDI to take advantage of dissimilar factor endowments (Ramondo et al., 2011; Brainard, 1993; Markusen, 1995).

Inter-industry differentials in foreign investment levels have been linked to several other predictors. For example, industries defined by greater levels of product differentiation have greater rates of foreign subsidiary ownership (Caves, 1971). Increased levels of product differentiation has been linked to industries with greater levels of fissuring employers (Weil, 2011), shown in the discussion above to be an important factor in predicting wage theft. Particularly in industries with higher levels of vertical FDI, increased levels of market concentration can create a unique incentive to invest in foreign markets to control vital resources and subsequently restrict entry into the market (Caves, 1971). Highly concentrated industries with high barriers of entry have also been suggested to have higher levels of wage and hour law compliance due to the heightened probability of inspection and detection (Weil, 2005; Ashenfelter & Smith, 1979). Industries where firm-specific knowledge capital is particularly important in developing competitive advantage and maximizing profits have further been suggested to increasingly invest in foreign markets (Markusen, 1995).

Below, I begin by arguing that wage theft will be increasingly seen by profit-maximizing employers as an alternative to saving on labor costs if unable or unwilling to offshore; moreover, firms in more domestic industries may face fewer potential social costs in the event of detection and prosecution. These two arguments together lead to the hypothesis that, across all industries, level of outward FDI will be negatively related to minimum wage noncompliance. I then incorporate the model of minimum wage noncompliance developed by Ashenfelter and Smith (1979) to propose that the economic effects of foreign investment within industries high in vertical FDI levels (i.e., goods-producing industries) will cause the negative relationship between industry outward FDI and minimum wage noncompliance to be weaker across goods-producing industries.

## **The role of institutional pressures**

Child (1972) was the first to explicitly develop the theoretical framework outlining the role of strategic action by an organization's "dominant coalition" (Cyert & March, 1963) in determining the organization's overall strategy and effectiveness:

In this theoretical model, the exercise of strategic choice by the dominant coalition refers to a process the first stage of which is the coalition members' evaluation of their organization's position . . . Their prior ideology is assumed to colour this evaluation in some degree. The choice of goals or objectives for the organization is seen to follow on from this evaluation, and to be reflected in the strategic action which is decided upon. With respect to external variables, strategic action may include a move into or out of given markets or areas of activity in order to try and secure a favourable demand or response that will be expressed by a high valuation of the organization's products or services (Child, 1972; p. 17).

Put simply, the basis of strategic choice theory is the acknowledgment that a complete focus on environmental determinism in studying organizational change is inherently insufficient. The ability of those holding decision-making powers within organizations to consider alternatives for responding to a given stimulus based on underlying organizational goals will likely lead to a heterogeneous set of responses across similar organizations, outside of what traditional economic principles may predict (Child, 1972; Oliver, 1991; Child, 1997; Kochan et al., 1984).

In this light, it may be insufficient to conclude that organizations will respond to global economic trends in similar ways across industries. Individual firms' lack of bargaining power with the government agencies setting minimum wage rates leaves three possible responses to rising wage levels; the firm may choose to comply with the legislation and pay workers the required rate; it may choose to defy legislation and ignore its mandate, leading to wage theft; or, if possible, it may choose to avoid the necessity to

comply with the legislation through escaping the institutional pressure altogether (Oliver, 1991; Boddewyn & Brewer, 1994; Hirschman, 1970). The process of escaping institutional pressures can be achieved through both domestic outsourcing of low-wage work to other employers as seen through the phenomenon of the fissured workplace (Weil, 2014), or through offshoring production by investing in foreign markets where institutional constraints are often minimal (Witt & Lewin, 2007; Boddewyn & Brewer, 1994). This would imply that, in industries with higher levels of outward FDI, profit-maximizing firms seeking to reduce labor costs are more likely to have alternative ways of doing so rather than violating domestic wage and hour laws, such as minimum wage.

It may further be argued that firms in more globally integrated industries will be more likely to comply with wage and hour laws due to inflated legitimacy costs that come with the firm's international exposure (Fombrun & Shanley, 1990; Roberts & Dowling, 2002). The importance of maintaining a sense of "moral legitimacy" (Suchman, 1995) arises at least in part from institutional isomorphic pressures within organizational and institutional fields in the face of external pressures (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Dowling & Pfeffer, 1975). The pressures that come with high-stake reputations have been referred to as *social license pressures*, or "the pressures for responsible environmental performance that [managers feel] from neighbors, employees, community groups, the news media and environmental advocacy groups" (Kagan et al., 2011; p. 43). Employers in footloose industries may in this light be seen as increasingly vulnerable to these so-called social license pressures (Kagan et al., 2003; Mehta and Hawkins, 1998). That is, bad press and increasing external pressure stemming from regulatory prosecution may "trigger significant consumer defection, costly class

action lawsuits, the promulgation of much more stringent regulations or declines in the corporate violator's stock price" (Karpoff et al., 2005; Kagan et al., 2011, p. 42-43). In order to mitigate chances of these types of reputational damage, employers in industries with high levels of foreign investment will likely be less inclined to choose the defiance of regulatory norms within domestic operations in the face of pressure to maximize profit and decrease labor costs.

