

Foreign Earnings Repatriations and Domestic Employment

Scott D. Dyreng*

Duke University

scott.dyreng@duke.edu

Robert Hills

Duke University

robert.w.hills@duke.edu

March 12, 2018

Abstract

In this study we examine the effect of large foreign earnings repatriations on employment. In response to the American Jobs Creation Act of 2004 (AJCA), U.S. multinational corporations (MNCs) repatriated approximately \$312 billion of foreign earnings (Redmiles 2008). Using employment data at the zip code level from the U.S. Census, and relying on the well-documented home bias literature (Coval & Moskowitz 1999), we show that employment increased in concentrated geographic areas around the headquarters of repatriating MNCs relative to areas without repatriating MNCs. Our study extends prior research that suggested repatriated earnings were not used directly for firm-level investment or hiring. Our findings have implications for the recently passed Tax Cuts and Jobs Act of 2017, which will likely drive a new wave of large foreign earnings repatriations.

*Corresponding author: scott.dyreng@duke.edu. 100 Fuqua Dr. Durham, NC 27708. 919.660.8004

We thank Qi Chen, John Graham, Jeff Hoopes, Hannah Hills, Hansol Jang (discussant), Matt Kubic, Bill Mayew, Katherine Schipper, Brady Williams, and workshop participants at Duke University, the 2016 BYU Accounting Research Symposium, and the 2017 Illinois Tax Consortium for helpful comments and suggestions. All errors are our own.

1. Introduction

U.S. Congress passed the American Jobs Creation Act (AJCA) in 2004, creating, among other things, a temporary reduction in the U.S. tax rate on foreign income.¹ This tax provision arose amid concerns that U.S. multinational corporations' (MNCs) foreign generated earnings were being left overseas to avoid taxation at the U.S. level and as a result, these earnings were being invested in foreign economies at the expense of the U.S. economy. Of primary concern was the possibility that domestic investment opportunities were being bypassed in favor of foreign alternatives, thereby stifling U.S. economic growth, including U.S. employment. Lawmakers believed that reducing the U.S. tax rate on foreign income would encourage MNCs to repatriate foreign earnings and invest domestically, leading to an increase in U.S. employment. Despite its success in stimulating repatriations of more than \$300 billion, the AJCA has been criticized by some who suggest that it failed to stimulate growth in domestic employment, at least directly, because employment levels do not appear to have increased at repatriating firms after the AJCA (Dharmapala *et al.* 2011; Permanent Subcommittee on Investigations 2011).²

The effect of large repatriations is once again prominent in public discussion because the Tax Cuts and Jobs Act of 2017 (TCJA) imposes a tax on previously unremitted foreign earnings, thus removing the incentive to leave the earnings abroad that existed prior to the TCJA. As a result, hundreds of billions of dollars, possibly more than \$1 trillion, could be repatriated to the

¹ The reduced tax rate was structured in the form of an 85% dividends received deduction on dividends received from controlled foreign corporations thereby decreasing the U.S. tax rate on foreign-sourced income from 35% to 5.25%. Under the AJCA, U.S. MNCs were allowed to take the one-time deduction for eligible dividends in the years 2004-2006.

² See also "Donald Trump's corporate tax amnesia: Repatriation didn't work in 2004, and it won't work in 2017", <http://www.salon.com/2017/01/01/donald-trumps-corporate-tax-amnesia-repatriation-didnt-work-in-2004-and-it-wont-work-in-2017/>.

US in the short term. Critics of the TCJA have been quick to suggest the repatriations will not benefit workers. For example, Senator Chuck Schumer tweeted on February 28, 2018, “The record-setting pace of stock buybacks is proof that companies across the country are stuffing the savings from the #GOPTaxScam into their own pockets and the pockets of their wealthy investors, rather than workers.”

Whether repatriations affect employment is the focus of this study. To do this, we revisit the AJCA and test its effect on U.S. employment in the geographic regions immediately surrounding the headquarters of repatriating firms. Using this approach allows repatriations to affect employment directly through the firm’s own hiring decisions, and indirectly as the repatriated funds work their way into the economy through other channels, such as the firm’s investment decisions, spending or reinvestment of distributed funds by shareholders, or even philanthropic giving.³

We use employment at the zip code level to show that employment increased in the geographic region surrounding the headquarters of repatriating MNCs in the three years following the AJCA (2006-2008) and that the effect of repatriation on employment is increasing in the amount repatriated. The employment effect is strongest when the geographic region is defined as a 20-mile radius around the headquarters of repatriating firms. Generally, the effect weakens as the radius is tightened inside 20 miles and expanded beyond 20 miles.

Economically, we find that employment surrounding the headquarters of repatriating MNCs increased by more than three individuals for every \$1 million repatriated under the AJCA.

Quantile regressions show that the effect of repatriation on employment follows an inverted-U shape suggesting the effect is most (least) pronounced for geographic locations at the middle

³ For example, according to the Wall Street Journal, JPMorgan “plans to boost its philanthropic giving by 40% to \$1.75 billion over five years, aiming to drive economic growth in local communities” as a result of the TCJA.

(tails) of the employment distribution. The results are robust to a variety of design choices, including using a changes specification and defining geographic regions using Metropolitan Statistical Areas (MSAs). We interpret these findings as evidence that the AJCA increased domestic employment, consistent with its legislative intent.

Our findings are informative to both academics and policymakers. First, existing academic research has largely taken a negative view regarding the effect of the AJCA on domestic investment and employment. The major conclusion from prior research is that the AJCA did not affect investment and employment at repatriating firms, with the exception of financially constrained firms (Faulkender & Petersen 2012). Instead, prior research finds that repatriating firms returned most of the repatriated funds to shareholders through stock repurchases (Blouin & Krull 2009; Dharmapala *et al.* 2011). While Dharmapala *et al.* (2011) acknowledge that returns of capital could have positive, indirect effects on the economy, no research explicitly tests for this effect. We undertake this task and document a positive relation between repatriation and employment in the geographic regions surrounding the headquarters of repatriating MNCs. Our findings augment the academic understanding of the economic effects of the AJCA.

Second, policymakers are interested in the effect of repatriations on the domestic economy, and particularly employment. In the years following the AJCA, many MNCs accumulated large balances of unremitted foreign earnings in an effort to avoid tax liabilities that would arise upon repatriation (Citizens for Tax Justice 2016).⁴ After years of debate and many proposals that ranged from territorial to worldwide tax systems with no deferral (e.g., Rubin

⁴ In a November 2016 report, Moody's Investors Service estimated that U.S. non-financial companies would increase their overseas cash holdings to \$1.3 trillion as of the end of 2016, which is 74% of total cash held by these U.S. firms. These estimates increased from the prior year and Moody's predicted that overseas cash holdings will continue to increase absent tax reform.

2013; Scott 2015; Sommer 2016), Congress passed the TJCA in December 2017. The TJCA effectively taxes accumulated balances of unremitted foreign earnings, and creates a new international tax regime that essentially eliminates the benefits of deferred repatriation that existed prior to the TJCA. Together, these two features of the TJCA eliminate the forces that have trapped earnings abroad in the past. Thus, beginning in 2018, it is likely that firms will repatriate large stores of unremitted foreign earnings, and will have larger ongoing repatriations than in the past. Our results suggest that the repatriation of foreign earnings is likely to have positive effects on domestic employment, even if those earnings are simply returned to shareholders via dividends or share repurchases.⁵

The remainder of this paper is organized as follows. Section 2 summarizes U.S. tax policy on foreign earnings, summarizes details regarding the Act, reviews related literature, and outlines our empirical design. Section 3 describes our data and sample selection. Section 4 presents the main results and additional analyses and Section 5 concludes.

2. Background and Research Design

2.1. U.S. Tax System at the time of the AJCA

During the sample period, U.S. MNCs operated under a worldwide tax system that imposed taxation on both domestic and foreign earnings at the U.S. level. To alleviate double taxation, that is, taxation on the same dollar of income at both the U.S. and foreign level, U.S. tax law provided a foreign tax credit that reduced the U.S. tax liability by the amount paid to foreign jurisdictions.⁶ For example, suppose a corporation's foreign pretax income was \$100 and

⁵ From December 2017 through February 2018, U.S. companies announced share repurchase plans exceeding \$200 billion (Otani et al. 2018)

⁶ A worldwide tax system stands in contrast to a territorial tax system which imposes taxes only on income earned in the home jurisdiction. Much of the literature refers to worldwide tax systems as “credit” systems, and territorial tax systems as “exemption” systems. In reality, tax systems fall on a continuum between a purely worldwide system and purely territorial system, with essentially no existing system falling at one extreme or the other.

the corporation paid \$15 in taxes to a foreign jurisdiction. Since the current U.S. corporate statutory rate at the time was 35% percent, the U.S. liability would be \$20.⁷ However, a provision of the U.S. tax code allowed MNCs to defer paying U.S. taxes on foreign earnings until earnings were repatriated. In addition, for financial reporting purposes, U.S. MNCs were not required to recognize a U.S. tax liability on foreign earnings if earnings were designated as indefinitely reinvested.⁸

Analyzing repatriation incentives in a worldwide tax system with deferral like the U.S. tax system during our sample period, Hartman (1985) shows that when 1) risk-adjusted after-tax returns in the home and foreign jurisdiction are equivalent, 2) the foreign tax rate, and the domestic tax rate are constant in time, and 3) all foreign earnings must eventually be repatriated and taxed in the home jurisdiction, then the timing of repatriation is irrelevant (see Scholes *et al.* (2015) for a summary of these points). That is, if conditions are appropriate, there is no benefit to deferral of U.S. tax on foreign earnings.

A body of empirical research tests the Hartman (1985) propositions and generally finds that MNCs are not indifferent to the timing of repatriation. For example, Foley *et al.* (2007) find that MNCs accumulate large balances of unremitted foreign earnings because of the perceived tax benefit of deferral. Hanlon *et al.* (2015) examine market reactions to U.S. MNCs' foreign acquisitions and find that the market reactions are decreasing in the amount of tax-induced foreign cash held by the acquiring MNC.⁹ The evidence in these and other studies (e.g., Altshuler *et al.* 2000; Altshuler & Grubert 2003; Edwards *et al.* 2016) suggests that U.S. MNCs

⁷ The \$20 tax liability is the full tax liability of \$35 less the foreign tax credit of \$15.

⁸ The guidance which allows MNCs to defer the recognition of a tax liability for foreign earnings that are permanently reinvested is found in Accounting Principles Board (APB) Opinion No. 23.

⁹ Tax-induced foreign cash is the incremental tax due when cash is repatriated from foreign subsidiaries. It is measured as the difference between pretax foreign income and current foreign tax payable scaled by a firm's total assets.

prefer reinvesting foreign income abroad, even if returns on those investments are subpar, thus deferring U.S. tax payments because one or more of the Hartman assumptions does not hold.

In a more recent model, Altshuler *et al.* (2007) argue that a temporary decrease (increase) in the tax costs of repatriation reduces (increases) the current tax costs of repatriation relative to future costs, while a permanent decrease (increase) in these costs has no effect. They show that temporary changes to repatriation tax costs affect the repatriation choices of MNCs because the current tax costs differ relative to the future tax costs. However, a permanent change to repatriation tax costs will not affect repatriation choices since there is no change in the relative costs of current and future repatriations. In the context of our analysis of the AJCA, the temporary reduction in the taxes levied on repatriated foreign-sourced earnings resulted, as expected, in a temporary increase in the repatriation of foreign-sourced earnings by U.S. MNCs (Redmiles 2008).

