

Market Pressure and the Repatriation of Foreign Earnings: Evidence from an SEC Experiment

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Abstract: We examine the relation between capital market pressure and firms' decisions to repatriate foreign earnings. We use two exogenous events to identify the relation: the repatriation tax holiday under the AJCA, and the temporary lifting of short selling restrictions for randomly selected firms under SEC Regulation SHO. We find that the increased discipline from the capital market pressure of short sellers leads to greater amount of, repatriations under the AJCA but does not lead to a greater likelihood. This research contributes to our understanding of the role of capital market pressure on a firm investment decision that is influenced significantly by tax considerations.

1. Introduction

The use of the worldwide system of taxation and the associated taxation of repatriated foreign earnings continues to be a significant topic of discussion within the U.S., the last major country that employed this approach to multinational companies. The Tax Cuts and Jobs Act (TCJA) of 2017 will transition the U.S. tax system towards a territorial one, similar to those used by all other major economies. However, the new approach to taxing multinational activity contains a myriad of rules designed to influence the location of productive assets. How firms respond to the incentives imposed by the tax system continues to be an important question.

Evidence from the previous repatriation tax holiday under the American Jobs Creation Act (AJCA) of 2004, described more fully below, reveals that firms responded to the tax incentives differently, depending on a variety of internal characteristics. There is much speculation as to the effect of the new law, with commentators suggesting that equity investors will be the greatest beneficiaries (e.g., Herzig, 2017; Lovelace, 2017; and Stone, 2017).

In this paper, we extend prior research on the factors that influence managers' decisions around international operations to include capital market pressure. Blouin and Krull (2009) find that firms are more likely to repatriate, and repatriate more during the tax holiday, when the incremental tax cost to repatriate is high without the holiday, when the investment prospect of the firm are low, and when the firm has greater free cash flow. They assert that the tax holiday altered the internal returns on investment (ROI) calculus that encourages the foreign cash to remain outside the U.S., causing some firms to repatriate. Dyreng, Markle, and Medrano (2016) examine how a firm trades off using domestic losses (and forgoing the losses carried forward) and forgoing foreign tax credits when making decision to repatriate foreign earnings and find that firms with domestic losses are less likely to repatriate.

Capital market pressure encourages managers to make efficient investment decisions. For many firms, holding foreign cash is inefficient (Harford, Wang and Zhang, 2017; Edwards, Kravet and Wilson, 2015). However, left unexplored is the role of firm-specific capital market pressure in influencing managerial decision to repatriate foreign earnings, in general, and under the AJCA, in particular. We address this unanswered question using a strong, randomized identification strategy.

In June 2004, the SEC announced the adoption of Regulation SHO (hereafter RegSHO) that contains a pilot program to temporarily remove the price-test for a random third of the firms in the Russell 3000 index that contains the largest 3000 public U.S. companies. This temporary exogenous removal of the short-selling constraint for a random sample of firms that were part of the RegSHO pilot program (“Pilot Firms”) provides an ideal setting in which to assess how firms alter tax-affected investment decisions to respond to the increased capital market pressure. Firstly, the exogenous shock allows us to implement a design that strengthens the causal interpretation. Secondly, Diether, Lee, and Werner (2009a) find that as the cost of short-selling decreases, short-selling activities increase and, for only firms in the pilot program, short sellers switch to a more active strategy. Because short sellers look more actively for information that indicate overvaluation of stocks, external monitoring by short sellers becomes more intense. This, in turn, increases for the Pilot Firms, but not for non-pilot firms.

To test our hypotheses, we follow the research design of Blouin and Krull (2009). An important feature of the AJCA setting is that firms were required to disclose their repatriation behavior under the Act. Blouin and Krull identify 357 firms that repatriated under the AJCA in 2004 and 2005. Using these firms that repatriated, and a group of control firms that did not repatriate, we test whether the Pilot Firms were more likely to repatriate, and repatriated more,

than non-pilot firms.¹ Specifically, we regress the likelihood of repatriation on our Pilot Firm indicator and a series of control variables. This repatriation likelihood is proxied by the repatriation indicator variable (that equals one for firms which repatriated their foreign earnings under the AJCA and zero otherwise). Secondly, we regress the amount of the repatriation (relative to the cumulated permanently reinvested earnings of the firm) on our Pilot Firm indicator and control variables. We test separately the influence of market pressure on the decision to repatriate under the AJCA, from the influence of market pressure on the amount repatriated. Blouin and Krull found that the same firm characteristics drive both decisions. However, because the reasons the firm decides not to repatriate under the AJCA is not public, it is possible that the pressure of short-sellers will more strongly influence the amount of the repatriation.

Our results show that the amount of repatriation among repatriated firms is, on average, higher for the Pilot Firms than for non-pilot firms. This evidence is consistent with managers responding more strongly to the reduced tax disincentives to maintain their foreign earnings outside the U.S. However, we fail to find evidence that the increased market pressure felt by Pilot Firms increased the likelihood that the firm would repatriate under the AJCA. In supplemental analysis, we show that when the decision to repatriate under the holiday and the decision on the amount to repatriate are modeled simultaneously, the primary results continue to hold.

Our study contributes to two distinct streams of literature. Firstly, extant research on the factors that influence repatriations have focused more on internal factors. Blouin and Krull (2009) analyze the cost-returns trade-off of the firm and find that when ROI at home and abroad are particularly low but the tax cost of repatriating is high, firms will be more active in using the tax

¹ We thank Professor Blouin for generously providing us with the names of firms in her study.

holiday. We extend this analysis to consider the external pressures that managers face from the capital market. Understanding the role of capital market pressure in making tax-driven investment and financing decisions is important but rarely studied. To study the effect of differences in shareholder agency costs on tax planning broadly, Chen, Chen, Cheng, and Shevlin (2010) use family ownership, McGuire, Wang and Wilson (2014) use dual class ownership structures, Badertscher, Katz and Rego (2013) use owner-managed versus private-equity owned; and Klassen (1997) uses inside ownership to proxy for closely-held firms. To the best of our knowledge, however, the effects of cross-sectional differences in capital market pressure that arise in ways other than through ownership structure have not been studied in either a general context or in a specific tax-driven decision context.

Secondly, short selling accounts for a large portion of transactions in the capital market, but empirical evidence on how short-selling activities relate to a firm's tax decision is scarce. Only two studies relate tax matters to short-selling activities. Thornock (2013) examines how dividend tax discourages short selling because short sellers cannot recover the amount of the dividend paid to the lender from short-selling profit. While providing evidence that short sellers are aware of tax issues, Thornock (2013) examines the market implication of a tax policy rather than the effect of market force on a firm's tax decision. Chi, Pincus, and Teoh (2014) show that short sellers profit from their superior ability to process information contained in the book-tax differences (BTDs) but do not examine how firms respond to increased short-selling pressures. More broadly, the literature on the effects of short sellers on managerial decisions, described in greater detail below, focus on their effects on financial decisions rather than on operating decisions. Our study contributes to this literature by providing evidence on how firms' tax-driven investment decisions change in response to the increased short-selling pressure due to the exogenous lift on short-selling constraint.