This idea has been similarly applied to varying responses to institutional pressures between large and small firms due to differing levels of potential legitimacy costs. Similarly to level of industry foreign investment, larger firms will have greater exposure in the face of prosecution and therefore will show higher rates of compliance. Employers with over 100 employees have been shown to have two-thirds the wage theft rates of smaller employers (Bernhardt et al., 2013). Reputation is key for firms that are large, widespread, and globally integrated (Roberts & Dowling, 2002; Fombrun & Shanley, 1990).

Firms seeking to increase their profitability through decreased labor costs may not have the ability or willingness to shift to overseas production. The cost of investing in foreign markets can be substantial, likely requiring further investment in long-term assets (e.g., plant, property, and equipment), transportation costs, training, and the like (Helpman, 1984). However, in the U.S. where enforcement of wage and hour laws is weak and potential penalties are small, the costs of stealing wages from workers in domestic operations may be seen as minimal, particularly compared to those associated with offshoring. Returning to the three potential strategic responses by firms noted above, if the firm is unwilling to comply with minimum wage laws given the profit motive but

unable or unwilling to outsource, the firm may be increasingly likely to defy minimum wage laws and commit wage theft. A reconceptualization of Becker (1968)'s theory of regulatory compliance using this line of theory may suggest that the benefits of stealing wages in the U.S. outweighs the costs of offshoring, leading employers to choose the former.

In sum, considering the agency of organizational decision-makers in this case suggests that employers operating in footloose industries will have lower rates of domestic wage theft. Firms operating in industries with high levels of outward foreign investment will have greater options for responding to minimum wage increases through offshoring and face greater potential social costs in the event of detection:

*Hypothesis 1: Industry level of outward foreign direct investment (FDI) is negatively related to domestic minimum wage violations across industries.*



### **The moderating role of vertical v. horizontal FDI**

Scholars have further linked minimum wage noncompliance to more macroeconomic trends. Ashenfelter & Smith (1979) laid the groundwork for this stream of research with their development of a profit-maximizing model of firm minimum wage compliance, finding that a firm's incentive to comply is lower “(a) the lower is the market wage below the minimum wage, and (b) the larger is the elasticity of demand for labor (in absolute value)” (Ashenfelter & Smith, 1979; p. 336). Moreover, Weil (2005) notes that Ashenfelter & Smith's model implies that incentive to comply with minimum wage laws will be lower the lower the probability of detection by enforcement bodies—in this case, the federal and state departments of labor—due to relevant characteristics of an employer's business model (Weil, 2005).

Although the authors seemingly do not derive their model from Becker's initial theory discussed above, the link to his cost-benefit analysis can certainly be made. The lower the market wage for a given occupation or industry is below the mandated minimum wage, the greater potential profit a firm can make from evading regulation and choosing instead to pay the market wage, and thus the incentive to break the law is increased. Moreover, increased elasticity of labor demand may lead to noncompliance for several reasons, including a decreased willingness to pay workers above the market rate due to greater potential substitutability of other factors of production for labor, and greater potential cost benefits of noncompliance compared to overall firm expenditures if labor makes up a large portion of the firm's costs. The third point on probability of detection of noncompliance relates directly to Becker's idea that a violator's perceived potential costs is equal to the product of one's potential for detection and the cost of the

potential punishment (Becker, 1968). The more easily a firm can operate without the threat of agency inspection or monitoring, the smaller the potential costs to the firm; thus, the incentive of noncompliance is increased (Ashenfelter & Smith, 1979).

Chang and Ehrlich (1985) develop a model with a more rigorous methodology better reflecting a normative understanding of enforcement than Ashenfelter and Smith (1979) to develop a number of propositions. Among them, the authors find similarly to Ashenfelter and Smith (1979) that, “If positive, the incentive for compliance is lower the lower the market wage below the minimum, regardless of the penalty structure” (Chang & Ehrlich, 1985; p. 85). Perhaps most importantly, however, the authors conclude that ordering convicted employers to pay only a fraction of the total wages owed “cannot constitute an effective deterrent on profit-maximizing firms” (Chang & Ehrlich, 1985; p. 85). Other studies have likewise concluded that this type of enforcement strategy is inadequate in sufficiently compelling violating employers to comply with minimum wage laws (e.g., Ashenfelter & Smith, 1979; Sellekaerts & Welch, 1983), as well as other provisions of the Fair Labor Standards Act (FLSA) such as overtime pay provisions (Ehrenberg & Schumann, 1982).