2.2 Historical Context of the AJCA

In the early 2000s, some MNCs had accumulated large balances of unremitted foreign earnings, raising concerns that the U.S. economy would suffer if MNCs invested those earnings in foreign economies instead of the U.S. economy (Thurm 2002; Wolk 2004). In response, Congress passed the American Jobs Creation Act in 2004 which, among other things, temporarily reduced the maximum tax rate on foreign earnings from 35% to 5.25% via an 85% dividends received deduction, applicable to a single repatriation between 2004 and 2006.¹⁰

The goal of the temporary tax rate reduction was to encourage corporations to repatriate cash from foreign-sourced income and use the cash to increase employment and investment in

¹⁰ The AJCA states that the deduction can be claimed either in the taxpayer's first taxable year beginning on or after the date of enactment of the AJCA (October 22, 2004) or in the taxpayer's last taxable year beginning before that date.

the U.S. Accordingly, the AJCA imposed several restrictions on MNCs to qualify for the special, one-time tax rate. First, the repatriation had to be cash. Second, repatriation amounts were limited to the maximum of 1) the amount of foreign earnings that a corporation reported as “permanently reinvested” in its most recent 10-K filing prior to June 20, 2003, 2) the tax liability amount associated with permanently reinvested earnings grossed up by the statutory tax rate – 35% (if permanently reinvested earnings were not reported in the most recent 10-K), or 3) \$500 million. Qualified repatriations were required to be extraordinary, which the AJCA defined as exceeding the average repatriation amount from the five tax years ending prior to July 1, 2003 (Redmiles 2008).¹¹ Finally, corporations were required to adopt a domestic reinvestment plan for using repatriated funds.¹²

Permissible uses of repatriated funds under the AJCA included “worker hiring and training, infrastructure, research and development (R&D), capital investments or the financial stabilization of the corporation for the purposes of job retention or job creation” (American Jobs Creation Act of 2004, Section 422: Incentives to reinvest foreign earnings in the United States).¹³ Specific impermissible uses of repatriated funds were share repurchases, dividend payouts, and executive compensation.¹⁴ However, since cash is fungible, the rules were conceivably unenforceable and lawmakers had made it clear no enforcement efforts would be undertaken.

¹¹ When calculating the average, the maximum and minimum annual repatriation amounts are removed, leaving three tax years over which repatriations are averaged.

¹² Domestic reinvestment plans had to be approved by the CEO and board of directors. Plans were not required to be publicly disclosed. Using Intelligize, we searched 10-K, 10-Q, and 8-K filings for the years 2004-2007 using the following search term: “domestic reinvestment plan w/40 (American Jobs or Jobs Creation)”. While we found numerous mentions of domestic reinvestment plans by repatriating MNCs, we found only a single domestic reinvestment plan that was disclosed as an exhibit to a 10-K filing. See <https://www.sec.gov/Archives/edgar/data/28452/000119312505077848/dex1050.htm>

¹³ The list of permissible uses was suggestive, not exhaustive (Permanent Subcommittee on Investigations, 2011).

¹⁴ The initial Act only mentioned executive compensation as an impermissible use of repatriated funds. Later guidance by the IRS expanded impermissible uses to include share repurchases, purchases of debt instruments, and tax payments (see IRS, Notice 2005-10).

2.3 Response to the AJCA

Several studies have examined the firm response to the AJCA, examining 1) whether firms responded to the AJCA by repatriating unremitted foreign earnings balances, 2) what factors affected the severity of the response, and 3) what firms did with the repatriated funds.

Research has overwhelmingly confirmed that firms responded strongly to the AJCA by repatriating unremitted foreign earnings. Redmiles (2008) uses data from the Internal Revenue Service and finds that about \$312 billion was repatriated under the AJCA. Because her data comes from the IRS, and contains both public and private firms, it is assumed to be exhaustive. Other researchers have used data from public disclosures or have imposed additional sample selection requirements, but still find estimates of repatriations under the AJCA ranging from \$297 billion to \$310 billion. No study has arrived at an estimate of total repatriations that is less than 90 percent of the Redmiles (2008) exhaustive benchmark.

Some studies have examined heterogeneity in firms' responses to the AJCA. Because some firms had not disclosed the amount of permanently reinvested earnings or the tax liability associated with permanently reinvested earnings, they were constrained to repatriate no more than \$500 million. The distribution of repatriations, shown in Figure 1, shows a clear discontinuity at \$500 million, suggesting that this feature of the AJCA was binding for some firms.

Researchers who first examined repatriations under the AJCA showed that the response to the AJCA was heterogeneous. For example, Blouin and Krull (2009) show that repatriating firms have fewer investment opportunities and higher free cash flows than nonrepatriating firms.

The financial reporting consequences of repatriation under the AJCA presented an interesting dilemma for some firms. If firms chose to repatriate earnings that had previously

been designated as permanently reinvested, firms would be required to record a tax expense for the tax liability incurred upon repatriation (5.25% instead of the normal 35%), thereby lowering income reported to shareholders. On the other hand, if firms chose to repatriate funds that had not been designated as permanently reinvested, they would reverse the existing tax liability that assumed tax would be paid at 35% and instead record tax expense at 5.25%, thereby increasing income reported to shareholders.¹⁵ Examining this tradeoff, Morrow and Ricketts (2014) argue that financial reporting effects were the dominant factor in repatriation decisions under the AJCA.¹⁶

A significant portion of prior research pertaining to the AJCA examines how firms used the funds repatriated under the AJCA. A common theme in these studies is that repatriating MNCs increased shareholder payouts, usually through share repurchases (Clemons & Kinney 2008; Blouin & Krull 2009; Dharmapala *et al.* 2011; Brennan 2014). For example, Dharmapala *et al.* (2011) conclude that for every \$1 repatriated, somewhere between \$0.60 and \$0.92 was paid out to shareholders. Blouin and Krull (2009) provide a more conservative estimate, suggesting that 20% of the repatriations represented in their sample were paid out to shareholders. As shareholder payouts were deemed an impermissible use of repatriated funds under the guidelines of the AJCA, evidence that a substantial portion of repatriated funds were paid out to shareholders has led some to suggest the AJCA failed in its objective of increasing

¹⁵ While the amount of permanently reinvested earnings disclosed in the financial statements was used as a mechanism to cap repatriations allowed under the AJCA, the AJCA did not require firms to actually choose to repatriate those specific funds. Thus, a firm that had designated only some of its earnings as permanently reinvested could have used the maximum calculated using its balance of permanently reinvested earnings as the cap, but repatriated only non-permanently reinvested earnings under the AJCA.

¹⁶ A more recent stream of research examines the effect of accounting on the repatriation decision. Graham *et al.* (2011) survey over 600 executives and report that both the tax payments and the financial accounting costs associated with repatriating indefinitely reinvested foreign earnings are important when determining whether to repatriate. Blouin *et al.* (2014) show that firms are sensitive to financial accounting effects when making repatriation decisions. Exactly how sensitive firms are to the accounting costs of repatriation (incremental to the cash costs) remains an unsettled question.

domestic employment (Dharmapala *et al.* 2011). More directly, a report by the Permanent Subcommittee on Investigations (2011) found that overall employment at 19 large MNCs that repatriated under the AJCA decreased by 13,585 from 2004-2007, the years immediately following the AJCA, suggesting that repatriated funds were not used to increase employment at repatriating firms.¹⁷

While the dominant theme of studies examining uses of repatriated funds is that firms increased shareholder payouts, there are at least two studies that draw more nuanced conclusions. Faulkender and Petersen (2012) show that if the repatriating firm was financially constrained, then it was more likely to allocate funds to permissible domestic investments. Brennan (2014) disputes the finding in Dharmapala *et al.* (2011), and argues that about \$0.72 per \$1.00 repatriated was allocated to permissible uses.

Despite these somewhat mixed results, the dominant theme in the literature is that while the AJCA was very successful in inducing repatriation, it failed in its stated purpose to increase domestic investment and employment, except in the relatively rare cases of financially constrained firms (Faulkender & Petersen 2012). Nevertheless, Dharmapala et al. (2011) conclude,

“Although the HIA (the AJCA) does not appear to have spurred domestic investment and employment in firms that used the tax holiday to repatriate earnings from abroad, it may still have benefited the U.S. economy in other ways. The tax holiday encouraged U.S. multinationals to repatriate roughly \$300 billion of foreign earnings, and firms paid out most of these earnings to shareholders. Presumably these shareholders either reinvested these funds or used them for consumption, thereby

¹⁷ This report does not attempt to assess the decrease in employment relative to the overall labor market conditions.

having indirect effects on firm investment, employment, or spending. Future work could explore the welfare effects of the holiday more generally.”

2.4 Research Design and Predictions

We tackle the task of examining the indirect effect of the AJCA on domestic employment by examining employment levels in the geographic region surrounding the headquarters of repatriating firms relative to the employment levels in other geographic regions. Our research design is based on two repeated findings in the empirical literature. First, shareholder payouts dramatically increased at repatriating firms (usually through repurchases) during the AJCA, as discussed above. Second, shareholders of publicly traded firms tend to be disproportionately domiciled in close geographic proximity to the firm’s headquarters, phenomena known as home bias and local bias, as discussed below.

The home bias (the bias that investors prefer to own shares in companies from their own country) literature began with French and Poterba (1991), who show that a majority of corporate equity is held by domestic investors, and Coval and Moskowitz (1999), who find that U.S. mutual fund managers prefer domestic securities and are more likely to invest in corporations headquartered nearest to them.¹⁸ Local bias (the bias that investors prefer to own shares in companies near their own specific geographic area) is documented in individual investors and also in fund managers (Ivković & Weisbenner 2005).¹⁹ Explanations for why individual investors prefer to invest in locally headquartered firms include lack of sophistication (Grinblatt & Keloharju 2001; Karlsson & Nordén 2007; Goetzmann & Kumar 2008) and the ability to

¹⁸ French and Poterba (1991) document that 92.2% of U.S. corporate equity was held by domestic owners in 1989.

¹⁹ Individual investors’ local bias has been shown to exist in foreign countries such as China (Feng & Seasholes 2004) and Finland (Grinblatt & Keloharju 2001). The Wall Street Journal (Deogun 1997) provides a specific example of the local bias in relation to Coca-Cola, reporting that at least 16% of Coca-Cola shares are held in Georgia, mainly in Atlanta.

exploit local information (Ivković & Weisbenner 2005; Massa & Simonov 2006). In searching for employment effects of the AJCA, we maintain indifference as to the causes of home bias and local bias, but we do rely on their existence and the fact that a relatively large portion of shareholder payouts find their way to and have a greater impact on the local economy surrounding a corporation's headquarters relative to other, more distant locations.

In addition to the home and local bias phenomena, philanthropic giving is another channel through which tax windfalls could stimulate the local economy and lead to increases in employment. Theory suggests that corporate giving serves to enhance a corporations' community relations and public image and conform to corporations' profit maximization objective (Navarro 1988; Haley 1991). Consistent with this notion, anecdotal evidence suggests that corporations that receive tax windfalls commonly respond by making charitable contributions.²⁰ McElroy and Siegfried (1986) and Galaskiewicz (1997) examine the charitable contributions of corporations and find that approximately 70% of charitable contributions in their studies are directed at organizations located in the same city as the corporations' headquarters. Thus, corporate philanthropic giving is an alternative channel through which repatriations could increase employment in the local economy.

