

Spring 2010

## What Happens After a Holiday?: Long-Term Effects of the Repatriation Provision of the AJCA

Thomas J. Brennan

---

### Recommended Citation

Thomas J. Brennan, *What Happens After a Holiday?: Long-Term Effects of the Repatriation Provision of the AJCA*, 5 Nw. J. L. & Soc. POL'Y. 1 (2010).  
<http://scholarlycommons.law.northwestern.edu/njlsj/vol5/iss1/1>

This Article is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in Northwestern Journal of Law & Social Policy by an authorized administrator of Northwestern University School of Law Scholarly Commons.

# What Happens After a Holiday?: Long-Term Effects of the Repatriation Provision of the AJCA

Thomas J. Brennan\*

## I. INTRODUCTION

¶1 The American Jobs Creation Act of 2004 (AJCA) granted a tax holiday to U.S. corporations with foreign subsidiaries, allowing the subsidiaries to remit certain funds to their parents at a much lower tax rate than previously possible.<sup>1</sup> The holiday applied only to repatriations occurring before the second fiscal year-end following enactment of the law, allowing firms between one and two years to make qualifying transfers.<sup>2</sup> Many firms acted during this window of opportunity, and foreign subsidiaries distributed more than \$300 billion in qualifying dividends to their U.S. parents.<sup>3</sup>

¶2 Scholars have studied various economic consequences of the tax holiday. Some studies have investigated the law's impact on stock market prices,<sup>4</sup> while others have analyzed the ways in which the repatriated cash has been put to use.<sup>5</sup> One question that

---

\* Assistant Professor of Law, Northwestern University School of Law; Juris Doctor, 2001, Harvard Law School; Doctor of Philosophy in Mathematics, 1998, Harvard University; Master of Arts, 1995, Harvard University; Bachelor of Arts, 1994, Princeton University. The author thanks Benjamin Stoep and Ajay Singh for excellent research assistance in the collection of data used in this article. The author also thanks Charlotte Crane, Ed Kleinbard, and Nancy Staudt for helpful comments and discussion, as well as participants at the Section on Taxation Panel of the American Association of Law Schools Annual Meeting held in January 2010. Any mistakes are the sole responsibility of the author.

<sup>1</sup> The AJCA provided for the holiday by creating I.R.C. § 965, a new section of the Internal Revenue Code. The AJCA had many other provisions as well, but the focus of the analysis in this paper is the tax holiday for repatriated earnings. American Jobs Creation Act of 2004, Pub. L. No. 108-357, 118 Stat. 1418.

<sup>2</sup> I.R.C. § 965(f) (2006) restricts the time during which the election can occur. The taxable year mentioned in § 965(f) is generally the same as the fiscal year.

<sup>3</sup> See Melissa Redmiles, *The One-Time Dividend Received Deduction*, IRS STAT. OF INCOME BULL., Spring 2008, at 102, available at <http://www.irs.gov/taxstats/article/0,,id=183126,00.html>.

<sup>4</sup> For evidence of negative abnormal stock returns around the time of enactment of the AJCA for firms that would later choose to repatriate, see generally Thomas J. Brennan, *Cash-Flow and Market Response to Repatriation* (paper presented at 3rd Annual Conference on Empirical Legal Studies, 2008), available at <http://ssrn.com/abstract=1134040>. For additional findings, see generally Ramin Baghai, *Corporate Governance and Extraordinary Earnings Repatriations: Evidence from the American Jobs Creation Act* (paper presented at AFA 2010 Atlanta Meetings, 2009), available at <http://ssrn.com/abstract=1311429>. But see Mitchell Oler, Terry Shevlin & Ryan Wilson, *Examining Investor Expectations Concerning Tax Savings on the Repatriations of Foreign Earnings under the American Jobs Creation Act of 2004*, 29 J. AM. TAX'N ASS'N 25-55 (2007), for evidence that there may have been a long-term abnormal increase in stock performance.

<sup>5</sup> For evidence that repatriated funds were used to return value to shareholders, primarily through the repurchase of stock, see Jennifer L. Blouin & Linda K. Krull, *Bringing It Home: A Study of the Incentives Surrounding the Repatriation of Foreign Earnings Under the American Jobs Creation Act of 2004* (July 21, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=925348>; see also Dhammika Dharmapala, C. Fritz Foley & Kristin J. Forbes, *Watch What I Do, Not What I Say: The Unintended Consequences of the Homeland Investment Act* (MIT Sloan, Research Paper No. 4741, presented at CELS 2009 4th Annual Conference on Empirical Legal Studies, 2009), available at <http://ssrn.com/abstract=1337206>. But see Brennan, *supra* note 4, and Mitchell A. Petersen & Michael W.

has not yet received scholarly attention, however, is whether the holiday has had a lasting impact on the behavior of multinational firms based in the United States.<sup>6</sup> Specifically, have firms increased the amount of earnings they keep permanently reinvested overseas as a result of the holiday? Are they, perhaps, increasing the proportion of their earnings generated overseas, keeping those foreign-based earnings abroad and anticipating that a future holiday will allow such funds to be repatriated at a lower tax rate?