Below, I argue that the findings of Ashenfelter & Smith (1979) and Chang & Ehrlich (1985) suggest that macroeconomic trends related to foreign investment such as factor price equalization (Samuelson, 1948; Mundell, 1957; Obstfeld, 1998) and the rising elasticity of labor demand (Scheve & Slaughter, 2004) may in fact have a dampening effect on the proposed negative relationship between industry outward FDI and minimum wage violation rates. However, these effects are argued to be more

applicable to industries with higher percentages of vertical FDI such as goods-producing industries, thus playing a moderating role.

### ***Factor price equalization***

The concept of factor price equalization is derived within the international trade literature from the classic Heckscher-Ohlin (H-O) model. Building on the Ricardian concept of comparative advantage, the H-O model suggests that states will tend to export goods created using factor inputs that are cheap and abundant within the state, and will likewise import those made from scarce, relatively expensive inputs (Ohlin, 1933). The model further implies that, due to this process within international trade, the price of factors will tend to become more equal across states regardless of endowment.

Samuelson (1948) builds on the H-O model to make the claim that rather than partial factor price equalization across countries, “so long as there is partial specialisation, with each country producing something of both goods, factor prices will be equalised, absolutely and relatively, by free international trade” (Samuelson, 1948; p. 169). This logic can be extended to the price of labor within industries; Within a system of free international trade, the global price for labor in the production of a particular good will move toward a state of equilibrium across producing countries.

While the original model deals specifically with international trade, the derived theory of factor price equalization has also been successfully applied to international capital movements (Mundell, 1957; Obstfeld, 1998). Maurice Obstfeld sums this up:

According to the usual Heckscher-Ohlin reasoning, increased trade between high-wage United States and low-wage Mexico has a depressing effect on the wages of low-skilled American workers, who must find new jobs in sectors that previously had employed relatively few of them. Consider the effects, however, when a General

Motors plant moves south of the border to avail itself of cheaper Mexican labor. Since there is now less capital in the United States relative to the supply of workers, wages will need to fall to restore full employment in the United States, while wages will rise in Mexico. Bottom line: low-wage Americans are threatened both by importing the goods low-wage foreign workers produce, and also by equipping foreign workers with exported U.S. capital (Obstfeld, 1998; p. 21).

According to this logic, the availability of cheap labor in developing countries will incentivize firms in developed countries such as the U.S. to move production abroad if they have the ability (Helpman, 1984; Helpman, 2006). In support of this phenomenon, the demand for imported intermediate inputs—indicative of offshore production—has been shown to be higher the lower wages are for less-skilled labor in host countries (Hanson et al., 2005). The process of factor price equalization will thus cause the global market wage for labor producing similar goods to fall below what is commanded in developed countries in industries where cheap foreign labor can be utilized. As mentioned, the minimum wage compliance literature finds that employer incentive to comply will be lower the lower the market wage is as compared to the mandated minimum wage (Ashenfelter & Smith, 1979; Chang & Ehrlich, 1985). According to this logic, increasing investment in foreign markets will increase the probability that the global market wage commanded for labor within an industry will fall below that of the minimum wage, and therefore will lead to greater domestic minimum wage violations by employers within the industry.

***Elasticity of demand for labor: The substitution effect***

The minimum wage compliance literature further argues that employer incentive to comply with minimum wage laws will be lower the greater the elasticity of demand for

labor (Ashenfelter & Smith, 1979; Chang & Ehrlich, 1985). A potential mechanism through which investment in foreign markets may affect wage theft within industries is the increasing of domestic labor-market elasticity (Scheve & Slaughter, 2004). When a multinational firm invests in foreign markets, the availability of foreign factors of production—“either directly through foreign affiliates or indirectly through intermediate inputs”—increases the firm’s options for responding to changes in the price of labor within the home country (Scheve & Slaughter, 2004; p. 664). Through this process, firms are able to substitute foreign factors of production in the event of an increase in domestic labor prices, rather than being limited to domestic non-labor substitutes such as technological investments. Increases in foreign investment within industries thus can be argued to increase the elasticity of demand for labor within the industry as the availability of substitutes is expanded (Scheve & Slaughter, 2004).