2. Background and Hypothesis

2.1 Repatriation Decision and the American Jobs Creation Act (AJCA)

The U.S. uses a worldwide tax system that taxes U.S. multinational corporations (MNC) on their foreign business income when it is paid to the U.S. parent, or repatriated. For tax purposes, the U.S. tax due equals the amount repatriated multiplied by the U.S. tax rate (35%) less any tax credit given for foreign taxes paid on these foreign earnings. Due to the ability that U.S. multinationals have to average across income from different countries when repatriating, foreign earnings that are accumulated offshore are generally assumed to carry a tax rate of close to zero, causing the repatriation tax to be approximately 35%.

For accounting purpose, the MNC accrues deferred tax liabilities on unrepatriated earnings unless the *indefinite reversal exception* applies. This exception permits the company to avoid recognizing the deferred tax liabilities if the firm intends to indefinitely reinvest the foreign earnings.² For disclosure purpose, Accounting Standards Codification (ASC) 740, *Income Taxes* requires an MNC to disclose the amount under the exception (typically referred to as permanently reinvested earnings, or PRE) at the end of every fiscal year in the annual report. The standard also requires the firm to estimate, if practicable, the tax liability that would be due if the firm repatriates the PRE.³

The literature has examined whether this domestic tax upon repatriation deters MNCs from repatriating foreign earnings. Hartman (1985) shows that the MNC will repatriate if the domestic market generates a higher return, so the repatriation decision depends on which side of operation earns a higher return but does not depend on repatriation taxes. When the return is the

² FASB ASC 740 has more details on the accounting treatment of undistributed foreign earnings.

³ For our sample firms, some provide estimate of the liability and others simply state that it is not practicable to determine the tax that associated with the PRE.

same in both locations, the net present value is the same whether the income resides in the foreign or the domestic market, so the firm will eventually pay the same repatriation tax, on a net present value basis. However, with the possibility of borrowing domestically and reinvesting foreign earnings in foreign financial assets, it is cheaper for firms to fund domestic operation by borrowing rather than by paying the repatriation tax, so long as the firm earns a comparable return on financial assets using foreign earnings (Altshuler & Grubert, 2002). In this case, repatriation taxes play a role in the repatriation decision.

De Waegenaere and Sansing (2008) further allow a required rate of return to differ from the prior models and show that the repatriation decision depends on the required rate of return relative to the investment rate, and the likelihood of a repatriation tax holiday.⁴ In cases where the after-tax interest rate is lower than the required after-tax rate of return, their model introduces an opportunity cost to delaying repatriation. This is because the funds invested offshore yield after-tax returns that are below the firms' required rate of return, but avoids the repatriation tax temporarily. If a tax holiday is anticipated, this short-run cost may be offset by the reduced repatriation tax during the holiday. In conclusion, theory suggests that repatriation is often not the optimal strategy, depending on the discount rate used and the after-tax return. Foley, Hartzell, Titman, and Twite (2007) establish empirical evidence consistent with the theory and find that firms with higher repatriation costs hold more foreign cash.

Because repatriation tax provides an incentive for MNCs to hold cash offshore, the literature has also considered the value of foreign cash holding and the value of foreign investments made using unrepatriated foreign earnings. De Waegenaere and Sansing (2008) find that unrepatriated foreign earnings value less when invested in foreign financial assets than in

⁴ Unlike prior studies that use the after-domestic-corporate-tax return on interest as the discount rate, De Waegenaere and Sansing (2008) use the average shareholder's after-tax return as a required rate of return.

foreign operating assets because the former is subject to repatriation and hence the repatriation tax while the latter is not. Bryant-Kutcher, Eiler, and Guenther (2008) find empirical support to this prediction. Prior studies also document that investors discount the value of foreign cash because of the repatriation costs, information opacity, and agency concerns (Campbell, Dhaliwal, Krull, & Schwab, 2016; Harford, Wang, & Zhang, 2017; Yang, 2015). Harford et al. (2017) further suggest that limitations to borrow domestically also lead firms to under-invest domestically.

To promote U.S MNCs to bring the foreign cash home and invest domestically, the U.S. introduced the American Job American Job Creation Acts (AJCA). Part of the AJCA is provision that grants a time-time reduction of the repatriation tax from 35% to 5.25%, an 85% cut. The AJCA became law on October 22, 2004 and companies had two years (fiscal 2004 and 2005) to repatriate under the reduced rate. The AJCA intends the tax cut is given to only funds that would not otherwise have been repatriated. To achieve this, only “extraordinary dividends”, calculated as the difference between a firm’s actual repatriation amount and the firm’s average repatriation over the past five years, qualify for the tax reduction. Further, the maximum amount of “extraordinary dividends” that can receive the tax cut cannot exceed the PRE-balance on the financial statements of fiscal 2002. If the 2002 PRE-balance balance is less than \$500 million, the AJCA allows up to \$500 million to receive the tax cut.

Although it was the Congress’ belief that firms should respond to the AJCA by bringing foreign cash home, it remained a question whether firms would repatriate and if so what types of firms are more likely to repatriate. Sansing and De Waegenare (2008) model an uncertain tax holiday and show that under certain conditions, waiting for the tax holiday to repatriate is the best strategy. For these firms in the model, although reinvesting in financial assets may be negative present value projects, the cost of doing so is less than the repatriation cost and the opportunity cost of reinvesting domestically, so waiting for the tax holiday worth it. However,

when the holiday arrives, no more reason exists to continue reinvesting in financial assets. Therefore, the value of these firms should increase if they repatriate during the tax holiday instead of holding onto these financial assets offshore. Consistent with this model's prediction, Blouin and Krull (2009) find that many firms repatriated under the AJCA and that firms that overinvest overseas are more likely to repatriate.

Other studies also document that a significant number of firms repatriated under the AJCA and find different factors that affect a firm's repatriation decision. Brennan (2010) documents that the total amount repatriated was over \$300 million. Albring, Mills, and Newberry (2011) find that half of the firms that had the potential to repatriate under the AJCA actually did. They further find that financial constraints (measured by private debt covenants) is a key determinant to the repatriation decision because firms with insufficient cash or ability to borrow cannot fund the repatriation. Morrow and Ricketts (2014) find that firms' repatriation behaviors reflect their financial reporting objectives in relation to analyst forecast.