We assess whether the AJCA affected domestic employment by analyzing whether employment from all sources, not just MNC hiring, increased around the headquarters of MNCs that repatriated under the AJCA. The employment increase might occur via a direct channel (e.g., increased hiring by repatriating MNCs) or an indirect channel (e.g., increased local hiring spurred by investment or consumption of local shareholders and charitable organizations).

²⁰ For example, in light of the TJCA, a number of corporations including Boeing, JP Morgan, and Wells Fargo made charitable pledges (Turner & Garber 2017; Egan 2018; Glazer 2018).

Specifically, we predict that employment is increasing in zip codes near the headquarters of repatriating MNCs during 2006 to 2008, and that the increase is in relation to the amount repatriated.

Our tests assume that shareholders of repatriating MNCs that received payouts invested in U.S. businesses located near the headquarters of the repatriating firm (i.e. home bias applies). Evidence of employment increases around the headquarters of repatriating MNCs following the AJCA would suggest that the AJCA was more successful at increasing domestic employment than most prior researchers have allowed.

Our empirical design uses a difference-in-differences estimation. We exploit differences in repatriation amounts by zip codes across a pre- and post-period and examine the impact of repatriation on employment. Our sample includes all zip codes within the U.S. The treatment group is all zip codes whose centroids lie within a given radius of a base zip code in which a repatriating MNC's headquarters is located, and the control group is all other zip codes. Redmiles (2008) reports that over 93 percent of MNCs that repatriated under the AJCA had completed their repatriations by the end of 2005 and that by the end of 2008 nearly 80% of MNCs had completed their reinvestment plans. Thus, we use 2003-2005 as the pre-period and 2006-2008 as the post-period. We use 5-, 10-, 15-, 20-, 25-, 30-, 35-, 40-, 45-, and 50-mile employment radii around the headquarters of repatriating MNCs to determine the effect of repatriation on employment at different geographical proximities to MNCs' headquarters. To determine the impact of repatriations on employment we estimate the following difference-in-differences regression for 2003-2008:

$$SumEmp_{it} = \alpha + \beta_1 Post_t + \beta_2 Post_t * SumRepatriation_{it} + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net\ Income_{it} + \theta_5 Emp(Compustat)_{it} + \gamma_i + \epsilon_{it}$$

(Equation 1)

Where $SumEmp_{it}$ is the sum of employment for all zip codes whose centroids lie within a given radius around the centroid of zip code i in year t , $Post_t$ is an indicator variable equal to one for the years 2006-2008, and $SumRepatriation_i$ is the total amount of repatriated funds (in millions of dollars) by MNCs with headquarters in each base zip code. γ_i is a zip code level fixed effect, to control for time invariant factors at the zip code level that may influence employment. Five additional time varying controls are included for local economic conditions: $AnnSalary$, $Wages$, $Dividends$, $Net Income$, and $Emp(Compustat)$. $AnnSalary$ is the average annual salary per employee (in thousands) for employees in zip codes within a given radius of zip code i in time t .²¹ $Wages$ is the log of salaries and wages reported on IRS 1040 filings for all filers in zip codes within a given radius around the centroid of zip code i in year t .²² $Dividends$ is the log of aggregate taxable dividends reported on federal 1040 filings for all filers in zip codes within a given radius around the centroid of zip code i in year t .²³ $Net Income$ is the aggregate net income of all public, non-repatriating firms headquartered in zip codes within a given radius around centroid of zip code i in year t . $Emp(Compustat)$ is the aggregate number of employees of all public, non-repatriating firms headquartered in zip codes within a given radius around the centroid of zip code i in year t .

If employment increases as a result of repatriation, we will find a positive value for the coefficient β_2 . If the radius around the repatriating headquarters is too small, we may fail to find results because a small radius might not capture enough shareholders to make a significant

²¹ Salary data per employee within a given zip code are provided in the County Business Patterns data.

²² $AnnSalary$ ($Wages$) is computed using data about salaries for employees (residents) within a zip code. The Pearson correlation of these variable is 0.214 (See Table 3)

²³ IRS SOI data are missing for 2003, thus we replace the missing values for $Wages$ and $Dividends$ in 2003 with 2004 values. The coefficient, β_1 , from a regression of $Wages_{it} = \alpha + \beta_1 Wages_{i,t-1}$ ($Dividends_{it} = \alpha + \beta_1 Dividends_{i,t-1}$) for 2004-2008 is 0.991 (1.020) with an R^2 of 0.958 (0.950).

difference. If the radius is too large, we may fail to find results because the effect of local bias is diluted. Thus, we begin by examining a radius of 5 miles, and later expand the radius to 50 miles, and for all radii in between in increments of 5 miles.²⁴ Finding a positive β_2 would suggest the positive effect of repatriated funds on employment levels.

3. Data and Sample Selection

Our main empirical analyses require firm-specific repatriation amounts under provisions of the AJCA, headquarters location of repatriating MNCs, employment by zip code, and additional zip code level controls. To identify corporations that repatriated under the AJCA, we use Intelligize.com and search for references to repatriation and American Jobs Creation Act in 10-K filings for 2004-2007. Our initial search results in 1,608 MNCs that mention the AJCA and repatriation in their 10-K filings. We then search the respective 10-K filings to determine whether the corporation repatriated, and if so, the amount.²⁵ We find 469 MNCs that state they made or planned to make repatriations under the AJCA, of which 27 do not provide an amount. The final sample contains 442 MNCs that repatriated a total of \$289.9 billion of qualifying dividends under the AJCA. Figure 2 shows the geographic location of the headquarters of these repatriating MNCs. Using IRS data, Redmiles (2008) reports 843 public and private corporations repatriated \$312 billion under the AJCA.

Table 1 reports the repatriation amounts in our sample relative to prior research. The total number of repatriating MNCs in our sample is similar to Faulkender and Peterson (2012) and

²⁴ We do not expand the radius beyond 50 miles due to concerns that larger radii will include employment effects from repatriating MNCs located in multiple metropolitan areas which could confound results.

²⁵ Following Brennan (2014), we supplement repatriation amounts for the 19 corporations studied in the report of the Permanent Subcommittee on Investigations (2011). We assume all amounts in the report are correct and replace our figures with the amounts in the report whenever there is a difference. For example, Motorola, Inc., reports a \$4.6 billion repatriation under the AJCA in its fiscal 2005 10-K. We use the \$2.76 billion repatriation amount reported in the Subcommittee report. Inferences from results are unchanged if we use amounts reported in MNCs' 10-K filings.

Brennan (2014). Our sample differs slightly from Dharmapala et al. (2011), who use Bureau of Economic Analysis data, and from Blouin and Krull (2009). Despite the slight differences, the total repatriation amounts from all samples are within 93% of the Redmiles (2008) benchmark.

Table 2 – Panel A reports descriptive statistics for amounts repatriated by MNCs (*Repatriation_amount*). The mean amount repatriated is \$655.91 million and the median amount is \$101.5 million which suggests *Repatriation_amount* is skewed to the right. The maximum (minimum) amount repatriated by a single MNC is greater than (less than) \$35 billion (\$1 million).²⁶

The AJCA required that repatriations by MNCs be extraordinary to receive preferential tax treatment. Due to insufficient data, we are unable to provide information on how extraordinary the amounts repatriated by repatriating MNCs under the AJCA are relative to repatriations made prior to the AJCA.²⁷ However, using Federal Reserve Boards Flow of Funds data we examine aggregate repatriation amounts for all MNCs for 2000-2010. Figure 3 shows the quarterly dividends paid by foreign subsidiaries to U.S. parent companies for 2000-2010. Similar to Blouin and Krull (2009), we observe a substantial increase in aggregate repatriations in 2005. The increase in aggregate repatriations persists for about four quarters before decreasing. This one-time spike in aggregate repatriations in 2005 coincides with the AJCA suggesting that the AJCA induced MNCs to make extraordinary repatriations.

We collect zip code level employment data from the County Business Pattern (CBP) datasets, part of the U.S. Census Bureau data and publically available online.²⁸ Employment data

²⁶ Of the 442 corporations that disclose amount repatriated under the Act, 219 repatriate an amount equal to or less than \$100 million and 49 corporations repatriate an amount equal to or less than \$10 million.

²⁷ A majority of MNCs do not disclose unremitted foreign earnings or amounts repatriated prior to the AJCA.

²⁸ Employment data used capture the zip code where the employee works, not the zip code of the employee's residence. See <http://www.census.gov/programs-surveys/cbp.html>.

from CBP datasets are not subject to sampling errors, but are subject to non-sampling errors such as missing and or misreported data, processing errors, classification issues, and errors in recording or coding the data.²⁹ To control for possible errors we truncate employment at the 1st and 99th percentiles for each year.

To calculate employment surrounding the headquarters of repatriating MNCs, we sum employment for all zip codes within a given radius of the zip code in which an MNC's headquarters is located. We use CDXZipStream, a Microsoft Excel add-in provided by CDX Technologies, to identify all zip codes within a given radius of a specified base zip code. This add-in locates all centroids of other zip codes within a desired radius of a specified base zip code.

Figure 4 demonstrates how CDXZipStream determines which zip codes are within a specified distance of a base zip code. Using, as an example, 98204 as our reference base zip code, we find 6 other zip codes whose centroids are within a 5-mile radius of the centroid of zip code 98204.³⁰ Although the 5- mile radius around 98204 also includes portions of other zip codes, the CDXZipStream add-in does not include these additional zip codes because their centroids are not within in the specified 5-mile radius of the 98204 centroid.

Using CDXZipStream, we identify all zip codes with centroids located within a 5-, 10-, 15-, 20-, 25-, 30-, 35-, 40-, 45- and 50-mile radius of the centroid of each base zip code. We then sum employment amounts for zip codes within a given radius of a given base zip code for each year. To merge the repatriation data (at the corporation-level) with employment data (at the zip code level), we link the repatriation amount of each MNC to the zip code of the MNC

²⁹ For information on CBP data reliability, please see <http://www.census.gov/programs-surveys/cbp/technical-documentation/methodology/reliability-of-data.html>.

³⁰ This results in a total of seven zip codes.

headquarters location, as reported on the 10-K filed with the SEC in the year of repatriation.

Table 2 – Panel B reports descriptive statistics for repatriation amounts aggregated by zip code.

In our sample there are 364 distinct base zip codes with at least one repatriating MNC and 58 zip codes that contain the headquarters of more than one repatriating MNC. The maximum number of repatriating MNCs located within a given base zip code is seven. The mean (median) amount repatriated for a zip code with at least one repatriating MNC is \$796.46 (\$109.7) million.

Data for zip code level controls come from one of three sources: 1) CBP datasets, 2) IRS Statistics on Income (SOI) datasets, or 3) Compustat annual file. The CBP datasets includes data on employees' average annual salary by zip code (*AnnSalary*). We include both Taxable Dividends (*Dividends*) and Salaries and Wages (*Wages*) and at the zip level from the IRS SOI annual files in our estimation model to control for local economic conditions that could be influencing employment trends. Finally, using Compustat data, we include the annual aggregate net income for non-repatriating firms (*Net Income*) and the annual aggregate number of employees for non-repatriating firms (*Emp(Compustat)*) with headquarters in a given zip code. We include these controls to alleviate concerns that the effect of repatriation on employment may be driven by non-repatriating firms.