The relationship between foreign investment and labor demand elasticity has been supported in empirical literature. The elasticity of demand for U.S. production labor in manufacturing has been found to be positively and strongly correlated with levels of outward FDI by U.S.-based companies (Slaughter, 2001), both in the short- and long-term (Senses, 2010). Increasing presence of multinational firms have also been shown to raise labor demand elasticities specifically of low-skilled labor across U.K and U.S. manufacturing industries (Fabbri et al., 2003). Extending specifically to wage theft, product market factors related to rising labor demand elasticity—such as lower skill requirements—have been shown to be positively correlated with minimum wage noncompliance (Weil, 2005).

These findings further suggest the link between industry FDI and minimum wage noncompliance. The link between increasing elasticity of demand for labor and minimum wage noncompliance has been acknowledged both through theoretical development (e.g., Ashenfelter & Smith, 1979) and empirical study (Weil, 2005). The relationship between increased international economic integration and individual economic insecurity via the substitution effect of foreign factors of production clearly models how FDI increases the elasticity of domestic labor demand (Scheve & Slaughter, 2004). Thus, through this mechanism, rising industry FDI will lead to decreased minimum wage compliance within said industry. Together with the reviewed concept of factor price equalization and its depressing effects on the global market wage, it may be argued that increased foreign investment by U.S. multinationals satisfies both conditions for increased minimum wage noncompliance developed by Ashenfelter & Smith (1979).

In light of this, the above theoretical development may be argued to apply more directly to vertical foreign direct investment—involving the offshoring of particular processes within the production process to take advantage of foreign inputs—than to horizontal FDI, or producing similar goods in geographically segregated markets (Caves, 1971). The Heckscher-Ohlin model described above directly implies the separation of factor inputs within the production process in order to maximize efficiency given each state's comparative advantages and resources. While this maps on directly to that of offshoring production processes, the duplication of production processes within new and emerging markets implies the creation of entirely new production mechanisms within the new location; outputs are expected to be sold within the state, rather than shipped to the parent or to other intermediate input stages as in vertical arrangements. In other words,

while this type of foreign direct investment involves the utilization of foreign labor, it is not for the direct purpose of minimizing labor costs within the production process, but for the creation of new profit opportunities through expansion into new markets (Carr et al., 2001). As some scholars have suggested that the majority of outputs of foreign production by U.S. multinationals is sold in the foreign country (Markusen, 1995; Brainard, 1993), the potential differential effects of horizontal and vertical FDI on domestic incidence of wage theft should be considered further.

The process of offshoring production processes that the principles of vertical FDI and factor price equalization are built on is inherently specific to goods-producing industries (Freeman, 1995; Yeaple, 2003); in other words, workers in foreign affiliates operating within service industries do not participate in the production of intermediate inputs but rather service the local or regional market. For these reasons, the dampening effect of the discussed economic trends on the negative relationship between outward FDI and minimum wage violation rates will apply more directly to goods-producing industries than service industries:

*Hypothesis 2: The negative relationship between Industry level of outward foreign direct investment (FDI) and domestic minimum wage violations across industries will be moderated by industry type, such that the relationship will be stronger in service industries than good-producing industries.*

## Methods

Wage theft estimates were obtained using data from the 2009 to 2016 Current Population Survey Merged Outgoing Rotation Groups (CPS-MORG). To determine the presence of a wage theft violation, reported weekly earnings were divided by reported usual weekly hours worked. If the calculated hourly wage was lower than the applicable state minimum wage at the time the data was collected, a minimum wage violation occurred.<sup>3</sup> The sample was restricted to the non-exempt workforce under the minimum wage law as part of the Fair Labor Standards Act (FLSA), leaving a total sample size of  $N=719,814$ . While states may have additional exemptions under their own minimum wage legislation, these deviations are generally minimal and thus the federal exemptions were used for simplicity. To control for extreme values due to the household nature of the survey, the top- and bottom-1% of respondents were dropped for both weekly earnings and hours worked.<sup>4</sup>

Data from the U.S. Bureau of Economic Analysis (BEA) was used to assess industry level of outward foreign direct investment (FDI). Level of outward FDI was calculated as the total employment of majority-owned U.S. foreign affiliates (MOFA) divided by the total domestic U.S. employment per industry. After cleaning the data and comparing available industry-level data for both the CPS-MORG and BEA data, a total of 49 industry groups were included within the analysis.

A multilevel, random-intercept logistic regression model series was used to assess whether outward FDI by industry predicts minimum wage violations, with respondents

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<sup>3</sup> This method for calculating minimum wage violations has been used widely in prior studies (e.g., Ashenfelter & Smith, 1979; Galvin, 2016).

<sup>4</sup> The results were not significantly different than when keeping the extreme values within the sample.



clustered by industry group. A number of individual-, job-, and industry-level characteristics previously linked to wage theft in past research were controlled for, including type of industry (i.e., service- v. goods-producing); age; sex; race and ethnicity; citizenship status; educational attainment; and whether the job was full- or part-time. Several state-level variables were also controlled for in the final model, including a dummy variable for if the applicable state minimum wage rate was higher than the federal rate; annual state unemployment rate; annual state GINI index; and the strength of state wage and hour laws, using Galvin (2016)'s 2013 state employment law scores.