From the perspective of investors expectation, Oler, Shevlin, and Wilson (2007) investigate whether investors expect firms to repatriate under the AJCA. They model and show that investors expect the firm to repatriate a substantial amount of the undistributed earnings unless a firm's foreign operation is exceedingly more profitable than its domestic operation. This is because the AJCA reduces investors' required return on domestic investment, so it reduces the threshold of domestic returns to which firms justify repatriation and increases the threshold of foreign returns to which firms justify non-repatriation. If investors do not expect firms to take advantage of the AJCA, then they would value at a higher rate the deferred tax liability associated with undistributed foreign earnings. However, if investors expect firms to repatriate under the AJCA, they would value the deferred tax liability at a lower rate. Thus, the model's prediction suggests that investors would adjust downward their assessment of the deferred tax

liability at the time AJCA became law. The authors find empirical support for this prediction. This also provide evidence that many firms suffer from disappointing foreign returns, and investors expect the fund to be repatriated for better use and is consistent with the finding of Edwards, Kravet, and Wilson (2016).

The other question the AJCA literature seeks to address is the use of the repatriated fund. addresses is the use of the repatriated fund. Blouin and Krull (2009) document that firms use the repatriated funds for share repurchases, even though the AJCA specifically states that those are not the intended purposes. Consistent with firms returning capital to shareholders, Dharmapala, Foley, and Forbes (2011) a find that firms use the repatriated fund for shareholder payouts. On the other hand, some studies find evidence of firms using the repatriated funds for intended purposes of the AJCA. Faulkender and Petersen (2012) find that financially constrained firms use the repatriated funds for domestic investment. Dong and Zhao (2017) find that the R&D spending for repatriation firms increase following the AJCA compared to non-repatriating firms. Because a firm's R&D activity relies heavily on the internal rather than external capital, this study thus finds evidence that the AJCA facilitates the flow of a firm's internal capital. Consistent in these studies is the theme that AJCA facilitates the relocation of fund from inefficient uses to more efficient ones, whether to another function within the corporation or to shareholders who then invest in better opportunities outside the corporation.

2.2 Short-selling Constraints and Regulation SHO

Theory suggests that overvaluation of stock prices occurs in the presence of short-selling constraints and divergence of opinion because the price reflects only the opinion of investors with optimistic assessment of firm value. Short selling constraints prevent negative information about firm value from being incorporated into stock price (Hong & Stein, 2003; Miller, 1977). Underlying this argument is the view that short-sellers have some information advantages, due to

their ability to access to, gather and/or process information, particularly unfavorable news, about the future prospects of the firm (Diamond & Verrecchia, 1987; Engelberg, Reed, & Ringgenberg, 2012). Given that short selling is both costly and risky, short-sellers are typically sophisticated investors who execute informed trading strategies. Diether, Lee, and Werner (2009b) find that short sellers can detect overpricing and short stocks with past positive returns. Furthermore, short-sellers are particularly attentive to information that would predict negative future returns of a firm (Boehmer, Jones, & Zhang, 2008). These studies suggest that short sellers are more attentive to the gathering and processing of negative information of a firm.

Studies that take the advantage of a shorting demand or supply shift further document this specialty of short sellers. Cohen, Diether, and Malloy (2007) find significant negative returns after an outward shift in the shorting demand. Such a shift may result from an increase in negative information because the desire to sell (short the stock) increases despite of the higher costs of doing so. Griffin, Hong, Kalcheva, and Kim (2017) use international data and find significant negative returns following either an outward shift in shorting demand (that arises typically from an increase in negative information) or an outward shift in shorting supply (that arise typically from a relaxation or removal of shorting constraints). These two studies further show that the profit that short sellers make is associated with their private (negative) information rather than with market frictions.

One significant short-selling constraint is the price test. This constraint prevents the execution of short-sell orders if the stock price is declining. This rule was first introduced in 1938 to prevent acceleration in price declines. The exact rule differs between exchanges: the NYSE implements an “uptick rule” that disallows short-selling unless the stock price experiences an uptick, whereas the NASDAQ implements the best-bid test that disallows short-sell orders placed on or below the best bid price of the stock (Diether et al., 2009a). These rules were

implemented with the belief that trading by short sellers can be manipulative. Despite of the many studies that document that short sellers trade on their private information, studies also document that some short sellers purposefully drive the stock price down and making a private gain (Henry & Koski, 2010). In such cases, the short-sell orders distort the market value because they do not incorporate any real information, and short-sell constraints such as the price test would prevent misbehavior by the short-sellers from distorting market value.

To examine whether shorting constraints are beneficial to the market and to test whether shorts sellers are beneficial or costly to the market, the SEC conducted an experiment through a pilot program, Regulation SHO (Reg SHO), Rule 202T. The SEC randomly selected a third of the stocks from the Russell 3000 index as pilot firms and temporarily removed the price test constraint on these pilot firms. The SEC's selection process first ranked the Russell 3000 stocks by trading volume and then selected every third firm to be part of the pilot firm list. This approach effectively created randomized, stratified treatment and control groups.

The SEC first announced Reg. SHO on June 23, 2004, and issued the Pilot Order on July 28, 2004 that contained the list of 968 pilot firms to which the price tests will be temporarily removed. In this Pilot Order, the SEC indicated that the program would begin on Jan 2, 2005 and end on December 31, 2005. On November 29, 2004, the SEC announced that the program would begin on May 2, 2005 and end on April 28, 2006 instead. Consistent with this update, the Pilot Program officially commenced on May 2, 2005. Closer to the initial end date of the program, on April 20, 2006, the SEC announced an extension of the Pilot Program to August 06, 2007 after which the temporary lifting was removed, and the constraint applied again to all stocks (SEC Office of Economic Analysis, 2007).

Firms had strong reactions to the pilot program, suggesting that firms cared and worried about the increased short-selling pressures. Diether et al. (2009a) find that short-selling activities

increase for the pilot firms during the pilot program, compared to firms in the control group and that market quality improves more for the NYSE stocks, suggesting that the uptick rule distorts trading behavior more than the best-bid test. Short sellers of the NYSE stocks also switched from a passive to an active trading strategy after the removal of the uptick rule. The SEC Office of Economic Analysis (2007) finds that liquidity improved for pilot firms as stock prices for these stocks can move more freely. However, these studies do not find significant changes in stock prices and volatility. Grullon, Michenaud, & Weston (2015) also find negative abnormal returns to the SEC approval date of the pilot program. These suggest that investors expect firm value to decrease due to the removal of short selling constraints.