4. Results

4.1 Main Results

Table 3 – Panel A presents descriptive statistics for the variables in Equation 1 when using a 10-mile employment radius. *SumEmp* has a mean (median) of 118,778 (12,185) suggesting employment is skewed to the right. *SumRepatriation* has a mean of \$651.94 million.

Table 3 – Panel B reports Pearson and Spearman correlations for the variables used to

estimate Equation 1 for a 10-mile employment radius. *SumRepatriation* is positively correlated with *SumEmp*, suggesting that employment around the headquarters of repatriating MNCs is positively related to the amount repatriated. *Post* is positively correlated with *Sumemp*, suggesting employment increases in the post-period unconditional on repatriation. *Wages* and *Dividends* have a Pearson (Spearman) correlation of 0.963 (0.963), which suggests each has little independent variation.³¹ *Net Income* and *Emp (Compustat)* are positively correlated with each other and with *SumEmp*.

Table 4 – Panel A reports the results of estimating Equation 1 for all zip codes using employment radii from 5 to 50 miles in increments of 5-miles.³² The first column shows the results when using a 5-mile employment radius. The coefficient on the interaction between $Post_t$ and $SumRepatriation_i$ is 0.651 and significant at the 10% level. This suggests that for every \$1 million repatriated, employment increases by 0.651 employees during the post-period within a 5-mile radius of the headquarters of repatriating MNCs. The second, third, fourth, and fifth columns in Panel A report the results of estimating Equation 1 for 10- to 25-mile employment radii. The coefficient estimates for the effect of repatriation on employment at 10-, 15-, 20-, and 25-mile employment radii are 1.678, 2.815, 3.449, and 3.372 and are significant at the 1% level (t-statistics= 3.111, 4.331, 3.968, 2.561). The largest effect of repatriation on employment we observe is for 20-mile employment radii with a coefficient estimate of 3.449.

The fifth through ninth columns of Table 5 present the results of estimating Equation 1

³¹ Results for the main analysis are similar and inferences unchanged if we remove either *Wages* or *Dividends* from Equation 1.

³² In additional analyses, we examine the relation between repatriation and employment without using an employment radius around a zip code (i.e. no radius); thus, we examine the effect of repatriation on employment only in those zip codes in which a repatriating MNC is headquartered. In untabulated results, we find a positive yet statistically insignificant relation between repatriation and employment for these zip codes.

for employment radii of 30-, 35-, 40-, 45-, and 50-miles. The coefficient estimates for β_2 , when using a 30-, 35-, 40-, 45-mile employment radius are 0.723, 0.603, 1.198, and 0.861. All these coefficients are insignificant at conventional levels. The coefficient estimate for β_2 when a 50-mile employment radius is used is 2.644, significant at the 5% level (t-statistic=2.059). Results when using an employment radius between 10 and 45 miles are as expected, that is, β_2 is positive and significant at conventional levels for smaller radii; as the radius expands the magnitude of the coefficient decreases. However, surprisingly, we observe a positive relation between repatriation and employment for 50-mile employment radii.

To determine why β_2 increases in magnitude and becomes significant for a 50-mile employment radius, we examine whether expanding the radius results in overlap in multiple large metropolitan areas. To do so we match zip codes to Metropolitan Statistical Areas (MSAs) using a zip code to MSA table compiled by the U.S. Department of Labor, in which each zip code is matched to a single MSA.³³ We find overlap between both the New York- Northern New Jersey-Long Island, NY-NJ-PA MSA and the Philadelphia-Camden-Wilmington, PA-NJ-DE-MD MSA; and between the Baltimore-Towson, MD MSA and the Philadelphia- Camden-Wilmington, PA-NJ-DE-MD MSA. Thus, results when using a 50-mile radius should be interpreted with caution as they may be affected by overlapping MSAs, each with multiple repatriating MNCs. In a later analysis we examine the effect of repatriation on employment at the MSA level to avoid issues with overlapping employment radii.

Excluding results for the 50-mile employment radius, Table 4 – Panel A suggests that the

³³ The Office of Management and Budget (OMB) defines certain geographical entities called Metropolitan Statistical Areas (MSAs) for use by Federal agencies in collecting and computing certain statistics. MSAs are urban areas that contain more than 50,000 persons. Zip codes located in areas that do not qualify as a traditional MSA (i.e. not urban or metropolitan) are grouped in non-metropolitan areas by state.

impact of repatriation on employment is strongest for 15- to 25-mile employment radii around the headquarters of repatriating MNCs and the effect weakens as employment radii increase beyond these distances. A potential explanation for this finding, congruent with the home or local-bias theory, is that a disproportionate fraction of shareholders of repatriating MNCs are located near the headquarters and as the distance from the headquarters location increases there are fewer shareholders. Thus, fewer repatriated funds reach the areas further from headquarters resulting in weaker employment gains.

4.2 *Changes in Employment*

The dependent variable in Equation 1, *SumEmp*, is the raw number of employees for all zip codes within a given radius of a base zip code. A possible concern with this specification is that the results in Table 4 – Panel A could be driven by highly populated zip codes.³⁴ To mitigate the impact of highly populated zip codes on the results we modify Equation 1 and estimate the effect of repatriation on $\Delta SumEmp$, the annual change in employment for all zip codes within a specified radius of a base zip code. Since changes in employment are not known to be serially correlated across time, we drop γ_i , the zip code fixed effect, and instead include the main effect of *SumRepatriation*.³⁵ Thus we estimate the following regression:

³⁴ In untabulated results, we estimate Equation 1 using both a log-log regression and a rank regression to control for outliers. We do not present results of these analyses as part of our main results for a number of reasons. First, using a log transformation describes a multiplicative relationship between dependent and independent variables. Our theory predicts that a repatriation or cash windfall will have an *additive*, not *multiplicative* effect on employment. Second, we believe our results are more interpretable assuming an additive effect and cannot be as easily interpreted using log transformations or ranking methods. Third, while rank regressions control for extreme values they also suppress variation between observations and their interpretation is limited. For our setting, we are particularly interested in how variation in repatriation amounts relates to employment. Finally, standard OLS assumptions regarding normality apply to residuals and do not require that the dependent variable be normally distributed (Lumley *et al.* 2002). In untabulated results, we plot residuals individually and compared to predicted values. Residuals appear normally distributed and unrelated to predicted values.

³⁵ The Pearson (Spearman) correlation of *SumEmp* and $\Delta SumEmp$ is -0.008 (.021) using 10-mile employment radii.

$$\Delta SumEmp_{it} = \alpha + \beta_1 Post_t + \beta_2 SumRepatriation_i + \beta_3 Post_t * SumRepatriation_{it} + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net Income_{it} + \theta_5 Emp(Compustat)_{it} + \epsilon_{it}$$

(Equation 2)

The results of estimating Equation 2 are reported in Table 4 – Panel B. For these results, the coefficient of interest is β_3 . The first column of Table 4 – Panel B reports the results of estimating Equation 2 for 5-mile employment radii. In column one, β_3 is positive yet insignificant at conventional levels. Columns two through five of Panel B report the results of estimating Equation 2 for 10-, 15-, 20-, and 25-mile employment radii. For each of these employment radii, β_3 is positive and significant at the 10% level. This suggests that employment changes are increasing in the post-period in areas around the headquarters of repatriating MNCs and that the increases are in relation to the amount repatriated. For all employment radii greater than 25 miles, β_3 is positive yet insignificant at conventional levels. This suggests that repatriation has little if any effect on employment changes for areas more than 25 miles from the headquarters of repatriating MNCs. Overall, we find the effect of repatriation on *changes* in employment (Panel B) is similar to, yet slightly weaker than the effect of repatriation on the *level* of employment (Panel A).

4.3 *Quantile Regressions*

Our results in Table 4 describe the relation between our independent variables, including repatriation, and the conditional mean of our dependent variable, which is employment surrounding the headquarters of repatriating MNCs. Quantile regressions allow researchers to draw a more complete set of inferences about the relation between independent and dependent variables by examining the relation between independent variables and other locations in the conditional distribution of the dependent variable (Koenker & Hallock 2001). For our analysis, quantile regressions enable us to examine how the effect of repatriation on employment varies at

different quantiles, or percentiles, of the conditional employment distribution.

To determine the effect of repatriation on the conditional distribution of employment, we estimate Equation 1 using quantile regressions at the 10th – 90th percentile in increments of 10, using 10-mile employment radii. We tabulate the results of these estimations in Table 5 and graph the coefficient estimates for the coefficient on *Post * SumRepatriation* in Figure 5.

In Table 5 the coefficient on *Post * SumRepatriation* is positive and significant at the 1% level for at all percentiles examined except the 90th percentile, for which the coefficient is positive yet significant at only the 5% level. Figure 5 graphically depicts the magnitude of the coefficients on *Post * SumRepatriation* from the 10th to the 90th percentile. Figure 5 shows that the relation between repatriation and employment follows an inverted-U shape. This suggests that the effect of repatriation on employment is greatest (smallest) for employment radii in the middle (at the tails) of the employment distribution.

4.4 *Analysis of Parallel Trends*

A key assumption of a difference-in-differences design is parallel trends, that is, trends in the outcome variable are similar for both treatment and control samples prior to the treatment application and that trends would continue to be similar absent treatment. In our setting, the parallel trend assumption is that in the pre-period the time-series trend of employment should be similar for zip codes within a given radius of the headquarters of a repatriating MNC (i.e. treatment group) and zip codes not located within a given radius of the headquarters of a repatriating MNC (i.e. control group).³⁶ Prior literature (e.g., Angrist & Pischke 2008; Lechner 2010) recommends using pre-treatment time indicator variables to examine whether pre-period

³⁶ The assumption does not require that employment is similar for both treatment and control groups in the pre-period (i.e. mean employment is similar), only that the trend in employment is similar for both treatment and control groups in the pre-period. The assumption that trends would remain similar absent treatment is theoretically unverifiable and untestable.

trends are similar for treatment and control groups. Redmiles (2008) reports that nearly 80% of MNCs that repatriated under the AJCA planned to complete their domestic reinvestment plans by 2008. Thus, to determine whether the effect of repatriation on employment persists beyond our post-period we also include indicator variables for two years beyond 2008. Following prior literature, we perform a parallel trends test by estimating the following model for employment radii in 2003-2010:

$$SumEmp_{it} = \alpha + \beta_1 Year_t + \beta_2 Year_t * SumRepatriation_i + \gamma_i + \theta_\eta Controls_{it} + \epsilon_{it}$$

(Equation 3)

Where *SumEmp*, *SumRepatriation*, and *Post* are defined previously. γ_i is a zip code fixed effect. *Year* is an indicator variable for a given year. Control variables are as defined in Equation 1. We drop two of our control variables (*Wages* and *Dividends*) because lack of data prevents us from computing these variables for 2009-2010.³⁷ The employment radius is 10 miles.

Table 6 reports the results of estimating Equation 3. The coefficient of interest is β_2 , the coefficient on the interaction of *Year* * *SumRepatriation*. This coefficient is positive and significant at the 1% (10%) level for 2008 (2006-2007). This suggests that employment is increasing in the post-period in relation to the amount repatriated. For 2004-2005, β_2 is negative and insignificant at conventional levels. Thus, we fail to find evidence of a positive relation between repatriation and employment in the pre-period. This evidence supports the assumption that similar trends between treatment and control groups exist in the pre-period.