## Results

*Figure 1. Outward FDI versus minimum wage violation rate by industry group*

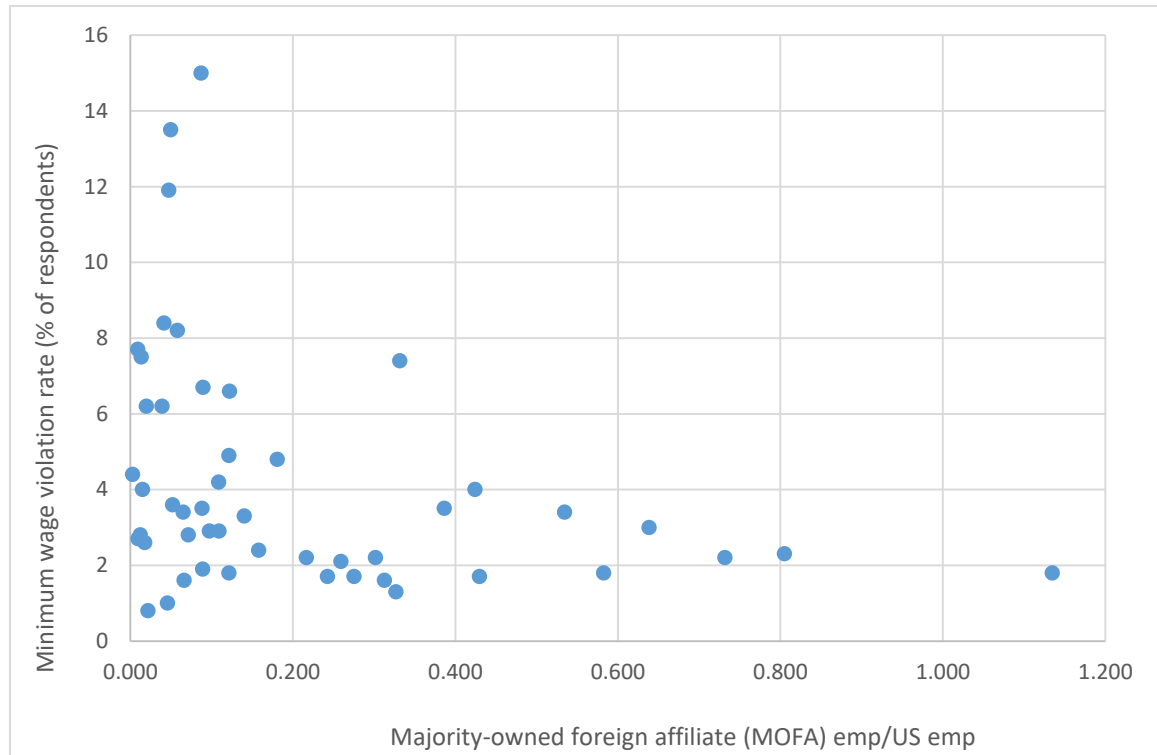


Figure 1 plots each of the 49 industry groups by outward FDI—measured as the ratio of MOFA employment to U.S. employment—and industry minimum wage violation rate. As can be seen, the distribution of industry groups by outward FDI measurement on the x-axis is skewed notably to the right, with 32 of the 49 groups having an outward FDI value of lower than 0.2. In other words, across roughly two-thirds of industry groups, less than 1 worker was employed in majority-owned foreign affiliates abroad for every 5 domestic employees working within the industry. The median and mean values of outward FDI across all industries were 0.108 and 0.206, respectively. It should be noted that the average outward FDI ratio for goods-producing industries (0.325) was more than double that of service industries (0.146), suggesting that employment in goods-producing

foreign affiliates of U.S. multinationals is notably higher than that of service-providing foreign affiliates as compared to domestic employment within industries.

Results of the regression models predicting minimum wage violations is shown in Figure 2.<sup>5</sup> The results across models provide support for hypothesis 1, with outward FDI shown to be significantly negatively related to minimum wage violation rates across models.

According to model 1, when no controls are included, there is a significant positive relationship between outward FDI and minimum wage compliance, such that a 1% increase in the MOFA employment to US employment ratio decreases the odds of a minimum wage violation by 0.6% ( $p=0.049$ ).