Several studies provide empirical support that the removal of short-selling constraints improves the price formation process and information efficiency of the capital market. Boehmer and Wu (2013) show that various measures of delay in the price discovery process are lower for stocks of pilot firms during the pilot period, suggesting that the negative information from short sellers is incorporated into price in a timelier fashion when short-selling constraints are removed. Chu, Hirshleifer, and Ma (2016) examine the ten most well-known asset pricing anomalies and find that these are reduced, but in some cases not entirely eliminated, for the pilot firms during the program. Finally, Fang et al. (2016) find that measures of price information efficiency increase for pilot firms during the program. They further document that earnings management decrease for the pilot firms during the program due to heightened monitoring from short sellers. The increase in monitoring increases the probability of a firm being caught and thus increases the cost of earnings management.

The literature has also examined real economic consequences beyond financial market consequences on pilot firms. Chen and Wang (2017) focus not only on the amount of investment but also the efficiency of investment and find that investment efficiency improves for pilot-firms

during the program. He and Tian (2016) use patent data and find that the quality of innovation is higher for pilot firms during the program, suggesting that short sellers play an important role in disciplining innovation activities of a firm. Overall, these studies suggest that the removal of short-selling constraints increases monitoring and disciplining from short sellers and promotes firms to make better decisions in the interest of shareholders.

3. Hypothesis

As discussed earlier, investors expect firms to repatriate a substantial amount of cash holdings during the tax holiday because foreign funds reinvested in financial assets generally have a negative return. Under the tax holiday, firms will find it profitable to repatriate with a much lower domestic return because the costs of repatriating become substantially lowered. Conversely, the tax holiday makes it more difficult for managers to justify retaining funds outside the U.S. Our discussions thus far assume that managers simply maximize the net present value of cash flows with no consideration for their strategic behavior. It should be noted, however, that managers maximize their own utilities. We next discuss the implications from managers' self-interest maximization onto how investors expect them to repatriate during the tax holiday.

High repatriation taxes incentivize U.S. MNCs to accumulate a significant amount of cash offshore (Foley et al., 2007). In early 2012, JP Morgan estimated that at least 60% of the cash balances of U.S. MNCs is parked in foreign jurisdictions or offshore financial centers (Mott, Schmidt, Dhingra, & Bharwani, 2012). Such hoarding of free cash flows opens the door for managerial opportunism because managers may use the excess cash to engage in empire building or keep pet projects offshore (Jensen & Meckling, 1976). Therefore, contrary to the repatriation model assumptions, when the firm reaches its optimal level of investments in foreign operating

assets, managers may decide to overinvest in operating assets instead of repatriating the earnings. Edwards et al. (2015) and Hanlon, Lester, and Verdi (2015) find that such investments are less profitable and investors attach lower value to foreign acquisitions made with foreign trapped cash. The lower value reflects agency problems inherent in the cash holdings trapped offshore. Therefore, investors prefer firms to repatriate excess foreign cash to reduce agency costs, but the tax cost of doing so is prohibitively high. The tax holiday reduced the cost of repatriation. The results of Blouin and Krull (2009) are consistent with this perspective. They find that firms with higher costs of holding foreign cash tend to repatriate more under the tax holiday and that these firms use the repatriated funds to distribute to shareholders.

Investors may also prefer firms to repatriate during the tax holiday because foreign earnings are more prone to managerial manipulation and their reporting is more opaque. Krull (2004) shows that firms use the discretion to specify earnings as PRE to manage earnings. Dyreng, Hanlon, and Maydew (2012) find that firms with a presence in a tax haven country are associated with higher earnings management, and that the managed earnings tend to be on foreign income.

The information environment of foreign earnings is also opaque because firms may choose the level of aggregation of geographic segments used in disclosing their foreign earnings.⁵ By aggregating earnings into a smaller number of regions, firms average the performance across countries within the segment. An opaque environment makes it difficult for investors to discern the true performance of a firm's foreign operations and provides managers with an opportunity to mask any agency issues.⁶ Hope and Thomas (2008) study the disclosure quality and the quality

⁵ Prior to SFAS 131, firms must disclose earnings along with sales and assets by geographic segments. SFAS 131 removes this requirement and firms could choose whether to disclose or not.

⁶ One can mask bad performance in one country if the performance of other countries in the same geographic segments is good enough.

of foreign earnings. They find that firms that stop disclosing earnings by geographic segments after SFAS 131 engage in foreign empire building and have lower foreign profitability. These opportunities may be the reason that investors attach a lower value to foreign earnings relative to domestic earnings (Callen, Hope, & Segal, 2005; Christophe, 2002; Denis, Denis, & Yost, 2002). Consistent with this idea, Hope, Kang, Thomas, and Vasvari (2009) find that investors discount a firm's foreign earnings even more when the reporting of the foreign earnings is opaque.

In short, the level of repatriation managers choose is a trade-off between maximizing after-tax cash flows and bearing the agency costs associated with reinvesting foreign earnings offshore. Extant literature suggests that external monitoring increases the agency costs borne by the firm. Therefore, when external monitoring increases from short sellers, we expect firms to repatriate more. Under the AJCA, U.S. MNCs must make a new decision on a one-time repatriation under conditions in which the costs of repatriation become suddenly lower. The enactment of the AJCA therefore provides a natural experimental setting in which to examine whether and how the cost of repatriation affects the likelihood and amount of repatriation.

Furthermore, the timeline of the AJCA and the Reg SHO program provide an ideal setting to test whether firms respond in their AJCA repatriation decision to the heightened market pressure. As Figure 1 illustrates, the AJCA became law shortly after the SEC announced the list of firms in the pilot program, and the repatriation window significantly overlaps with the pilot program period. Therefore, the AJCA would be an event of much interest to short sellers because pilot firms that do not make the appropriate repatriation decision would present negative information for short sellers to act upon without being constrained by the price test. Firms would have known they are in the pilot program (and thus subject to higher monitoring) when making the repatriation decision (Figure 1 illustrates the timeline of events) and would have the opportunity to respond. We expect that the repatriation decisions of pilot firms are subject to

significantly more capital market pressure, so the response of pilot firms to the tax holiday should be more pronounced.

Taking advantage of these two exogenous events, we proposed and test the following hypotheses, stated in alternative form:

Hypothesis 1: *Firms included in the Reg. SHO pilot program are more likely to repatriate foreign earnings than firms not included in the pilot program.*

There are reasons why this hypothesis may not hold. If a firm determines that the net benefit of repatriating is lower than the net cost, then it would not repatriate, consistent with the model of De Waegenare and Sansing (2008). Two types of firms will not repatriate under the Act, according to this model: firms that have already repatriated earnings as available, and firms for whom the cost of repatriating under the tax holiday continue to exceed the cost of maintaining the assets offshore. The agency costs associated with the first are low because the firm is not accumulating excess financial assets in the foreign jurisdiction. If the firm does not repatriate under the AJCA, no explicit disclosure is required and investors cannot fully distinguish why the firm did not repatriate. If this is the case, then the increased market pressure from short sellers may not affect the decision to repatriate under the Act.