¶3 The goal of this Article is to analyze these questions. The approach taken is empirical. This Article relies on publicly available data that detail the overseas investment behavior of corporations that repatriated large amounts of cash under the AJCA.<sup>7</sup> These data are analyzed using statistical regression techniques, testing the hypothesis that there has been an increase in overseas investment by these multinational firms. The findings are broadly consistent with such an increase in overseas investment. Moreover, the findings are consistent with the hypothesis that the cash inflow to the United States of repatriated funds has already been substantially offset by the increased levels of foreign earnings being permanently reinvested overseas in the wake of the AJCA.

¶4 These findings help elucidate the full effect of the AJCA tax holiday and serve as a basis for evaluating whether the law achieved desired policy goals. Assuming that a return of foreign earnings to the United States was the sole policy goal,<sup>8</sup> the AJCA was unarguably a short-term success, as substantial amounts of cash were returned to U.S. parent corporations during the window permitted by § 965.<sup>9</sup> However, this short-term success must be weighed against the accompanying long-term effects. This Article shows that since the holiday window, there has been a dramatic increase in the rate at which firms add to their stockpile of foreign earnings kept overseas. The long-term result

---

Faulkender, Investment and Capital Constraints: Repatriations Under the American Jobs Creation Act (Nat'l Bureau of Econ. Research, Working Paper No. 15248, 2009), *available at* <http://ssrn.com/abstract=1454981>, for evidence to the contrary, indicating that cash may have been used for other purposes.

<sup>6</sup> The question of future behavioral changes in firms was considered from an *ex ante* perspective by the Joint Committee on Taxation (JCT) in connection with the revenue estimates the JCT performed for legislation proposals providing for a repatriation tax holiday. See Edward D. Kleinbard & Patrick Driessen, *A Revenue Estimate Case Study: The Repatriation Holiday Revisited*, 120 TAX NOTES 1191 (2008), *available at* <http://ssrn.com/abstract=1270370>. In particular, “[t]he JCT staff concluded that at least some taxpayers would change their future behavior to anticipate a second round of *section 965*-type relief, by investing more offshore than they would have done had a one-time tax holiday not been enacted, and keeping the resulting earnings offshore indefinitely.” *Id.* The work of the JCT was necessarily forward looking in nature, because it was designed to estimate the effect of a law that had not yet been enacted. Moreover, the details of the JCT’s analysis and predictions about specific changes in firm behavior are not available to the public. With the benefit of hindsight, however, it is now possible to examine publicly available information on actual firm behavior in detail and to analyze changes in the wake of the holiday. It is this *ex post* question that has not previously been addressed in the literature.

<sup>7</sup> As explained further in Part III(A), this Article studies firms that repatriated at least \$500 million during the holiday window.

<sup>8</sup> There were in fact specific policy goals beyond the simple return of funds to the United States. In particular, I.R.C. § 965(b) (2006) requires repatriated funds to be “invested in the United States pursuant to a domestic reinvestment plan which . . . provides for the reinvestment of such [funds] in the United States (other than as payment for executive compensation), including as a source for the funding of worker hiring and training, infrastructure, research and development, capital investments, or the financial stabilization of the corporation for the purposes of job retention or creation.” For purposes of the current discussion, however, the focus is only on the broad goal that foreign earnings be returned to the United States and not on the specific goals for the use of the funds once they were returned.

<sup>9</sup> See Redmiles, *supra* note 3, at 103.

has been an aggregate increase in new foreign earnings added to the overseas stockpile that is greater than the amount of funds repatriated pursuant to the holiday. From this perspective, it seems that the AJCA may have been a net failure in achieving the policy goal of returning foreign earnings to the United States.<sup>10</sup>

¶5 These research findings also help evaluate the policy implications of granting other temporary holidays and amnesties, both in connection with the repatriation of foreign earnings and in other areas that allow for the possibility of a second holiday at some future point. Legislation permitting such a reprieve sends a signal to those subject to certain rules that the legislature is willing to grant occasional suspensions of the rules. This signal operates to condition those subject to the rules to anticipate the opportunities of future holidays and arrange their affairs accordingly, and this long-term effect needs to be taken into account when considering the policy implications of a proposed holiday. The fact that such conditioning can occur is certainly not new, and it dates at least back to Pavlov and his dogs.<sup>11</sup> Moreover, it is particularly well understood that temporary changes in law can affect future behavior, since rational actors will incorporate the likelihood of future legal changes into their decision-making. Indeed, the Joint Committee on Taxation (JCT) incorporates this type of behavioral change into its statistical models when calculating revenue estimates for proposed legislation,<sup>12</sup> and commentators have already made the point that the AJCA holiday has encouraged firms to become more aggressive in their tax planning.<sup>13</sup> Nevertheless, the evidence provided in this Article will be useful in understanding the degree and speed to which behavior based on such conditioning can occur, particularly in the situations involving substantial economic stakes.