When adding industry unemployment rate and job characteristics in model 2, the results for outward FDI remained largely the same, with a 1% increase in the MOFA employment to US employment ratio decreasing the odds of a minimum wage violation by 0.5% ( $p=0.047$ ). Industry unemployment rate was positively related to minimum wage violation rate, such that a 1% increase in the unemployment rate increased the odds of a minimum wage violation occurring by 10.3% ( $p=0.003$ ). Part time workers have well over double the odds of full-time workers of facing a minimum wage violation. Interestingly, while those with no union coverage did not have significantly different odds of facing minimum wage violations, those with missing union coverage data had significantly lower odds of facing a violation than those with union coverage.

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<sup>5</sup> All relationships are significant at the  $p=0.001$  level unless otherwise noted.

After adding several state-level variables in model 3, the relationship between outward FDI and wage violations got slightly stronger such that a 1% increase in the MOFA employment to US employment ratio decreased the odds of a minimum wage violation by 1%. Those operating in states with a mandated minimum wage rate higher than the applicable federal rate had 70.3% higher odds of facing a minimum wage violation. The results further support the conclusions of Galvin (2016), showing a significant negative relationship between the strength of state employment laws and minimum wage violation incidence.

*Figure 2. Random-intercept logistic regression models predicting minimum wage violations*

|   | Model 1  | Model 2  | Model 3  | Model 4  |
|---|----------|----------|----------|----------|
| Dummy for MW Violation                        |          |          |          |          |
| Outward FDI                                   | 0.994*   | 0.995*   | 0.990*** | 0.991*** |
| Industry Unemp. Rate                          |          | 1.103**  | 1.104**  | 1.059*   |
| Part-time                                     |          | 2.255*** | 2.255*** | 1.847*** |
| Union coverage (ref=yes)                      |          |          |          |          |
| No  |          | 1.078    | 1.093    | 1.066    |
| Unknown                                       |          | 0.682*** | 0.658*** | 0.690*** |
| Higher MW than Fed.                           |          |          | 1.703*** | 1.726*** |
| Emp. Law Index (Galvin 2016)                  |          |          | 0.454*** | 0.439*** |
| Age (ref=16-24)                               |          |          |          |          |
| 25-44   |          |          |          | 0.518*** |
| 45-64   |          |          |          | 0.499*** |
| 65 and over                                   |          |          |          | 0.782*** |
| Female  |          |          |          | 1.362*** |
| Race/ethnicity (ref=white)                    |          |          |          |          |
| Black   |          |          |          | 1.496*** |
| Hispanic                                      |          |          |          | 1.195*** |
| Asian   |          |          |          | 1.196*** |
| Citizenship/nativity status (ref=native-born) |          |          |          |          |
| Foreign-born (U.S. Citizen)                   |          |          |          | 1.119*** |
| Foreign-born (non-U.S. Citizen)               |          |          |          | 1.392*** |
| Educational attainment (ref=less than HS)     |          |          |          |          |
| HS diploma/some college                       |          |          |          | 0.614*** |
| College degree                                |          |          |          | 0.417*** |
| lnsig2u                                       | 0.399*** | 0.240*** | 0.216*** | 0.148*** |
| N   | 687231   | 687231   | 687231   | 687231   |
| p   | 0.0494   | 0        | 0        | 0        |

Exponentiated coefficients; t statistics in parentheses

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Model 4 added individual-level characteristics. The relationship between outward FDI and minimum wage violations remained significant and similar to that of model 3. Young workers have the highest odds of facing a minimum wage violation, although workers past retirement-age faced notably higher odds of a violation than mid-career workers. Females have 36.2% higher odds of facing a minimum wage violation than males, and all racial/ethnic minority groups included within the model faced higher odds of experiencing a minimum wage violation than those who are White. Those who were foreign-born U.S. citizens and foreign-born non-citizens had 11.9% and 39.2% higher odds, respectively, of facing a minimum wage violation than native-born workers. Educational attainment was negatively related to minimum wage incidence, such that those with a high school diploma/some college or a college degree had 38.6% and 58.3% lower odds, respectively, of experiencing a minimum wage violation than those with less than a high school diploma.

To test the second hypothesis, the model series in figures 3 and 4 limit the sample to those working in goods-producing and service industries, respectively. The relationship between outward FDI level and minimum wage violation rates in goods-producing industries is insignificant across all models. The negative relationship between outward FDI and minimum wage noncompliance across service industries in figure 4 holds in models 3 and 4, lending preliminary support to hypothesis 2.