However, more than the decision to repatriate, the decision on the amount of the repatriation is public due to the specifics of the AJCA. In particular, the firm must disclose exactly how much it repatriated under the AJCA. Not only do the firm disclose the amount, most firms discuss in length the reasons for their chosen action concerning the AJCA. Thus, the amount of the repatriation would be subject to scrutiny by short sellers in their quest to identify negative information about the firm. Thus, we hypothesize the following second hypothesis.

Hypothesis 2: *Firms included in the Reg. SHO pilot program repatriate more foreign earnings than firms not included in the pilot program.*

There are reasons why this hypotheses may not hold. The pilot firms may repatriate less under the AJCA due to fear of its effect on the financial reports. Repatriation requires firms to recognize tax liability in the current year that negatively affects reported earnings. The market reaction to a firm's repatriation decision may be negative because earnings are lower. Thus, if the market negatively reacts to the decrease in reported earnings due to the repatriation taxes, the decline in stock price of the Pilot Firms may be more than that of the non-Pilot Firms. This can serve as a disincentive to repatriate.

4. Experimental Setting and Research Design

As discussed previously, the Reg SHO and the AJCA setting provide a unique setting to study the role that capital market monitoring plays in a firm's tax decisions. Taking advantage of these two almost concurrent events, our study examines whether the random assignment of firms to the pilot program, thereby removing their stock's short-selling constraints, affect these firms' repatriation decisions. We further discuss the advantages of this unique setting next.

We chose to study repatriations under the AJCA for several reasons. Firstly, the amount that firms repatriate each year from undistributed foreign earnings is not public disclosure, so measuring repatriation outside the AJCA presents significant challenges (Dyreng et al., 2016). Secondly, as seen in De Waegenaere and Sansing (2008), it is not optimal for some firms to repatriate until a tax holiday. Therefore, the period leading up to the AJCA creates a significant pool of foreign earnings that can be released under the AJCA. Thirdly, one of the key determinants of repatriations is the tax costs associated with the repatriation.

Because firms can use the foreign tax credits to offset the domestic tax, to the extent that firms report taxable income in different jurisdictions and pay different foreign taxes, the incremental cost to repatriate can differ across firms. Estimating these differences are difficult

because the foreign tax credits available to firms are not publicly disclosed. However, the AJCA exogenously lowers the repatriation cost to the level of 5.25% for all companies.⁷ Finally, repatriation is a decision made within the firm that does not affect either its participation as a pilot firm under Reg SHO or the passage of the AJCA. As such, there will be no reverse causality in the relations between either Reg SHO or AJCA and a firm's repatriation decision.

We test our first hypothesis following Blouin and Krull (2009). We obtain our sample from *Compustat* and include U.S. firms that have reported pre-tax foreign income and foreign income tax expense. Among these firms, 350 repatriated during the AJCA.⁸ To test Hypothesis 1, our dependent variable *REP* equals 1 if the firm repatriated during the holiday and 0 otherwise. Our main explanatory variable *Pilot* equals 1 if the firm is in the program and 0 otherwise. Our theory suggests that increased capital market pressure from short sellers during the post-RegSHO period increases the likelihood of repatriation, leading us to observe a positive coefficient on *Pilot*.

Equation (1):

$$REP = \alpha_0 + \alpha_1 Pilot + \sum \beta_i Control_i$$

We include control variables that may affect the repatriation decision. Following Blouin and Krull (2009), our first set of control variables measure a firm's investment behavior. Theory suggests that firms with lower investment opportunity are more likely to repatriate. We consider three variables: the return on asset (*ROA*), a measure of foreign profitability *FPTI* that equals the foreign pre-tax income divided by worldwide pre-tax income, and the market-to-book ratio (*MB*) that capture a firm's future growth opportunity. We include a firm's capital expenditure (*CapEx*)

⁷ Although firms may use foreign tax credits (FTC) to offset the repatriation tax, because the tax rate is reduced to only 15% of the prior rate, firms are allowed to claim only 15% of the credits. This essentially narrows the gap in FTC among all the firms by 85%.

⁸ Our sample is slightly smaller than that in Blouin and Krull (2009) due to data requirements for our control variables.

to control for differences in firms' investment spending patterns. We control for the difference in foreign and domestic tax rates (*RateDum*) because a firm whose foreign tax is greater than its domestic tax rate does not benefit from the AJCA. We also control for the size of a firm's foreign operation and include foreign asset (*FAsset*) in the regression.⁹

To test our second hypothesis, we include only the sample of firms that repatriated during the AJCA. We follow Albring et al. (2011) and construct our dependent variable *REPperc* to be the repatriation amount under the AJCA divided by the maximum amount the firm can repatriate under the Act.¹⁰ Because the Act provides different limits for eligible dividends, the denominator varies across firms. If the firm discloses its PRE in its last audited financial statements on or before June 30th 2003 and the PRE amount is above \$500 million, then the limit is that PRE amount. If the PRE amount is below \$500 million, then the limit is \$500 million. If the firm does not disclose the relevant PRE amount but discloses its tax liability associated with the PRE balance, then the limit is the tax liability divided by the U.S. statutory tax rate (35%).

We use the 2002 PRE amount as the denominator if it is greater than or equal to \$500 million. For firms with 2002 PRE below \$500, it is not entirely clear what denominator one should use. In our main analysis, we follow Albring et al. (2011) and use \$500 million as the denominator. We recognize that this might understate a firm's intent to repatriate. Although the maximum allowed amount under the Act is \$500 million, a firm's repatriation amount may be under \$500 million if its funds available for repatriation are below \$500 million. In such a case, one may argue that the firm can only repatriate the available amount, which is assumed to equal its PRE. In robustness tests, we construct an alternative measure and use the PRE of the year immediately preceding the repatriation as a proxy for the funds available for repatriation; if the

⁹ We follow Albring et al. (2011) in computing *FAsset* because this variable is used to test H2 alone with another related variable *Dasset*. Blouin and Krull (2009) use a different method to compute this measure.

¹⁰ We hand-collected the amount of repatriation and the relevant PRE balances for these firms.

firm repatriate more than this PRE, then we consider the firm to have repatriated 100%. We recognize that this might overstate a firm's intent to repatriate because a firm's funds available for repatriation may not limit to what it designates as permanently reinvested. Despite this caveat, the over- or under-statement is unlikely to vary systematically with our main explanatory variable *Pilot*, so we do not expect this to bias our results.