For 2009 (2010), β_2 is negative (positive) and insignificant at conventional levels. This is evidence that the effect of repatriation on employment around the headquarters of repatriating

³⁷ In untabulated results, we estimate Equation 3 for 2003-2008 without dropping *Wages* and *Dividends*. Results are similar in sign and significance to those reported in Table 6.

MNCs does not persist beyond 2008. Overall, the results of Table 6 suggest that employment trends between our treated zip codes and control zip codes did not differ prior to the repatriations made in connection with the AJCA and that the effect of repatriation on employment is isolated to the three years following the implementation of the AJCA.

4.5 Metropolitan Statistical Area (MSA) Analysis

The results in Table 4 – Panel A for 50-mile employment radii engender concerns that overlapping MSAs, each with multiple repatriating MNCs, could be affecting results as we expand employment radii. To alleviate overlap concerns, we re-examine the effect of repatriation on employment at the MSA level. Since each zip code is located in a single MSA, we remove any issues with zip codes appearing in multiple employment radii. To calculate the necessary data for our analysis at the MSA level, we use a zip code-MSA linking table to match each zip code to a single MSA and then aggregate the variables in Equation 1 for zip codes within each MSA.

Estimating Equation 1 at the MSA level versus the zip code level has both advantages and disadvantages. The main advantage of the MSA level analysis is that any overlap that may exist among two or more large metropolitan areas is eliminated. Another advantage is that MSAs ignore certain geographical conditions that could affect zip code employment radii. For example, if a particular base zip code is surrounded on three sides by a body of water this limits the number of other zip codes that will be located within a specified radius of that base zip code. However, since MSAs are manually, not mechanically, formed they are not subject to these geographic conditions. A disadvantage of MSAs relative to zip codes is that since MSAs are not as granular as zip codes, certain localized effects may not be observed.

To determine the impact of repatriation on employment at the MSA level, we re-estimate

Equation 1 for the 366 MSAs as defined by the United States Office of Management and Budget (OMB) as of March 29, 2010.³⁸ The first column in Table 7 reports the results of estimating Equation 1 for all 366 MSAs. The coefficient on the interaction between *Post* and *SumRepatriation* is 0.730, significant at the 5% level (t-statistic=2.045). This finding supports our prior findings at the zip code level that repatriation amounts are positively related to employment. In column two we add rural zip codes that were previously removed as an additional MSA and then re-estimate Equation 1. The results are very similar to the first column.

The New York-Newark-Jersey City, NY-NJ-PA MSA (New York MSA) is the largest MSA in the United States by employment and population. In our sample, the New York MSA contains 49 of the 442 repatriating MNCs and \$105 billion of the total \$289.9 billion repatriated. Because such a large percentage of the amount repatriated and the number of repatriating MNCs are located in this MSA we are concerned that our findings may be highly influenced by this MSA.

To assess the impact of the New York MSA on our findings, we drop the New York MSA and estimate Equation 1 for all other MSAs. The results are reported in the third column of Table 7. After removing the New York MSA, the coefficient on *Post * SumRepatriation* is 4.02 and significant at the 1% level (t-statistic=3.306). This finding suggests that after excluding the New York MSA, for every additional \$1 million repatriated employment increases by 4.02 individuals in the post-period in MSAs where repatriating MNCs are headquartered (treatment group) relative to MSAs without repatriating MNCs (control group). The findings in column three suggest that not only are results robust to removing the New York MSA, but that the effect of repatriation on employment is actually stronger for geographic areas outside the

³⁸ Including only zip codes located within defined MSAs removes over 16,000 mostly rural zip codes located outside of defined MSAs.

New York MSA which alleviates concerns that results are driven by the New York MSA.

5. Conclusion

This paper examines the impact of repatriations made in connection with the American Jobs Creation Act of 2004 (AJCA) on U.S. employment. In 2004, U.S. Congress passed the AJCA, which included a special one-time dividend received deduction for multinational corporations that repatriated foreign earnings held abroad. In response, U.S. multinational corporations repatriated more than \$300 billion, primarily in 2004 and 2005. We assess the impact of these repatriations on employment in the geographic regions immediately surrounding the headquarters of MNCs that repatriated under the AJCA.

Using a difference-in-differences design, we find a positive relation between the amount of cash repatriated by MNCs and employment around their headquarters. These results are especially strong for smaller geographic radii (i.e. less than or equal to 25 miles). To enhance our inferences about the relationship between repatriation and employment we also perform quantile regressions and show that the relation between repatriation and employment follows an inverted-U shape. We also find similar results when examining the effect of repatriation on employment at the Metropolitan Statistical Area (MSA) level and show results persist even after removing the New York MSA, the largest MSA by population and repatriation amount. This suggests that the positive impact of repatriation on employment is neither driven by nor restricted to the largest U.S. metropolitan area.

Our findings provide evidence that the AJCA had a positive impact on domestic employment. These findings have implications for the recent passage of the TCJA at the end of 2017. Prior to the passage of the TCJA, estimates suggested that U.S. MNCs were holding more than \$2 trillion in unremitted foreign earnings (Citizens for Tax Justice 2016). The TJCA

eliminated the incentive to hold earnings abroad, therefore increasing the likelihood that MNCs will repatriate significant portions of their accumulated unremitted foreign earnings in the next few years (Bomey 2018; Kim 2018; Wakabayashi & Chen 2018). While some MNCs may use their tax windfalls to increase investment and hire additional employees (e.g., Glazer 2018; Graham 2018), others are likely to use the remitted earnings for dividends, repurchases, or other corporate purposes such as philanthropic giving. While the possibility of large payouts has been criticized in the business press as unlikely to benefit workers, our results suggest that large-scale repatriations may increase domestic employment, even if repatriated earnings are not used directly to hire additional workers.

References

- Altshuler, R., Grubert, H., 2003. Repatriation taxes, repatriation strategies and multinational financial policy. *Journal of Public Economics* 87, 73-107
- Altshuler, R., Grubert, H., Newlon, T.S., 2000. Has U.S. Investment Abroad Become More Sensitive to Tax Rates? In: *International Taxation and Multinational Activity*, pp. 9-32. University of Chicago Press
- Altshuler, R., Newlon, T., Randolph, W., 2007. Do Repatriation Taxes Matter? Evidence from the Tax Returns of U.S. Multinationals. In: Feldstein M, Hines J & Hubbard R (eds.) *The Effects of Taxation on Multinational Corporations*. Chicago: The University of Chicago Press.
- Angrist, J.D., Pischke, J.-S., 2008. *Mostly harmless econometrics: An empiricist's companion*. Princeton university press.
- Blouin, J., Krull, L., 2009. Bringing It Home: A Study of the Incentives Surrounding the Repatriation of Foreign Earnings Under the American Jobs Creation Act of 2004. *Journal of Accounting Research* 47, 1027-1059
- Blouin, J.L., Krull, L.K., Robinson, L.A., 2014. Where in the World are 'Permanently Reinvested' Foreign Earnings? Working Paper
- Bomey, N., 2018. Pfizer reaps windfall from Trump tax cut, plans to shift billions back to U.S. *USA Today*
- Brennan, T.J., 2014. Where the Money Really Went: A New Understanding of the AJCA Tax Holiday. Working Paper
- Citizens for Tax Justice, 2016. Fortune 500 Companies Hold a Record \$2.4 Trillion Overseas. In: Citizens for Tax Justice
- Clemons, R., Kinney, M., 2008. An analysis of the tax holiday for repatriation under the jobs act. *Tax Notes*, 759-768
- Coval, J.D., Moskowitz, T.J., 1999. Home Bias at Home: Local Equity Preference in Domestic Portfolios. *The Journal of Finance* 54, 2045-2073
- Deogun, N., 1997. The Legacy: Roberto Goizueta Led Coca-Cola Stock Surge, and Its Home Prospers. *Wall Street Journal*
- Dharmapala, D., Foley, C.F., Forbes, K.J., 2011. Watch What I Do, Not What I Say: The Unintended Consequences of the Homeland Investment Act. *The Journal of Finance* 66, 753-787
- Edwards, A., Kravet, T., Wilson, R., 2016. Trapped Cash and the Profitability of Foreign

Acquisitions. *Contemporary Accounting Research* 33, 44-77

- Egan, M., 2018. Only a small slice of corporate America has shared tax savings with workers so far. In: CNN Money
- Faulkender, M., Petersen, M., 2012. Investment and Capital Constraints: Repatriations Under the American Jobs Creation Act. *Review of Financial Studies* 25, 3351-3388
- Feng, L.E.I., Seasholes, M.S., 2004. Correlated Trading and Location. *The Journal of Finance* 59, 2117-2144
- Foley, C.F., Hartzell, J.C., Titman, S., Twite, G., 2007. Why do Firms Hold so Much Cash? A Tax-based Explanation. *Journal of Financial Economics* 86, 579-607
- French, K., Poterba, J., 1991. Investor Diversification and International Equity Markets. National Bureau of Economic Research
- Galaskiewicz, J., 1997. An Urban Grants Economy Revisited: Corporate Charitable Contributions in the Twin Cities, 1979-81, 1987-89. *Administrative Science Quarterly* 42, 445
- Glazer, E., 2018. How JPMorgan Will Spend a Big Chunk of Its Tax Windfall. In: Wall Street Journal
- Goetzmann, W.N., Kumar, A., 2008. Equity Portfolio Diversification. *Review of Finance* 12, 433-463
- Graham, J., 2018. Apple to hire 20,000, open new campus and pay \$38 billion tax bill on overseas profits. In: USA Today
- Graham, J.R., Hanlon, M., Shevlin, T., 2011. Real Effects of Accounting Rules: Evidence from Multinational Firms' Investment Location and Profit Repatriation Decisions. *Journal of Accounting Research* 49, 137-185
- Grinblatt, M., Keloharju, M., 2001. How Distance, Language, and Culture Influence Stockholdings and Trades. *The Journal of Finance* 56, 1053-1073
- Haley, U.C.V., 1991. Corporate Contributions As Managerial Masques: Reframing Corporate Contributions As Strategies to Influence Society*. *Journal of Management Studies* 28, 485-510
- Hanlon, M., Lester, R., Verdi, R., 2015. The effect of repatriation tax costs on U.S. multinational investment. *Journal of Financial Economics* 116, 179-196
- Hartman, D.G., 1985. Tax policy and foreign direct investment. *Journal of Public economics* 26, 107-121
- Ivković, Z., Weisbenner, S., 2005. Local Does as Local Is: Information Content of the