¶6 The remainder of this Article proceeds as follows: Part II gives background about the tax and accounting rules for foreign earnings, as well as the details of the AJCA tax holiday requirements. Part III describes the data used to analyze firm behavior. Part IV describes statistical tests of hypotheses about corporate behavior and reports the results. Part V discusses and draws conclusions based on the results of these statistical tests.

## II. BACKGROUND

¶7 To facilitate the discussion and analysis in the remainder of this Article, it is helpful to review briefly certain aspects of U.S. taxation of the earnings of foreign subsidiaries with domestic parents. Although amounts earned in an active business by a subsidiary are generally currently taxable in the foreign jurisdiction, they may not be subject to immediate U.S. taxation. Instead, tax is not generally due in the United States until such time as a dividend of the earnings is made from the subsidiary to the parent.<sup>14</sup> A foreign

---

<sup>10</sup> Foreign earnings may now be kept overseas in anticipation of a future tax holiday or other change in law. If such a holiday occurs, a substantial amount of foreign earnings will again be remitted to the United States, and thus over a much longer term, the net effect of the AJCA, coupled with the future change in law, may be to create a net inflow of foreign earnings to the United States. This future holiday, however, may then lead to a future increase in foreign earnings kept overseas as well, resulting again in a long-term net failure to return foreign earnings to the United States.

<sup>11</sup> See generally IVAN PAVLOV, LECTURES ON THE WORK OF THE PRINCIPAL DIGESTIVE GLANDS (1897).

<sup>12</sup> See Kleinbard & Driessen, *supra* note 6.

<sup>13</sup> Alex Berenson, *Tax Break Used by Drug Makers Failed to Add Jobs*, N.Y. TIMES, July 24, 2007, at A1.

<sup>14</sup> A shareholder of stock in a corporation typically recognizes income for U.S. tax purposes on the income of the corporation only when a dividend of the earnings is made. See I.R.C. § 301 (2006). This general

subsidiary located in a low-tax jurisdiction may therefore have an incentive to keep foreign earnings abroad so as to avoid paying additional taxes in the United States.<sup>15</sup>

¶8 The financial accounting rules also provide an incentive for U.S.-based multinational corporations to keep foreign earnings abroad. The deferred tax liability that a parent corporation would owe upon a dividend of foreign earnings from a subsidiary is not required to be recognized, provided that the earnings are permanently reinvested in the foreign country.<sup>16</sup> Thus, a U.S. parent that does not repatriate earnings from a foreign subsidiary as a dividend, but instead keeps them permanently reinvested in the foreign subsidiary, can avoid not only current U.S. taxation but also the reporting of a deferred tax liability for financial accounting purposes.

¶9 Due in part to these taxation and accounting rules, substantial amounts of foreign earnings were and are kept in foreign subsidiaries and not repatriated to U.S. parents. The tax holiday of the AJCA was intended to incentivize the repatriation of at least some of these foreign funds. The mechanism used was a temporary tax deduction for U.S. parent corporations in the amount of 85% of cash dividends that were received from foreign subsidiaries and met the requirements of the newly created I.R.C. § 965. Thus, if the normal corporate tax rate was 35%, an 85% deduction resulted in an effective tax rate of 5.25%.<sup>17</sup> The substantially reduced effective tax rate encouraged firms to repatriate permanently reinvested foreign earnings.

¶10 The AJCA tax holiday was limited in time,<sup>18</sup> and the years since the AJCA window may represent a period during which firms increased the amount of foreign earnings kept abroad, assuming a conditioned behavioral response as discussed above in Part I. To determine the existence of a conditioned response, the amount of earnings permanently reinvested overseas by firms must be ascertained. Fortunately, it is possible to obtain this information for many public corporations. Although such companies are not required to recognize the deferred U.S. tax liability associated with permanently reinvested foreign earnings, as discussed above, these companies generally report any material amounts of such earnings in their publicly available financial statements. It is thus possible to review firm financial statements to determine the aggregate amount of permanently reinvested earnings held in the foreign subsidiaries of a parent in each fiscal year. Part III describes the data collection process for this analysis.

---

rule applies in the case of a U.S. parent corporation with respect to the earnings of its subsidiary corporations, but there are exceptions for certain types of income of subsidiaries that are “controlled foreign corporations” within the meaning of I.R.C. § 957. *See* I.R.C. § 951. For the earnings of foreign subsidiaries considered in this Article, however, the general rule is followed so that U.S. tax is not due on foreign earnings of a subsidiary until a dividend is made.