We perform our empirical test using Equation (2) and Hypothesis 2 predicts a positive coefficient on *Pilot*.

Equation (2):

$$REPperc = \alpha_0 + \alpha_1 Pilot + \sum \beta_i Control_i$$

Following Albring et al. (2011), we include the following control variables. We first control for the rate differential a firm faces between its foreign and domestic tax rate (*RateDiff*) as firms with higher *RateDiff* have higher incentives to repatriate. As firms that hold more foreign assets tend to repatriate more, we control for a firm's level of foreign asset. Following Albring et al. (2011), we include in Equation (2) a firm's foreign asset (*FAsset*) and domestic asset (*DAsset*). We follow Albring et al. (2011) and Foley et al. (2007) and control for variables that relate to a firm's foreign cash holding: research and development (*RD*), capital expenditures (*CapEx*), and market leverage (*MktLev*). Finally, we control for other firm characteristics that may affect repatriation: market-to-book ratio (*MTB*) and free cash flow (*FCF*).

5. Sample and Results

5.1 Sample Selection

Table 1 Panel A presents the sample selection process of our Hypothesis 1 sample. We begin with all U.S. firms with non-missing pre-tax income and foreign income taxes and obtain an initial sample of 1,746 firms. Among these, 347 are repatriating and 1,399 are non-

repatriating firms. We then remove 636 firms that are not in the Russell 3000 index as of June 30th, the date most studies believe the SEC used to select the pilot firms. We remove these firms because they are not in the pool for SEC's selection to be in the pilot program. We next require non-missing values for all the control variables and obtain a final sample of 952 firms. Among these, 230 are repatriating firms and 722 are non-repatriating firms.¹¹ Table 2 presents the descriptive statistics of the firms in our final Hypothesis 1 sample. The descriptive statistics are largely consistent with prior studies for both the repatriating sample and the non-repatriating sample. We recognize that our sample is smaller due to missing variables and this may have contributed to slight variations in the distribution of the variables. Consistent with prior studies, we find that repatriating firms are more foreign and face lower foreign tax rate on average than non-repatriating firms.¹²

Table 3 reports the Pearson correlation among the variables in Equation (1). Consistent with *Pilot* being randomly assigned, it has a small correlation with other control variables. This alleviates the concern that the treatment systematically relates to other firm fundamentals and that the RegSHO program's random assignment provides an ideal natural experimental setting in which to address our research question. The dependent variable also negatively relates to foreign profitability and positively relates to foreign asset, consistent with the finding of prior research that firms with lower profitability and investment opportunity are more likely to repatriate.

5.2 Main Results

Table 4 presents our main results for testing Hypothesis 1 using the binary dependent variable *REP* and a probit estimation method. Column (1) reports the results without control

¹¹ Consistent with Blouin and Krull (2009), we have 347 repatriating firms in our initial sample. We lose 80 observations due to missing control variables. We could hand-collect these data in the future.

¹² We winsorize the data at 5% and 95% for the ease of comparison to prior studies. The regression results we present winsorize at 1% and 99%, and our results are unchanged if we do not winsorize.

variables. The coefficient on *Pilot* is positive and significant at the 10% level. In Colum (2), we report the result after including the control variables that prior studies find to affect repatriation. The coefficient on *Pilot* is no longer significant. This suggests that increased market pressure in the form of monitoring from short sellers is not a strong force in a firm's repatriation decision. Firm that repatriate on a regular basis would not repatriate under the AJCA, whether they are subject to higher short-selling pressure or not. Similarly, for firms whose optimal decision is to not repatriate even with the lower tax cost under the AJCA, short-selling pressure should not discourage (if not reinforce) the optimal course of action.

The results of control variables in both columns (2) and (3) are consistent with prior studies. The coefficients on *BM* and *RD* are negative, consistent with firms with less investment opportunities are more likely to repatriate. The coefficients on *RateDum* and *USTR* positive, suggesting that firms whose would have paid a higher domestic tax without the AJCA are more likely to repatriate under the AJCA. The coefficient on *FAsset* is positive, consistent firms that accumulate foreign asset offshore are more likely to repatriate under the AJCA.

We now move on to discuss our results for Hypothesis 2. Panel B of Table 1 presents the sample selection process of the repatriating firms. We begin with all the repatriating firms as in Blouin and Krull (2009) and remove three firms that stated their intent to repatriate but did not disclose a clear amount of repatriation. We then require non-missing values for the control variables and our final sample includes 267 repatriating firms. Among these, 87 are Pilot Firms for which the short-selling constraint was removed and 180 are non-Pilot Firms. The ratio between pilot and non-pilot firms is 1:2 and conforms to the SEC's selection ratio.

Table 5 presents the descriptive statistics of the repatriating firms in our final Hypothesis 2 sample. Consistent with Hypothesis 2, our dependent variable *REPperc* is much larger for the Pilot Firms than non-Pilot Firms. No systematic difference exists between Pilot and non-Pilot

Firms on all the control variables, consistent with Reg. SHO being a random experiment. Table 6 presents the Pearson correlation table. The correlations among our dependent variable and the control variables are consistent with Albring et al. (2011). Our main explanatory variable *Pilot* does not correlate significantly with any of the control variables, consistent with the random assignment of Reg. SHO.

We report our main results for testing Hypothesis 2 in Table 7. Column 1 reports the univariate result where *REPperc* follows the definition of Albring et al. (2011). The coefficient on *Pilot* is positive and significant at the 1% level. Column 2 reports the result after including the control variables. The coefficient on *Pilot* remains positive and significant at the 1% level. The significantly positive coefficients on *Pilot* in both columns suggest that for firms that decide to repatriate, Pilot Firms tend to repatriate significantly more foreign earnings than non-Pilot Firms.

Results for control variables are consistent with those reported in prior studies. The coefficient on *RateDiff* is positive, suggesting that firms with higher rate differential between foreign and domestic tax rates repatriate more foreign earnings. As expected, the coefficient on *FAsset* is positive and significant while the coefficient on *DAsset* is negative and significant. The coefficient on *RD* is positive and significant and the coefficient on *CapEx* is negative. Each of these results are consistent with Foley et al. (2007) who find that firms with higher foreign assets, lower domestic assets, higher R&D, and lower capital expenditure accumulate more foreign cash offshore. These same features make it more likely that such firms will repatriate more under the tax holiday. Finally, the coefficient on *FCF* is positive and significant, suggesting that firms with more free cash flow repatriate more, consistent with the view that these firms have lower agency costs or have more funds available for distribution. Our result is qualitatively unchanged if we use the alternative measure of the repatriation percentage.