*Figure 3. Random-intercept logistic regression models predicting minimum wage violations (goods-producing industries)*

|   | Model 1  | Model 2   | Model 3   | Model 4  |
|---|----------|-----------|-----------|----------|
| Dummy for MW Violation                        |          |           |           |          |
| Outward FDI                                   | 0.998    | 0.999     | 0.997     | 0.997    |
| Industry Unemp. Rate                          |          | 1.068     | 1.067     | 1.039    |
| Part-time                                     |          | 2.318***  | 2.300***  | 1.977*** |
| Union coverage (ref=yes)                      |          |           |           |          |
| No  |          | 1.337     | 1.325     | 1.336    |
| Unknown                                       |          | 0.748     | 0.707     | 0.835    |
| Higher MW than Fed.                           |          |           | 1.881***  | 1.857*** |
| Emp. Law Index (Galvin 2016)                  |          |           | 0.853     | 0.657    |
| Age (ref=16-24)                               |          |           |           |          |
| 25-44   |          |           |           | 0.478*** |
| 45-64   |          |           |           | 0.444*** |
| 65 and over                                   |          |           |           | 0.961    |
| Female  |          |           |           | 1.442*** |
| Race/ethnicity (ref=white)                    |          |           |           |          |
| Black   |          |           |           | 1.843*** |
| Hispanic                                      |          |           |           | 1.337*** |
| Asian   |          |           |           | 1.364**  |
| Citizenship/nativity status (ref=native-born) |          |           |           |          |
| Foreign-born (U.S. Citizen)                   |          |           |           | 1.030    |
| Foreign-born (non-U.S. Citizen)               |          |           |           | 1.334*** |
| Educational attainment (ref=less than HS)     |          |           |           |          |
| HS diploma/some college                       |          |           |           | 0.587*** |
| College degree                                |          |           |           | 0.517*** |
| lnsig2u                                       | 0.266*** | 0.212***  | 0.195***  | 0.115*** |
| N   | 150522   | 150522    | 150522    | 150522   |
| No of groups                                  | 23       | 23        | 23        | 23       |
| p   | 0.494    | 1.84e-159 | 1.22e-247 | 0        |

Exponentiated coefficients; t statistics in parentheses  
 \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

There are several other important differences in minimum wage compliance between goods-producing and service industries to note. While the negative relationship between industry unemployment rate and minimum wage compliance remains largely the same when restricted to service industries, the relationship is insignificant across models for goods-producing industries. Those without union coverage in goods-producing industries are shown to have significantly higher odds of facing a minimum wage violation at the  $p<0.1$  level, suggesting that service unions may be somewhat less adept at preventing wage theft than manufacturing unions. However, the strength of applicable

employment laws as tested with Galvin (2016)'s state employment law index is insignificant across goods-producing industries, implying that it may be easier for manufacturing employers to evade government regulation.

Several minor differences in individual predictors are also of note. In goods-producing industries, there is no significant difference in odds of facing a minimum wage violation between retirement-age workers and those under 24 years of age, although mid-career workers continue to have significantly lower odds of facing a violation than young workers. Foreign-born U.S. citizens working in goods-producing industries did not have significantly different odds of facing a violation than native-born workers, although non-U.S. citizens still faced significantly higher odds of a violation than those who are native-born. The relationships between individual-level predictors and minimum wage violation rates remained remarkably similar across service industries as compared to the overall model.

*Figure 4. Random-intercept logistic regression models predicting minimum wage violations (service industries)*

|   | Model 1  | Model 2  | Model 3  | Model 4  |
|---|----------|----------|----------|----------|
| Dummy for MW Violation                        |          |          |          |          |
| Outward FDI                                   | 0.995    | 0.996    | 0.980*** | 0.985**  |
| Industry Unemp. Rate                          |          | 1.157*** | 1.153*** | 1.096**  |
| Part-time                                     |          | 2.248*** | 2.249*** | 1.832*** |
| Union coverage (ref=yes)                      |          |          |          |          |
| No  |          | 1.049    | 1.066    | 1.034    |
| Unknown                                       |          | 0.679*** | 0.657*** | 0.676*** |
| Higher MW than Fed.                           |          |          | 1.681*** | 1.710*** |
| Emp. Law Index (Galvin 2016)                  |          |          | 0.409*** | 0.411*** |
| Age (ref=16-24)                               |          |          |          |          |
| 25-44   |          |          |          | 0.523*** |
| 45-64   |          |          |          | 0.507*** |
| 65 and over                                   |          |          |          | 0.760*** |
| Female  |          |          |          | 1.348*** |
| Race/ethnicity (ref=white)                    |          |          |          |          |
| Black   |          |          |          | 1.464*** |
| Hispanic                                      |          |          |          | 1.179*** |
| Asian   |          |          |          | 1.180*** |
| Citizenship/nativity status (ref=native-born) |          |          |          |          |
| Foreign-born (U.S. Citizen)                   |          |          |          | 1.128*** |
| Foreign-born (non-U.S. Citizen)               |          |          |          | 1.391*** |
| Educational attainment (ref=less than HS)     |          |          |          |          |
| HS diploma/some college                       |          |          |          | 0.618*** |
| College degree                                |          |          |          | 0.407*** |
| lnsig2u                                       | 0.403*** | 0.145*** | 0.148*** | 0.101*** |
| N   | 536709   | 536709   | 536709   | 536709   |
| No of groups                                  | 26       | 26       | 26       | 26       |
| p   | 0.349    | 0        | 0        | 0        |