<sup>15</sup> In general, credits will be allowed against U.S. taxes for foreign taxes paid by the subsidiary. *See* I.R.C. § 901. If the subsidiary is located in a low-tax jurisdiction, however, these credits will not offset the full amount of the U.S. tax liability, and the parent corporation will remain liable for the excess of the amount of U.S. tax liability over the amount of the foreign tax credits.

<sup>16</sup> Paragraph 173 of the Statement of Financial Accounting Standards (FAS) No. 109 explains that “recognition of a deferred tax liability for undistributed earnings that are or will be invested in a foreign entity indefinitely” is not required due to the complexity involved in calculating such a deferred tax liability. FIN. ACCOUNTING STANDARDS BD., STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 109, ¶ 173 (1992) [hereinafter FAS NO. 109].

<sup>17</sup> The computation is  $35\% \times (100\% - 85\%) = 5.25\%$ .

<sup>18</sup> Qualifying repatriations had to occur by the end of the fiscal year that began after the date of enactment of the AJCA in October 2004. I.R.C. § 965(f).

### III. DESCRIPTION OF THE DATA

#### A. Selection of Firms and Determination of *PRE* Values

¶11 Data was collected in order to analyze the question of corporate behavioral changes after the AJCA tax holiday. The sample consisted of large firms known to have significant amounts of permanently reinvested earnings and to have taken advantage of the AJCA tax holiday. For each such corporation, publicly available financial filings were reviewed for a period of years to determine the amount of foreign earnings the corporation had permanently reinvested each year.

¶12 The selection of firms started with the identification of all constituents of the S&P 500 Index on October 11, 2004.<sup>19</sup> The S&P 500 Index was selected because it is a sample of manageable size for purposes of data collection, but also because it is broadly representative of large publicly traded firms in the United States. In addition, this sample appeared particularly appropriate after initial stages of data collection, inasmuch as it contained the firms that represented the vast bulk of all funds repatriated under the AJCA holiday. The annual financial filings of firms were reviewed for the first and second fiscal years ending after this date,<sup>20</sup> and the set of firms was limited to those that reported a repatriation of foreign earnings in an amount in excess of \$500 million pursuant to the provisions of I.R.C. § 965.<sup>21</sup> Any firms that did not report a specific amount of repatriated funds, or those for which the specific amount of funds repatriated was ambiguous, were eliminated from the sample. Finally, annual filings for the remaining firms were reviewed for the fiscal years<sup>22</sup> from 1997 through 2008 to determine whether aggregate amounts of permanently reinvested earnings<sup>23</sup> (*PRE*) in foreign subsidiaries were regularly reported. Firms were eliminated from the sample if they did not report such amounts in a majority of years during the twelve-year period. This procedure resulted in the list of seventy-three firms appearing in the Appendix, and this is the sample of firms that is analyzed in this Article.

¶13 The sample of seventy-three firms represents only a small fraction of all corporations in the United States and also only a relatively small fraction of all firms on the S&P 500. Nonetheless, these seventy-three firms account for the bulk of *PRE*

<sup>19</sup> This was the date that the conference report for the AJCA was agreed to in the Senate, and the bill was cleared for approval by the White House. American Jobs Creation Act of 2004, H.R. 4520, 108th Cong. (enacted) (as passed by Senate, Oct. 11, 2004), *available at* <http://thomas.loc.gov/cgi-bin/bdquery/z?d108:HR04520:@@L&summ2=m&>.

<sup>20</sup> Two fiscal years were reviewed because elections under I.R.C. § 965 had to be made between October 22, 2004 and the end of the second fiscal year after that date. I.R.C. § 965(f).

<sup>21</sup> The number \$500 million was chosen because it is the safe-harbor amount allowed by I.R.C. § 965(b)(1)(A). This amount thus represents an amount that the drafters of the AJCA legislation considered substantial.

<sup>22</sup> Throughout this Article, any reference to a fiscal year corresponding to a particular calendar year indicates that the fiscal year for the company ends between July 1st of the specified calendar year and June 30th of the following calendar year. For example, the fiscal year of a firm ending on March 30, 1998, is termed fiscal year 1997, and the fiscal year of a firm ending on September 30, 1998, is termed fiscal year 1998.

<sup>23</sup> Permanently reinvested earnings are those earnings of a foreign subsidiary that have not been paid as a dividend to the U.S. parent and are intended to be invested outside the United States indefinitely. Under FAS NO. 109, a deferred tax liability for such earnings need not be recognized. *See supra* note 16. Despite not recognizing or reporting such a deferred tax liability, a firm with an amount of *PRE* it deems to be material generally reports the amount of the *PRE* in its annual financial statements, and it is this reported amount that is collected for the data set analyzed by this Article.

amounts that were returned to the United States in response to the repatriation tax holiday. In fact, these firms reported aggregate repatriations totaling over \$246.5 billion, an amount that accounts for nearly 79% of all repatriations pursuant to § 965.<sup>24</sup> Thus, these firms are responsible for the bulk of all funds repatriated during the AJCA tax holiday, and they may be particularly likely to exhibit behavioral changes if they do indeed anticipate a future such holiday someday.