Our empirical results suggest that while the increased short-selling pressure does not alter a firm's decision to repatriate, it does affect the amount of repatriation once the firm decides to repatriate. Increased short-selling pressures may not change the underlying factors that decide whether the firm should repatriate under the holiday, but it affects how the amount once it decides to repatriate. Furthermore, this finding is consistent with disclosure subject to higher scrutiny than no-disclosure. Repatriating firms must disclose the amount of repatriation and the AJCA and often discuss reasons to justify the amount repatriated while non-repatriating firms avoid drawing attention to they treat their foreign earnings. The difference in disclosure may also contribute to us finding a more pronounced result with the repatriating firms.

5.3 Robustness Tests

Thus far, our tests on the decision and amount to repatriate are separate. To the extent *Pilot* affects whether a firm repatriates, this first-stage effect may subsume the effect *Pilot* has on the amount repatriated.. Therefore, we perform a Heckman two-stage estimation where we control for the effect of *Pilot* in the first stage repatriation selection equation and then test for the effect of *Pilot* in the second stage repatriation amount equation. Table 8 reports the results. Panel A reports the first stage regression. Consistent with our finding in Table 4, *Pilot* does not significantly affect the repatriation decision. . Panel B reports the second stage model and the coefficient on *Pilot* remains positive and significant at the 1% level. These results are consistent with what we find when running the test separately.

6. Conclusion

In this study, we take advantage of two contemporaneous exogenous events that allow us to study how a change in the financial market pressure influences tax planning strategies of U.S. MNCs in the context of repatriating foreign earnings. The first event is the AJCA that

provides an 85% reduction in the repatriation tax rate to encourage U.S. MNCs to repatriate foreign earnings. This event can be viewed as an exogenous shock to the firm's ongoing foreign repatriation decisions. This exogenous event enables us to study the repatriation decisions directly because we can observe the amounts repatriated under the Act. It also allows us to control for potential endogenous factors that would otherwise affect repatriation. The second event is the SEC's Pilot program, RegSHO, that randomly assigns firms into the condition of temporarily removing the short-selling constraints. This randomly-assigned exogenous shock provides us with an opportunity to study how different levels of external monitoring by short sellers or the associated capital market pressure affect a firm's real decision – repatriation of foreign earnings. We find that while being a pilot firm does not alter a firm's decision to repatriate or not under the AJCA, Pilot Firms do repatriate more than non-Pilot Firms among the repatriating firms.

Our study adds to two lines of existing literature. We contribute to the short-selling literature by documenting an impact that active short selling has on a firm's real decision, i.e., decision to repatriate foreign earnings. We also contribute to the repatriation literature by documenting a strong external force, i.e., capital market pressure, that affects a firm's repatriation behavior. We also highlight that although internal factors may affect the decision and the amount to repatriate in similar ways, external factors, such as short-selling pressure, may affect the two decisions differently. Given the recent tax reform that could serve as another tax holiday, our research is interesting and relevant. Our results should inform decision makers to consider the interaction among different policy changes and how firms respond may differently to the changes depending on market forces.

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Appendix A

Variable Definition

Dependent Variables

REP = 1 if the firm repatriated during the AJCA, and 0 otherwise

REP/Total Asset = Repatriation amount/Total Asset

REP/PRE = Repatriation amount/the PRE of the year prior to repatriation

REPperc = Repatriation amount/Eligible for Repatriation

Eligible for Repatriation = 2002 PRE or \$500 million if the 2002 PRE is below \$500 million

In robustness test, REPperc = Repatriation amount/Available for Repatriation

Available for Repatriation = 2002 PRE if the 2002 PRE is above or at \$500 million. If the 2002 PRE is less than \$500 million, then we use the PRE of the year immediately preceding repatriation. If the firm repatriated more than the PRE of both years, then we assume the firm repatriated to its best ability, and REPperc = 1 in that case.

Main Explanatory Variable

Pilot = 1 if the firm is in the RegSHO pilot list and 0 otherwise

Control Variables

FPTI = foreign pre-tax income/worldwide pre-tax income

CapEx = capital expenditures

ROA = return on asset = net income/total asset

BM = book-to-market ratio = book value / (the number of common shares outstanding * market price of common shares)

RD = research and development scaled by total asset

FCF = free-cash-flow/total asset

RateDum = 1 if a firm's foreign tax rate less than 35%, and 0 otherwise. Foreign tax rate is calculated as foreign income taxes/ foreign pre-tax income

USTR = domestic tax/domestic pre-tax income

FAsset = foreign pre-tax income / total assets

MktLev = total debt/(total debt + market value of equity)

RateDiff = U.S. statutory tax rate (35%) – foreign tax rate

Figure 1: Timeline of events

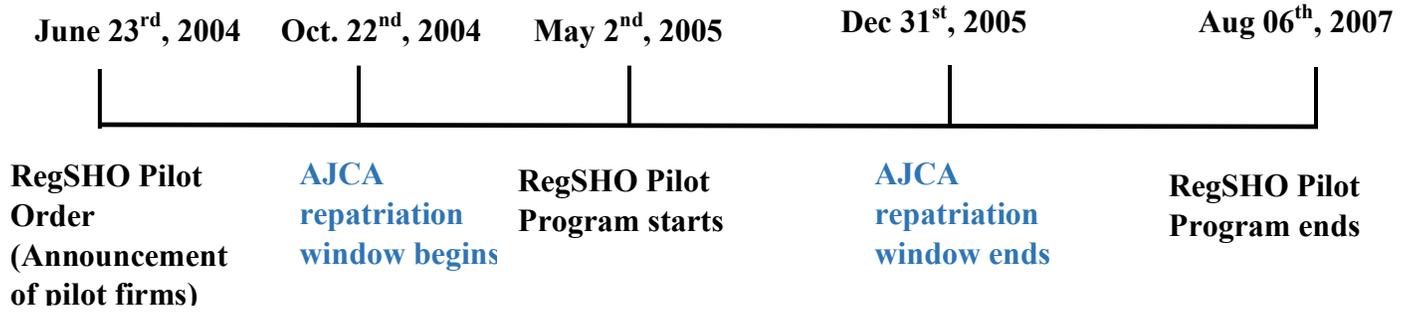


Table 1: Sample Selection Summary

Panel A. Sample Selection for H1	
All U.S. firms with non-missing pifo and txfo	1746
Firms not in the selection pool of RegSHO	(636)
Requiring non-missing FPTI, FCF and FAsset	(48)
Requiring non-missing RateDum	(41)
Requiring non-missing USTR	(69)
Final Sample	<u>952</u>
Panel B. Sample Selection for H2	
All Repatriating firms with non-missing repatriating amount	279
Requiring non-missing MktLev	(1)
Requiring non-missing RateDiff	(48)
Final Sample	<u>230</u>