Exponentiated coefficients; t statistics in parentheses  
 \* p<0.05, \*\* p<0.01, \*\*\* p<0.001



## Discussion

The results of the nested binary logistic regression model series detailed above provide preliminary support for the negative relationship between outward foreign direct investment and minimum wage violation rate across industries. In other words, the results support the argument that organizations in footloose industries will have greater means of escaping institutional pressures through offshoring low-wage labor and face higher potential social license pressures (Kagan et al., 2003; Kagan et al., 2011) in the case of detection, concurrently depressing the domestic minimum wage violation rate within the industry. Likewise, employers in domestic industries seeking to limit their labor costs will increasingly see wage theft as an alternative to offshoring when foreign investment is unavailable. The results of this study further support the broader conclusions of strategic choice theory in that employer decisions may often have more to do with internal pressures than environmental forces (Child, 1972; Oliver, 1991).

While these results suggest an overall negative relationship between outward FDI and minimum wage violation rates, it is further suggested here that there are significant differences in the predictors of wage theft between goods-producing and service industries. The results in figures 3 and 4 provide support for the dampening effects of economic trends such as factor price equalization and rising elasticity of labor demand on compliance rates in footloose industries, as the relationship between outward FDI and violation rates was insignificant across models when restricted to goods-producing industries. Future research should further examine the relevant differences between goods- and service-producing industries to better understand the trends found here.

The results of the present study also provide support for the relationships between minimum wage violations and a number of individual- and job-level characteristics that have been found in prior research (see, e.g., Bernhardt et al., 2009; Bernhardt et al., 2013). The results further provide support for Galvin (2016)'s finding that the strength of state-level employment laws does in fact have a negative relationship with minimum wage violations, providing support for the ability of policy and enforcement efforts to quell wage theft.

As with all studies, several limitations must be noted. First, the current study takes into account a single indicator of globalization—outward foreign direct investment—rather than other factors such as inward FDI and trade. While the theoretical foundation provided in the current study applies particularly to outward FDI, relationships between these other indicators and minimum wage violation may be theorized and tested in future research to build a more complete picture as to the effects of globalization on wage theft in the U.S.

Second, while the applicable minimum wage rate for each state was obtained for each month included within the study period, municipalities with legislation mandating higher minimum wage laws than state/federal rates (e.g., San Francisco) were not able to be accounted for and thus further contribute to an underestimate of violations. However, it is unlikely that the inclusion of municipal minimum wage rates would significantly alter the results due to the negligible percentage of workers this would apply to within the study period.

Third, the measure for minimum wage violation does not allow for the separation of those cases where wage theft was purposeful as opposed to negligent. Future study of

the industrial determinants of wage theft may seek to explore how incidence of wage and hour law violations due to negligence varies across industries. Variance in outreach resources and strategies could lead to informational asymmetries across industries in regard to new regulations, potentially leading to greater noncompliance. Likewise, compliance decisions based on employer integrity and perceptions of government oversight and effectiveness were not considered in the current research and may vary across industries due to industry employer and regulatory characteristics.

Future study should also explore the relationship between foreign investment and domestic wage theft within industries rather than across. A study such as this would incorporate a firm-level design within an industry that satisfies two conditions; (a) that the industry experiences high levels of wage theft, and (b) that firms within the industry vary in level of foreign investment and global integration. Industries that may satisfy these two conditions include wholesalers, construction, apparel manufacturing, and food service; each of these industries have proportionately high levels of FLSA violations compared to others and at least moderate proportionate levels of foreign investment, but more research needs to be done as to the variance in FDI between firms within each. Rather than simply asking how FDI and domestic minimum wage violations are related across industries, a firm-level study may be used to answer in what ways firms that steal wages differ compared to similar compliant firms within their industry.

**Concluding remarks**

Identifying the causal factors and predictors of employer wage theft has become a topic of interest in recent years within the industrial relations literature (e.g., Bernhardt et al., 2009; Bernhardt et al., 2013; Weil, 2014; Ji & Weil, 2015; Galvin, 2016). The current study contributes to this literature by suggesting that the level of foreign investment may help explain domestic wage theft incidence across industries, particularly those involved in service provision. Evidence is further found for the predictive power of a number of individual-, job-, industry-, and state-level factors in explaining wage theft occurrence. The contributions of this research will become increasingly important in predicting employer regulatory compliance as the global market continues to grow and transform.

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