¶14

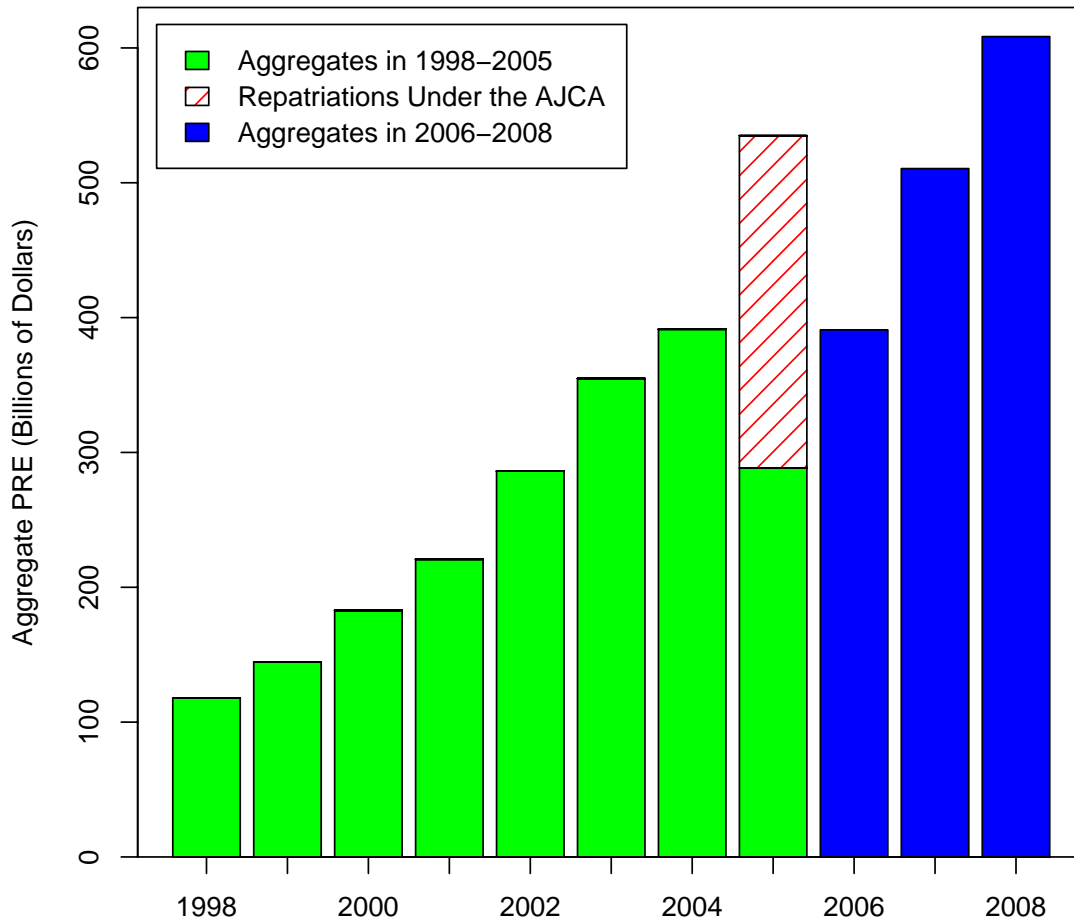
The sample firms' reported *PRE* amounts were available in most years, with more than 90% of the sample reporting *PRE* amounts for fiscal years 1999 through 2008, and more than 75% of the sample firms reporting *PRE* amounts for fiscal years 1997 and 1998. Figure 1 presents the aggregate *PRE* amounts for firms in the sample for fiscal years 1998 through 2008, with a special demarcation of the amount of repatriated funds placed in the column corresponding to the 2005 fiscal year.<sup>25</sup> As seen from the figure, the aggregate *PRE* of sample firms has been substantial in terms of dollars at stake over the years. It rose steadily from just over \$100 billion in fiscal year 1998 to about \$400 billion shortly before the repatriations occurred. Since the repatriation, the total amount of *PRE* for the sample firms has increased to about \$600 billion. This is striking preliminary evidence that the earnings returned from foreign subsidiaries to the United States under the AJCA tax holiday have already been largely offset by increased new investment of foreign earnings overseas. Further evidence and statistical testing of this hypothesis follows in Part IV.

---

<sup>24</sup> In Redmiles, *supra* note 3, at 104, Figure A reports that the total amount of qualifying dividends under § 965 was \$312.3 billion, based on confidential non-public filings by taxpayers with the IRS. The ratio of \$246.5 billion to \$312.3 billion is 78.9%. Reported amounts in financial statements may not be the same as amounts reported to the IRS for a variety of reasons, including the possibility that they may include unqualified portions of dividends as well as qualified portions. Such discrepancies should, however, be relatively small.