Table 2. Descriptive Statistics for Repatriating and Non-Repatriating Firms

Variable	Repatriating Firms				Non-Repatriating Firms			
	N	mean	sd	median	N	mean	sd	median
Pilot	230	0.361	0.481	0.000	722	0.313	0.464	0.000
FPTI	230	0.437	0.451	0.412	722	0.244	0.495	0.166
CapEx	230	0.039	0.032	0.029	722	0.038	0.035	0.027
ROA	230	0.068	0.065	0.062	722	0.029	0.124	0.044
BM	230	0.362	0.222	0.319	722	0.446	0.287	0.420
RD	230	0.038	0.042	0.025	722	0.048	0.065	0.019
RateDum	230	0.857	0.351	1.000	722	0.712	0.453	1.000
FAsset	230	0.047	0.038	0.038	722	0.020	0.040	0.012
USTR	230	0.245	0.255	0.205	722	0.179	0.216	0.121

Table 3. Pearson Correlation for Variables Relevant to Hypothesis 1

	REP	Pilot	FPTI	CapEx	ROA	BM	RD	RateDum	FAsset
REP	1.00								
Pilot	0.04	1.00							
FPTI	0.17	0.01	1.00						
CapEx	0.01	0.06	-0.02	1.00					
ROA	0.15	0.08	0.11	0.04	1.00				
MB	-0.13	0.03	0.06	-0.08	-0.13	1.00			
RD	-0.07	-0.05	-0.10	-0.13	-0.38	-0.17	1.00		
RateDum	0.14	0.05	0.08	0.02	-0.01	-0.06	0.06	1.00	
FAsset	0.28	0.06	0.44	0.07	0.45	-0.15	-0.10	0.08	1.00
USTR	0.12	0.07	0.10	0.04	0.22	-0.05	-0.13	0.03	0.18
N	952								

Table 4. Regression Analysis of Repatriation and Pilot Firms

	(1) REP	(2) REP
Pilot	0.126* (1.34)	0.080 (0.80)
FPTI		0.151 (1.29)
CapEx		-1.481 (-1.05)
ROA		0.069 (0.11)
BM		-0.603*** (-2.98)
RD		-2.600*** (-2.62)
RateDum		0.398*** (3.38)
FAsset		7.945*** (5.05)
USTR		0.369* (1.83)
_cons	-0.743** (-13.58)	-1.010*** (-6.06)
sigma _cons		
<i>N</i>	952	952
<i>Pseudo R</i> ²	0.00	0.11

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5. Descriptive Statistics for Repatriating Firms

Variable	Pilot Firms				Non-Pilot Firms			
	N	mean	sd	median	N	mean	sd	median
REPperc	87	0.549	0.398	0.499	160	0.442	0.374	0.297
CapEx	87	0.044	0.040	0.029	160	0.036	0.025	0.029
MktLev	87	0.149	0.138	0.113	160	0.159	0.154	0.121
BM	87	0.365	0.218	0.313	160	0.356	0.229	0.318
RateDiff	87	0.271	1.004	0.122	160	0.204	0.697	0.106
FCF	87	0.114	0.068	0.111	160	0.117	0.067	0.112
RD	87	0.034	0.043	0.011	160	0.040	0.041	0.027
FAsset	87	0.050	0.041	0.044	160	0.048	0.038	0.039
Dasset	87	0.057	0.067	0.050	160	0.048	0.066	0.043

Table 6. Pearson Correlation for Variables Relevant to Hypothesis 2

	REPperc	Pilot	CapEx	MktLev	BM	RateDiff	FCF	RD	FAsset
REPperc	1.00								
Pilot	0.13	1.00							
CapEx	0.13	0.03	1.00						
MktLev	-0.03	-0.09	0.06	1.00					
BM	0.02	-0.15	0.06	0.47	1.00				
RateDiff	0.04	0.11	-0.04	0.05	-0.03	1.00			
FCF	-0.02	0.30	0.25	-0.51	-0.55	0.02	1.00		
RD	-0.07	0.30	-0.05	-0.42	-0.20	0.12	0.34	1.00	
FAsset	0.02	0.38	0.08	-0.48	-0.38	-0.15	0.49	0.35	1.00
Dasset	0.07	-0.05	0.02	-0.39	-0.34	-0.04	0.62	-0.02	0.06
N	247								

Table 7. Regression Analysis of Repatriation Percentage and Pilot Firms

	(1) REPperc	(2) REPperc	(3) Alternative REPperc
Pilot	0.106** (2.09)	0.145*** (3.20)	0.097** (2.42)
CapEx		-1.449* (-1.89)	-1.000 (-1.47)
MktLev		0.555*** (2.82)	0.057 (0.33)
MTB		0.082 (0.68)	0.025 (0.24)
RateDiff		0.046* (1.69)	0.030 (1.25)
FCF		2.451*** (4.04)	0.608 (1.13)
RD		1.394** (2.24)	0.875 (1.59)
FAsset		2.681*** (3.59)	0.545 (0.83)
Dasset		-1.388*** (-2.80)	0.434 (0.99)
_cons	0.443*** (14.64)	-0.039 (-0.42)	0.620*** (7.59)
<i>N</i>	247	247	247
<i>R</i> ²	0.02	0.29	0.10

t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8. Heckman Two-stage Analysis of Repatriation Percentage and the Repatriation Decision

	Coef.	z	P> z
Panel A: Results of the first-stage probit regress of REP on its determinants			
Pilot	0.066	0.66	0.51
FPTI	0.171	1.46	0.14
ROA	-0.571	-0.73	0.47
BM	-0.533***	-2.57	0.01
RD	-2.419**	-2.45	0.01
FCF	1.085	1.31	0.19
RateDum	0.389***	3.31	0.00
USTR	0.367*	1.81	0.07
FAsset	7.557***	4.77	0.00
_cons	-1.167***	-6.84	0.00
N	951		
	Coef.	z	P> z
Panel B: Results of the second-stage OLS regression for REPperc			
Pilot	0.157***	3.43	0.00
CapEx	-1.401*	-1.84	0.07
MktLev	0.496**	2.54	0.01
BM	0.085	0.67	0.50
RateDiff	0.050*	1.92	0.06
FCF	2.580***	4.17	0.00
RD	1.010	1.40	0.16
FAsset	2.751**	2.15	0.03
Dasset	-1.642***	-3.37	0.00
_cons	-0.0204	-0.09	0.93
N	227		

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$