- Geography of Individual Investors' Common Stock Investments. *The Journal of Finance* 60, 267-306
- Karlsson, A., Nordén, L., 2007. Home sweet home: Home bias and international diversification among individual investors. *Journal of Banking & Finance* 31, 317-333
- Kim, T., 2018. Apple, tech companies to bring back \$400 billion in overseas cash to the US: Estimate. In: CNBC
- Koenker, R., Hallock, K.F., 2001. Quantile Regression. *Journal of Economic Perspectives* 15, 143-156
- Lechner, M., 2010. The Estimation of Causal Effects by Difference-in-Difference Methods Estimation of Spatial Panels. *Foundations and Trends® in Econometrics* 4, 165-224
- Lumley, T., Diehr, P., Emerson, S., Chen, L., 2002. The Importance of the Normality Assumption in Large Public Health Data Sets. *Annual Review of Public Health* 23, 151-169
- Massa, M., Simonov, A., 2006. Hedging, Familiarity and Portfolio Choice. *Review of Financial Studies* 19, 633-685
- McElroy, K.M., Siegfried, J.J., 1986. The Community Influence on Corporate Contributions. *Public Finance Quarterly* 14, 394-414
- Morrow, M., Ricketts, R.C., 2014. Financial Reporting versus Tax Incentives and Repatriation under the 2004 Tax Holiday. *The Journal of the American Taxation Association* 36, 63-87
- Navarro, P., 1988. Why Do Corporations Give to Charity? *The Journal of Business* 61, 65-93
- Otani, A., Rubin, R., Francis, T., 2018. Boom in Share Buybacks Renews Question of Who Wins From Tax Cuts. In: *Wall Street Journal*
- Permanent Subcommittee on Investigations, 2011. Repatriating Offshore Funds: 2004 Tax Windfall for Select Multinationals. In: *United States Senate Majority Staff*
- Redmiles, M., 2008. The one-time received dividend deduction. *Statistics of Income Bulletin* 27, 103-117
- Rubin, R., 2013. Baucus Proposes Minimum U.S. Tax on Foreign Earnings. In: *Bloomberg*
- Scholes, M.S., Wolfson, M.A., Erickson, M.M., Hanlon, M.L., Maydew, E.L., Shevlin, T., 2015. *Taxes and Business Strategy: A Planning Approach*. Pearson, Upper Saddle River, NJ.
- Scott, J., 2015. Obama's Foreign Earnings Tax: 19% Minimum DOA But Deemed Repatriations Key. In: *Forbes*
- Sommer, J., 2016. A Stranded \$2 Trillion Overseas Stash Gets Closer to Coming Home. In: *New*

York Times

Thurm, S., 2002. Five Giant Tech Companies Are Sitting on Piles of Cash. In: Wall Street Journal

Turner, M., Garber, J., 2017. Companies are rushing to announce special bonuses and pay hikes after the GOP tax plan. In: Business Insider

Wakabayashi, D., Chen, B.X., 2018. Apple, Capitalizing on New Tax Law, Plans to Bring Billions in Cash Back to U.S. In: New York Times

Wolk, M., 2004. Bush quietly signs corporate tax-cut bill. In: MSNBC. Associated Press

Figure 1 shows the frequency of repatriation amounts for firms that repatriated greater than \$100 million under the American Jobs Creation Act of 2004. Frequencies are in bins with a width of \$25 million beginning with \$100 million and ending with \$1 billion. All firms that repatriated an amount greater than \$1 billion are shown in the bin labeled “More”.

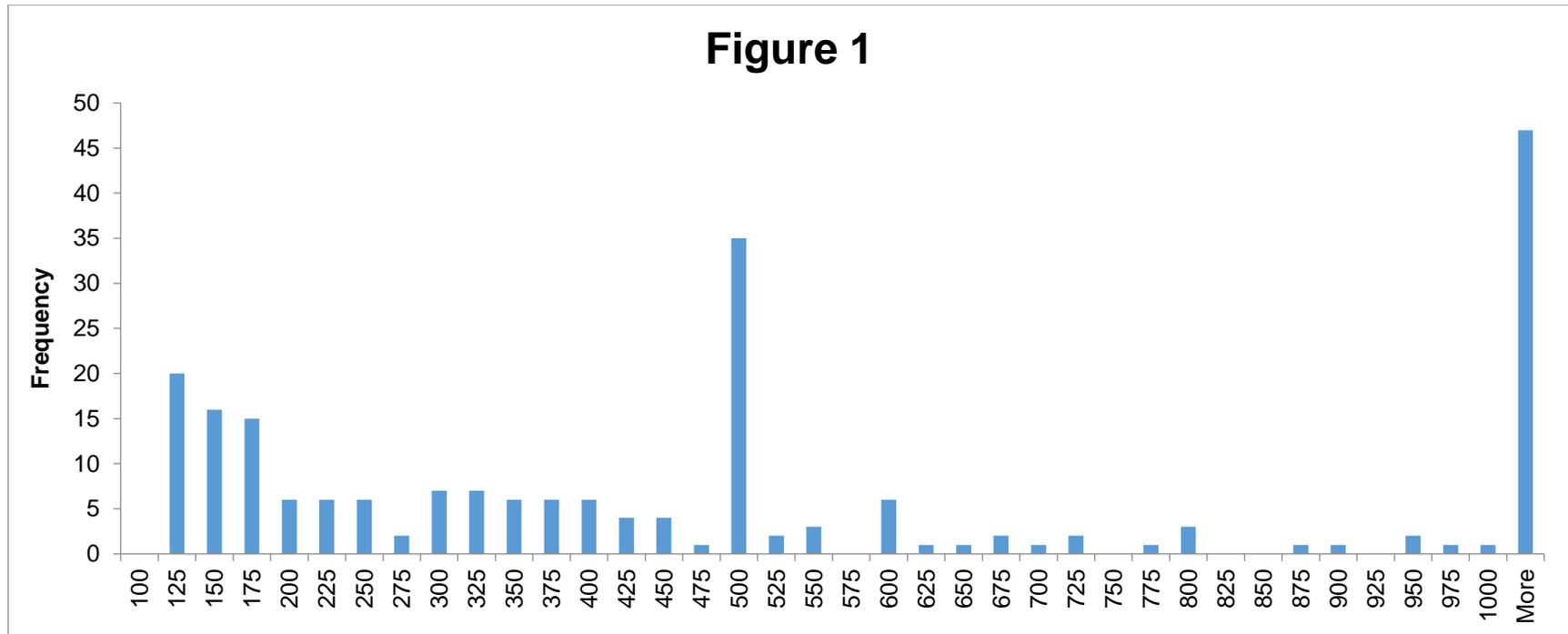


Figure 2 shows the locations of the 442 repatriating MNCs in our sample based on the locations of their headquarters. Each pin represents the location of the headquarters of a repatriating MNC. If there is more than one repatriating MNC with headquarters in the same zip code then a number appears inside the head of the pin to indicate the number of repatriating MNCs in that zip code.

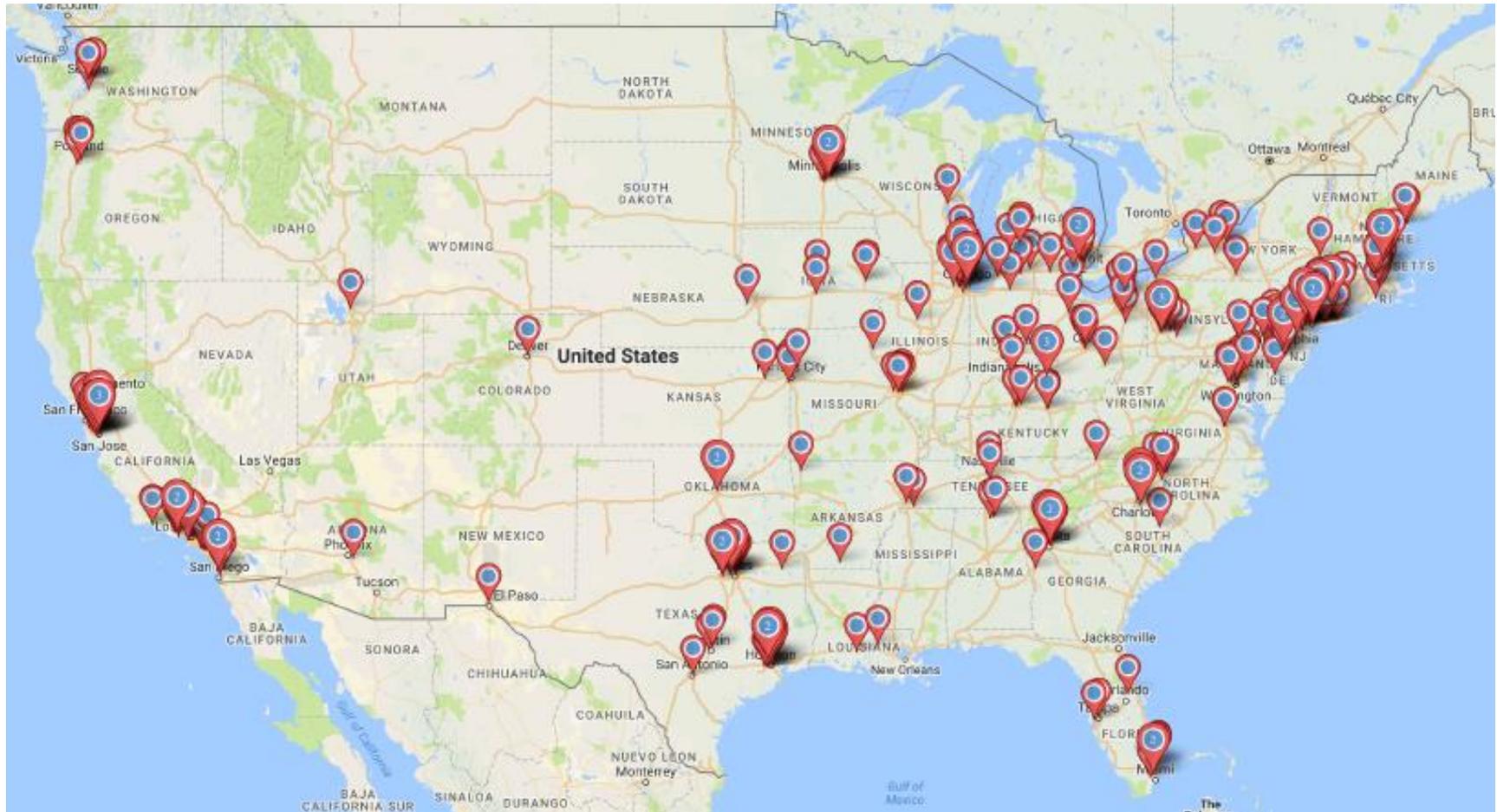


Figure 3 displays the net quarterly dividends received by U.S. MNCs from their foreign subsidiaries from 2000-2010. Data on net dividends is from the Federal Reserve Board Flow of Funds Data. Values shown on the Y-axis are in billions of dollars.