<sup>25</sup> Repatriations under § 965 may have occurred any time during the first two fiscal years ending after October 22, 2004, but, for convenience, Figure 1 shows the aggregate amount of repatriations all occurring in fiscal year 2005.

*PRE* values for firms are grouped according to fiscal year, rather than calendar year. Firms may have different fiscal year ends, thus *PRE* values for different firms may correspond to somewhat different calendar time periods. A lack of synchronicity is unavoidable, however, because the data are available only from the annual filings of firms, which follow the fiscal year cycle. This discord should not create problems for the analysis of this Article, which is focused on the long-term pattern of firm behavior and not short-term temporal distinctions.



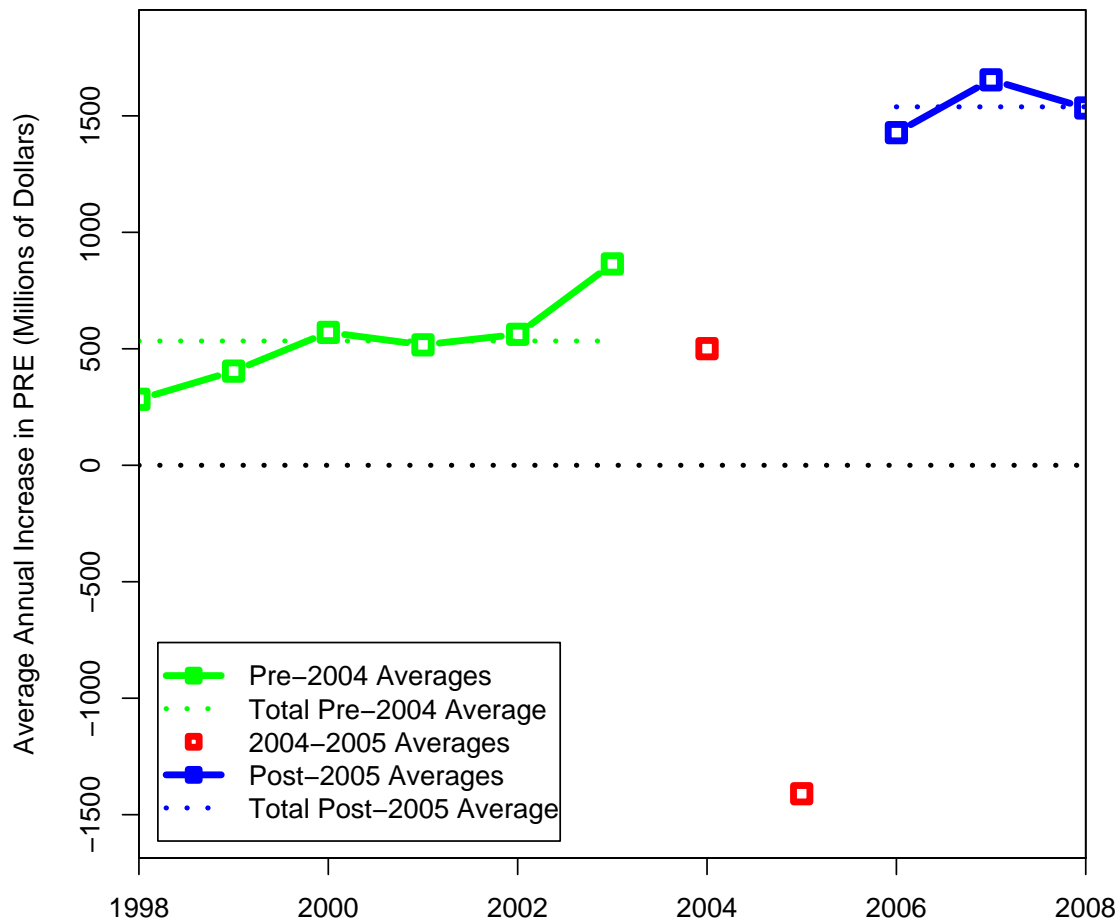
**Figure 1: Aggregate *PRE* Values and Aggregate Repatriation Amounts**

¶15

The reported *PRE* amounts stated in the financial filings of firms in the sample were used to compute the change in *PRE* from year to year, denoted  $\Delta PRE$ . The value of  $\Delta PRE$  for a firm in each fiscal year from 1998 through 2008 was calculated as the value of *PRE* for the firm in that fiscal year, minus the corresponding value in the preceding fiscal year.<sup>26</sup> Figure 2 illustrates the average  $\Delta PRE$  for firms in the sample during each fiscal year from 1998 through 2008. Figure 2 shows that the annual increase in *PRE* has accelerated from \$500 million per firm to around \$1500 million per firm from the period before the AJCA tax holiday to the period afterward.