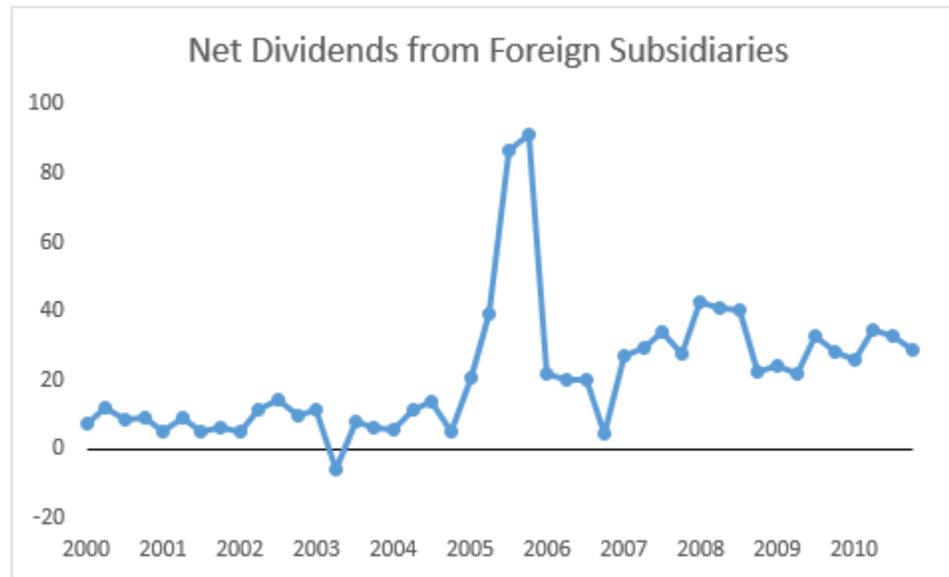


Figure 3

Figure 4 depicts how CDXZipStream, a Microsoft Excel add-on, calculates a 5-mile radius around the centroid of zip code 98204. The radius function provided by CDXZipStream locates the centroids of all other zip codes with a given radius of the centroid from a base zip code. Using zip code 98204 as an example, the radius function locates six zip codes in addition to 98204 whose centroids are located within a 5-mile radius. If portions of a nearby zip code are included in the radius, but the centroid is not, then the nearby zip code is not included in the radius function. For example, zip codes such as 98290, 98236, and 98206 are not included in the 5-mile radius.

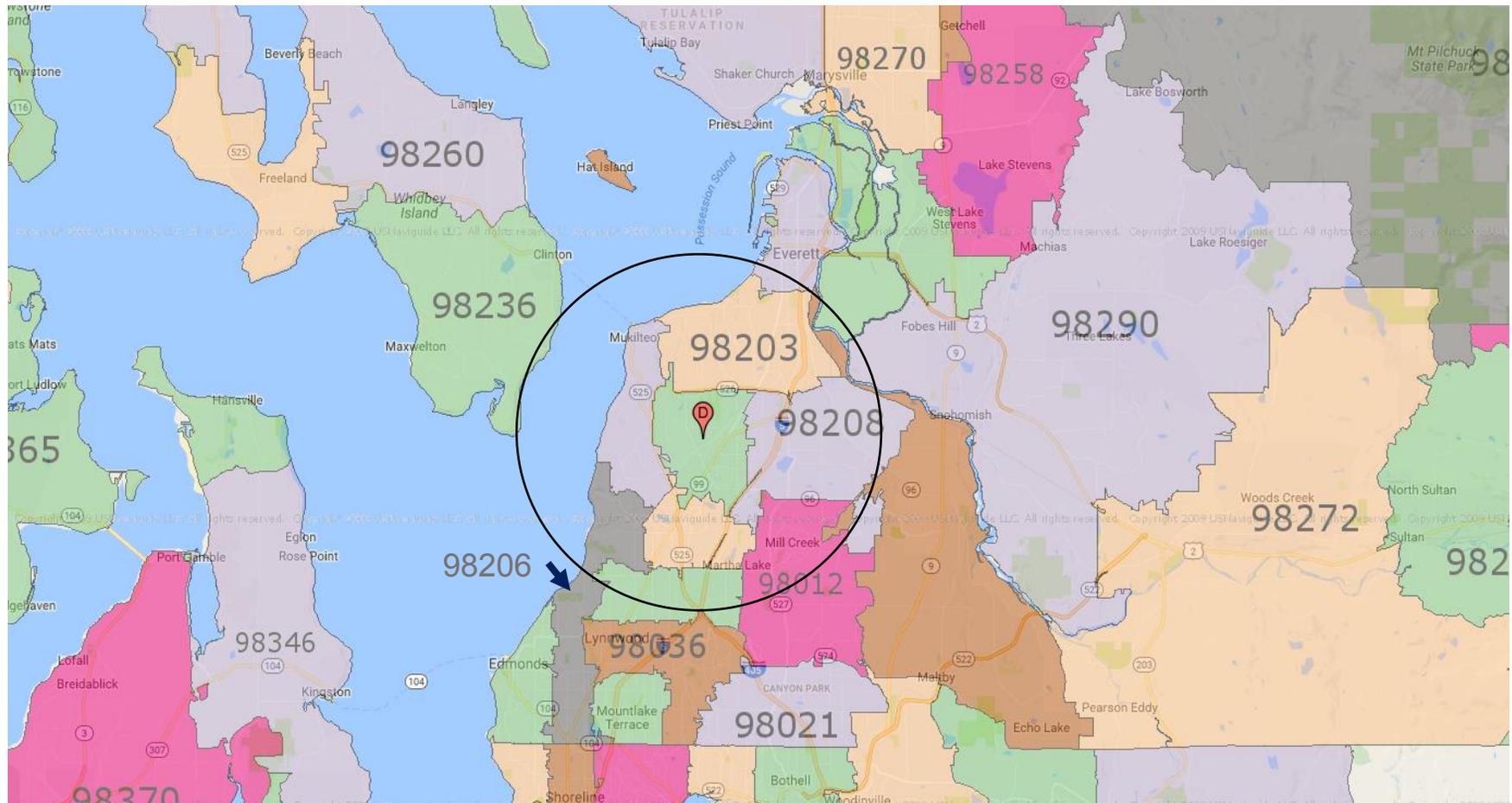


Figure 4

Figure 5 plots the coefficient estimates for the results of the quantile regression shown in Table 5. The y-axis is the magnitude of the coefficient estimate for *Post*SumRepatriation* and the x-axis is the percentile or quantile level at which the regression is estimated. The shaded area around the dark line represents the 95% confidence interval surrounding the coefficient estimates at each quantile level.

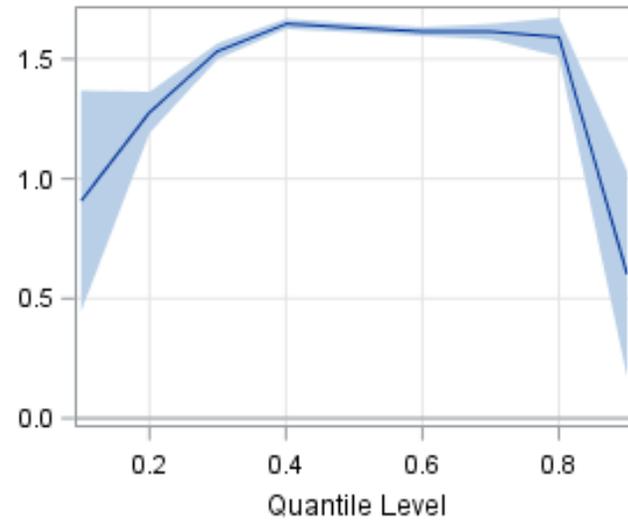


Table 1 displays repatriation amounts under the AJCA for corporations in our sample relative to other studies. Redmiles (2008) uses IRS data and reports the total amount of repatriation under the AJCA for both public and private firms. Thus, her sample is assumed to be exhaustive. Below, the total repatriation amounts used in other studies are compared to the amount reported by Redmiles (2008).

Table 1

Sample	Number of Firms	Number of Firms that disclose	Repatriations	
			Amount	Percent
Redmiles(2008)	843		312.3	100.00%
Blouin and Krull (2009)#	455	N/A	310	99%
Faulkender and Petersen (2012)	442	423	298	95%
Dharmapala et al. (2011)*	261	N/A	N/A	N/A
Brennan (2014)	440	417	297.1	95%
<i>Our Sample</i>	471	444	289.9	93%

Blouin and Krull (2009) identify 455 firms that repatriate a total of \$310 billion. Information is not provided on whether all 455 firms disclose the amount repatriated. Due to data limitations, they use 350 repatriating firms in their analysis. They report the average repatriation amount for the 350 firms as \$833.14 million for a total of \$291.6 billion.

*Using BEA data, Dharmapala et al. (2011) report that they have data on 261 repatriating firms, and a total of 924 repatriating and non-repatriating firms. Their descriptive statistics report that the average repatriation amount across all 924 firms is \$71.153 million. This suggests that the total amount of repatriations for firms in the study is \$65.75 billion.

Table 2 provides summary details on repatriation amounts. Panel A reports the summary statistics for amount repatriated by firm for the 442 MNCs in our sample that disclose the amount repatriated under the AJCA. Panel B reports the summary statistics for repatriation amount by zip code. *SumRepatriation* is the total repatriation amount within a zip code and *CountRepatriation* is the number of repatriating MNCs within a given zip code.

Table 2: Panel A

	Mean	SD	Min	10%	25%	Median	75%	90%	Max
Repatriation_amount	655.91	2,344.98	0.93	9.20	30	101.50	476.40	1,100	35,491
Number of MNCs	442								

Table 2: Panel B

	mean	sd	min	p10	p25	p50	p75	p90	max
SumRepatriation	796.46	2901.74	0.93	8.52	31.8	109.7	500	1300	43792.2
CountRepatriation	1.24	0.66	1	1	1	1	1	2	7
Number of zip codes	364								

Table 3 – Panel A reports the descriptive statistics for variables used in the main analysis when using a 5-mile employment radius for the years 2003-2008. Table 3 – Panel B reports the Pearson and Spearman correlations for variables used in estimating Equation 1 when a 5-mile radius is used. The Pearson (Spearman) correlations are shown below (above) the diagonal. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels using a two-tailed test.

Table 3 - Panel A : Descriptive Statistics - 10 Mile Radius

Variable	Mean	SD	10%	25%	Median	75%	90%
SumEmp	118,778	268,053	340	1,859	12,185	100,740	376,456
Post	0.50	0.50	0.00	0.00	0.00	1.00	1.00
SumRepatriation	651.94	5137.22	0.00	0.00	0.00	0.00	321.00
AnnSalary	31.99	10.90	21.14	25.07	30.12	36.73	44.89
Wages	13.22	2.35	10.20	11.53	13.11	15.12	16.39
Dividends	9.30	2.86	5.55	7.25	9.32	11.55	13.05
Net Income	583.37	4,223	0.00	0.00	0.00	28	1,301
Emp (Compustat)	41,293	140,995	0.00	0.00	0.00	5,978	110,582
Number of Observations	227,655						
Number of Unique Zip Codes	38,736						

Table 3 - Panel B: Correlation Table - 10 Mile Radius

		A	B	C	D	E	F	G	H
SumEmp	A	1	0.007***	0.018***	0.729***	0.950***	0.952***	0.459***	0.745***
Post	B	0.013***	1	-0.137***	0.195***	-0.079***	-0.003	-0.108***	-0.067***
SumRepatriation	C	0.049***	0	1	-0.009***	0.031***	0.019***	0.034***	0.036***
AnnSalary	D	0.617***	0.178***	0.079***	1	0.693***	0.710***	0.352***	0.600***
Wages	E	0.694***	-0.031***	0.047***	0.641***	1	0.963***	0.454***	0.726***
Dividends	F	0.674***	0.033***	0.047***	0.649***	0.954***	1	0.453***	0.732***
Net Income	G	0.341***	-0.007***	0.024***	0.221***	0.219***	0.216***	1	0.502***
Emp (Compustat)	H	0.719***	0.008***	0.057***	0.520***	0.471***	0.472***	0.403***	1