<sup>26</sup> The one exception to this procedure was Coca-Cola Enterprises, which reported annual changes rather than aggregate amounts. In the case of Coca-Cola Enterprises,  $\Delta PRE$  values were directly observed, and *PRE* values were calculated as the accumulated amount of *PRE* over time, beginning with a base amount of no *PRE* reported in early years.





**Figure 2: ΔPRE Values Before, During, and After the Repatriation Window**

*B. Grouping the Data*

¶16

The seventy-three firms in the data set represent a variety of industries, and to facilitate analysis of whether different industries have different behavioral changes, the firms were organized into eight groups for purposes of the current study according to North American Industry Classification System (NAICS) codes.<sup>27</sup> Table 1 details the number and percentage of firms appearing in each group, and it indicates the three or four digit prefix of the NAICS codes for firms in each group.<sup>28</sup> Table 1 also provides brief group descriptions.

<sup>27</sup> Federal statistical agencies use NAICS codes to classify business establishments. The codes are available on the NAICS website at <http://www.census.gov/eos/www/naics/>.

<sup>28</sup> NAICS codes are generally six-digit numbers, but the first three digits are indicative of a broader category to which firms belong. Multiple three-digit prefixes were organized to form the eight groups.

<b>Group</b>	<b>NAICS Codes</b>	<b>Description</b>	<b>Firms</b>	<b>%</b>
1	311, 312	Food, Beverage and Tobacco Mfg.	6	8.2
2	321, 322	Wood Product and Paper Mfg.	5	6.8
3	324, 325, 5419	Petroleum, Coal Products and Chemical Mfg.	19	26.0
4	334, 335, 5415	Computer and Electrical Equipment Mfg.	16	21.9
5	333, 336, 339	Machinery, Equipment and Miscellaneous Mfg.	12	16.4
6	511, 517	Software and Telecommunications	5	6.8
7	522, 523, 524	Finance and Insurance	7	9.6
8	721, 722, 999	Accommodation, Food and Other	3	4.1
<b>Total</b>			<b>73</b>	<b>100.0</b>

**Table 1: Groups of Companies by Industry**

¶17 A simple analysis of aggregate  $\Delta PRE$  values for groups within the sample before and after the repatriation window of the AJCA gives an indication of which groups of firms may have adopted behavioral changes in the wake of the AJCA tax holiday. Table 2 lists the aggregate amounts<sup>29</sup> of all  $\Delta PRE$  values in each group of sample firms for the period spanning fiscal years 1998 through 2003 and the period spanning fiscal years 2006 through 2008. These periods were chosen to come entirely before and entirely after the time permitted for repatriations under the AJCA.<sup>30</sup> The table also indicates the aggregate amounts repatriated pursuant to § 965.

¶18 As shown in Table 2, for each of Groups 3 through 8, the new  $PRE$  invested since the AJCA tax holiday exceeds the total amount repatriated during the holiday. Moreover, the newly invested amount for each of these groups also exceeds the total amount of  $PRE$  in the period prior to the holiday. For Groups 1 and 2, the new  $PRE$  investments are close in size to the amounts repatriated, and for Group 1, the newly invested amount also exceeds the total amount of  $PRE$  in the period prior to the holiday. Thus, all sample groups experienced a dramatic post-holiday increase in  $PRE$ , providing evidence across a wide range of firm types for the behavioral conditioning discussed in Part I.

---

Note that two four-digit prefixes are also used: 5419 and 5415. The four-digit prefix 5419 corresponded to IMS Health Inc., which was placed in Group 3, and the four-digit prefix 5415 corresponded to International Business Machines, which was placed in Group 4.

<sup>29</sup> All amounts in Table 2 are expressed in millions of dollars.

<sup>30</sup> I.R.C. § 965(f) (2006) requires repatriations to be made before the second fiscal year end following October 22, 2004. Generally, this means that repatriations needed to be completed during either fiscal year 2004 or fiscal year 2005.

<b>Group</b>	<b>Aggregate <math>\Delta PRE</math> 1998-2003</b>	<b>Aggregate Repatriations Under AJCA</b>	<b>Aggregate <math>\Delta PRE</math> 2006-2008</b>
1	15.45	22.89	22.22
2	8.25	6.50	4.04
3	108.71	123.52	126.93
4	36.80	52.39	61.58
5	11.15	14.64	23.07
6	9.63	7.44	17.39
7	16.20	14.38	31.51
8	9.02	4.75	42.44
<b>Total</b>	<b>215.21</b>	<b>246.51</b>	<b>329.18</b>

**Table 2: Aggregate Repatriation Amounts and Changes in *PRE***

### C. Compustat Data

¶19 In addition to the *PRE* and  $\Delta PRE$  values described above, it was also necessary for the analysis of Part IV to ascertain the amounts of foreign and domestic annual pre-tax income for firms in the sample for fiscal years 1998 through 2008. This additional information was obtained from the Compustat database. The foreign pre-tax income amount is denoted *PIFO*, and the domestic pretax income amount is denoted *PIDOM*.