Table 4 –Panel A reports the results of estimating the following equation: $SumEmp_{it} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Repatriation_{it} + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net Income_{it} + \theta_5 Emp(Compustat)_{it} + \gamma_i + \epsilon_{it}$ for the years 2003-2008 for the following employment radii: 5, 10, 15, 20, 25, 30, 35, 40, 45, and 50. Table 4 – Panel B reports the results of estimating the following equation: $Log(SumEmp_{it}) = \alpha + \beta_1 Post_t + \beta_2 Post_t * Log(Repatriation_{it}) + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net Income_{it} + \theta_5 Emp(Compustat)_{it} + \gamma_i + \epsilon_{it}$ for the years 2003-2008 for the following employment radii: 5, 10, 15, 20, 25, 30, 35, 40, 45, and 50. Table 4 – Panel C reports the results of estimating the following equation: $\Delta SumEmp_{it} = \alpha + \beta_1 Post_t + \beta_2 SumRepatriation_i + \beta_3 Post_t * Repatriation_{it} + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net Income_{it} + \theta_5 Emp(Compustat)_{it} + \epsilon_{it}$ for the years 2003-2008 for the following radii: 5, 10, 15, 20, 25, 30, 35, 40, 45, and 50. *SumEmp* is the sum of employment for all zip codes whose centroids are located within a specified radius of the centroid of the base zip code. $\Delta SumEmp$ is the annual change in employment for all zip codes whose centroids are located within a specified radius of the centroid of the base zip code. *Post* is an indicator equal to one for the years 2005-2008. *SumRepatriation* is the total amount of funds (in millions) repatriated by MNCs whose headquarters are in the base zip code. *AnnSalary* is the average annual salary per employee (in thousands) for employees in zip codes within a given radius of zip code *i* in time *t*. *Wages* is the log of the aggregate amount of salaries and wages for all filers in zip codes within a given radius around the centroid of zip code *i* in year *t*. *Dividends* is the log of the aggregate amount of taxable dividends for all filers in zip codes within a given radius around the centroid of zip code *i* in year *t*. *Net Income* is the aggregate net income for all public, non-repatriating firms headquartered in zip codes within a given radius around the centroid of zip code *i* in year *t*. *Emp (Compustat)* is the aggregate number of employees listed on Compustat for all public, non-repatriating firms headquartered in zip codes within a given radius around the centroid of zip code *i* in year *t*. γ_i is an employment radius fixed effect. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels using a two-tailed test. *T-statistics* are shown in parentheses below the coefficient estimates. Standard errors are clustered at the zip code level.

Table 4 - Panel B : Change in Employment

	5-mile	10-mile	15-mile	20-mile	25-mile	30-mile	35-mile	40-mile	45-mile	50-mile
Post	-12.940*** (-15.720)	-17.090*** (-28.280)	-13.130*** (-31.290)	-12.160*** (-37.170)	-9.142*** (-27.380)	-7.879*** (-22.760)	-7.254*** (-24.220)	-7.431*** (-34.320)	-7.106*** (-34.670)	-7.028*** (-36.520)
SumRepatriation	-0.000*** (-3.185)	0.000 (1.135)	0.000*** (6.634)	0.000*** (11.750)	0.000*** (18.750)	0.000*** (25.330)	0.000*** (29.430)	0.000*** (34.700)	0.000*** (38.460)	0.000*** (41.580)
Post * SumRepatriation	0.003 (1.560)	0.002* (1.828)	0.002* (1.905)	0.001* (1.907)	0.001* (1.832)	0.001 (1.571)	0.001 (1.448)	0.001 (1.241)	0.000 (1.203)	0.000 (1.092)
AnnSalary	-0.538*** (-8.215)	-0.146** (-2.005)	0.210*** (3.742)	0.181*** (2.989)	-0.170*** (-2.682)	-0.162** (-2.154)	-0.147** (-2.177)	0.025 (0.687)	0.038 (1.081)	0.027 (0.796)
Wages	5.247*** (9.338)	1.508*** (2.950)	1.428*** (3.186)	4.094*** (7.793)	2.571*** (5.821)	3.108*** (7.711)	3.286*** (8.478)	3.809*** (11.230)	4.110*** (12.870)	3.793*** (13.050)
Dividends	-3.776*** (-8.085)	0.586 (1.307)	0.587 (1.364)	-1.168** (-2.342)	0.227 (0.497)	-0.655 (-1.552)	-1.256*** (-2.999)	-2.361*** (-6.640)	-2.908*** (-8.653)	-2.747*** (-8.878)
Net Income	-0.000*** (-3.185)	0.000 (1.135)	0.000*** (6.634)	0.000*** (11.750)	0.000*** (18.750)	0.000*** (25.330)	0.000*** (29.430)	0.000*** (34.700)	0.000*** (38.460)	0.000*** (41.580)
Emp (Compustat)	0.000*** (6.457)	-0.000*** (-6.613)	-0.000*** (-19.730)	-0.000*** (-23.130)	-0.000*** (-13.590)	-0.000*** (-9.449)	-0.000*** (-9.077)	-0.000*** (-18.380)	-0.000*** (-18.070)	-0.000*** (-17.670)
N	214,897	230,376	234,828	237,024	237,989	238,640	238,994	239,300	239,505	239,676
R-squared	0.003	0.005	0.007	0.010	0.011	0.011	0.011	0.012	0.014	0.015

Table 5 reports the results of estimating a quantile regression for the following equation: $SumEmp_{it} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Repatriation_{it} + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net Income_{it} + \theta_5 Emp(Compustat)_{it} + \gamma_i + \epsilon_{it}$ at a 10-mile employment radius. The regression is estimated at the 10th-90th percentile in increments of 10. *SumEmp* is the sum of employment for all zip codes whose centroids are located within a specified radius of the centroid of the base zip code. *Post* is an indicator equal to one for the years 2005-2008. *SumRepatriation* is the total amount of funds (in millions) repatriated by MNCs whose headquarters are in the base zip code. *AnnSalary* is the average annual salary per employee (in thousands) for employees in zip codes within a given radius of zip code *i* in time *t*. *Wages* is the log of the aggregate amount of salaries and wages for all filers in zip codes within a given radius around the centroid of zip code *i* in year *t*. *Dividends* is the log of the aggregate amount of taxable dividends for all filers in zip codes within a given radius around the centroid of zip code *i* in year *t*. *Net Income* is the aggregate net income for all public, non-repatriating firms headquartered in zip codes within a given radius around the centroid of zip code *i* in year *t*. *Emp (Compustat)* is the aggregate number of employees listed on Compustat for all public, non-repatriating firms headquartered in zip codes within a given radius around the centroid of zip code *i* in year *t*. γ_i is an employment radius fixed effect. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels using a two-tailed test. *T-statistics* are shown in parentheses below the coefficient estimates.

Table 6 reports the results of the parallel trend test when estimating Equation 3: $SumEmp_{it} = \alpha + \beta_1 Year_t + \beta_2 Year_t * SumRepatriation_i + \gamma_i + \theta_\eta Controls_{it} + \epsilon_{it}$. $SumEmp$ is the sum of employment for all zip codes whose centroids are located within a 10-mile radius of the centroid of the base zip code. γ_i is a zip code fixed effect. $SumRepatriation$ is the total amount of funds (in millions) repatriated by MNCs whose headquarters are in the base zip code. $AnnSalary$ is the average annual salary per employee (in thousands) for employees in zip codes within a 10-mile radius of zip code i in time t . $Net Income$ is the aggregate net income for all public, non-repatriating firms headquartered in zip codes within a 10-mile radius around the centroid of zip code i in year t . $Emp (Compustat)$ is the aggregate number of employees listed on Compustat for all public, non-repatriating firms headquartered in zip codes within a 10-mile radius around the centroid of zip code i in year t . γ_i is an employment radius fixed effect. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels using a two-tailed test. T-statistics are shown in parentheses to the right of coefficient estimates. Standard errors are clustered at the zip code level.

TABLE 6 - Panel B: Parallel Trends

Variable	2003-2010	
	Coefficient	t-stat
2004	1086.000***	(23.620)
2005	1229.000***	(21.920)
2006	2826.000***	(39.760)
2007	2450.000***	(35.160)
2008	2565.000***	(35.800)
2009	-2584.000***	(-32.940)
2010	-2646.000***	(-31.690)
2004*SumRepatriation	-0.528	(-1.312)
2005*SumRepatriation	-0.428	(-0.907)
2006*SumRepatriation	1.273*	(1.868)
2007*SumRepatriation	0.983*	(1.819)
2008*SumRepatriation	2.022***	(2.834)
2009*SumRepatriation	-1.461	(-1.551)
2010*SumRepatriation	0.242	(0.227)
Ann_Salary	136.700***	(10.610)
Net Income	-0.384***	(-16.870)
Emp (Compustat)	0.096***	(62.710)
N	307,900	
R-squared	0.998	
Zip Code FE	Yes	

Table 7 reports the results of estimating either Equation 1: $SumEmp_{it} = \alpha + \beta_1 Post_t + \beta_2 Post_t * Repatriation_{it} + \theta_1 AnnSalary_{it} + \theta_2 Wages_{it} + \theta_3 Dividends_{it} + \theta_4 Net Income_{it} + \theta_5 Emp(Compustat)_{it} + \gamma_i + \epsilon_{it}$ for the years 2003-2008 at the Metropolitan Statistical Area (MSA) level. The dependent variable used in all regression estimations is *SumEmp*, the sum of employment for all zip codes located within an MSA for a given year. *Post* is an indicator equal to one for the years 2005-2008. *SumRepatriation* is the total amount of cash (in millions) repatriated by MNCs whose headquarters are in a given MSA. γ_i is an MSA-level fixed effect. *AnnSalary* is the average annual salary per employee (in thousands) for employees in zip codes within a given MSA in time t . *Wages* is the log of the aggregate amount of salaries and wages for all filers in all zip codes within a given MSA in year t . *Dividends* is the log of the aggregate amount of taxable dividends for all filers in all zip codes within a given MSA in year t . *Net Income* is the aggregate net income for all public, non-repatriating firms headquartered in a given MSA in year t . *Emp (Compustat)* is the aggregate number of employees listed on Compustat for all public, non-repatriating firms headquartered in a given MSA in year t . The first column includes only MSAs defined by the Office of Management and Budget and used by the Department of Labor. The second column estimates Equation 1 when including an additional MSA comprised of all rural areas that are not included in any MSA, as defined by the Office of Management and Budget. The third column removes the New York MSA and estimates Equation 1. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels using a two-tailed test. T-statistics are shown in parentheses to the right of coefficient estimates. Standard errors are clustered at the MSA level.

Table 7: MSA Analysis

Variable	MSA		All Zip Codes		Without NY MSA	
	Coefficient	t-Stat	Coefficient	t-Stat	Coefficient	t-Stat
Post	686.200	(0.551)	1951.000	(1.099)	1115.000	(0.914)
Post * SumRepatriation	0.730**	(2.045)	0.729**	(2.062)	4.020***	(3.306)
AnnSalary	2793.000***	(4.534)	2757.000***	(4.463)	2294.000***	(4.091)
Wages	581.300	(0.428)	814.800	(0.594)	180.200	(0.139)
Dividends	1523.000	(0.862)	1283.000	(0.738)	1831.000	(1.059)
Net Income	-0.748*	(-1.932)	-0.718*	(-1.807)	-1.026**	(-2.552)
Emp (Compustat)	0.215***	(3.225)	0.236***	(3.493)	0.075***	(2.845)
N	2,188		2,194		2,182	
Clusters	366		367		365	
MSA FE	Yes		Yes		Yes	