¶20 While values of *PIFO*, *PIDOM*, and  $\Delta PRE$  were not available in certain years for certain firms, values for all three variables were available in the vast majority of fiscal years for firms in the sample. The Part IV analysis makes use of these three variables during the period of fiscal years from 1998 through 2003 and the period from 2006 through 2008—a total of nine fiscal years. Observations of all three data items are available for 545 firm-years during these time periods, representing about 83% of the total number of firm-years during the period analyzed.<sup>31</sup> Table 3 provides summary statistics for these 545 observations of firm-years, and it is this set of observations that is used in performing the statistical analyses reported in Part IV.<sup>32</sup>

<sup>31</sup> The total number of firm-years in this period for firms in the sample is  $9 \times 73 = 657$ . The computation of the fraction of firm-years with available data is thus  $545 \div 657 = 82.95\%$ .

<sup>32</sup> All average and standard deviation amounts in Table 3 are expressed in millions of dollars.

	<b>Number of Observations</b>	<b>Average</b>	<b>Standard Deviation</b>
<b><i>ΔPRE</i></b>			
<b><i>1998-2003</i></b>	346	528.867	1126.351
<b><i>2006-2008</i></b>	199	1560.877	2682.861
<b><i>Both Periods</i></b>	545	905.693	1916.165
<b><i>PIFO</i></b>			
<b><i>1998-2003</i></b>	346	1090.816	1586.259
<b><i>2006-2008</i></b>	199	2522.113	3260.625
<b><i>Both Periods</i></b>	545	1613.437	2437.447
<b><i>PIDOM</i></b>			
<b><i>1998-2003</i></b>	346	1321.255	2707.377
<b><i>2006-2008</i></b>	199	1041.871	5831.598
<b><i>Both Periods</i></b>	545	1219.242	4128.489

**Table 3: Summary Statistics for Data Set Used in Regression Analyses**

#### IV. STATISTICAL ANALYSIS OF THE DATA

##### A. Increase in $\Delta PRE$ and PIFO in Dollar Terms

¶21 A basic linear regression tests the hypothesis that firms have increased the amount of  $\Delta PRE$  from the time before the AJCA tax holiday to the time after. Specifically, the value of  $\Delta PRE$  is regressed against a “dummy” variable,  $\delta^T$ , which has the value 0 for fiscal years 1998 through 2003 and the value 1 for fiscal years 2006 through 2008. This regression is expressed in the formula:

$$\Delta PRE_{it} = F_g + c_0 \delta_{it}^T + \varepsilon_{it}.$$

The subscript  $i$  runs through the seventy-three firms in the sample described in Part III, and the subscript  $t$  runs through fiscal years 1998 through 2003 and fiscal years 2006 through 2008.<sup>33</sup> The term  $F_g$  denotes a control for group fixed effects, allowing for the possibility that each group may have a different baseline amount for  $\Delta PRE$  that needs to be controlled for in the regression. The term  $\varepsilon$  denotes the residual error in the regression. The value  $c_0$  is the coefficient of  $\delta^T$  that is determined by the regression.

¶22 The result of this first regression is shown in column (a) of Table 4.<sup>34</sup> The coefficient of  $\delta^T$  is statistically significant at the 1% level<sup>35</sup> and also substantial in size,

<sup>33</sup> Note that the regression omitted fiscal years 2004 and 2005, which is the AJCA repatriation window. The goal of this and the following regressions is to analyze the difference between the periods before and after the AJCA repatriation window. As a result, the years of the repatriation window are omitted from consideration in these analyses.

<sup>34</sup> Columns of the table represent separate regressions, and rows of the table represent variables corresponding to coefficients computed in the regressions. Not all variables are present in all regressions, and, consequently, some cells within the table are empty. The value reported for each regression and variable is the point estimate of the coefficient, and the value below in parentheses is the robust standard error estimate. The estimate is made using a covariance matrix corrected for heteroskedasticity following Halbert White, *A Heteroskedastic Consistent Covariance Matrix Estimator and a Direct Test of Heteroskedasticity*, 48 *ECONOMETRICA* 817, 817–38 (1980).

nearly \$1000 million.<sup>36</sup> Thus, after controlling for group effects, sample firms have increased  $\Delta PRE$  by an average of nearly \$1000 million per year from the period before the AJCA holiday to the period after.

¶23 A second regression is performed that provides information about the change in  $\Delta PRE$  for each group in the sample. The formula expressing this regression is:

$$\Delta PRE_{it} = F_g + \sum_{g=1}^8 c_g \delta_{it}^T \delta_{it}^g + \varepsilon_{it}.$$

The dummy variable  $\delta^g$  is 0 for firms not in group  $g$  and 1 for firms that are in group  $g$ . The value  $c_g$  is the coefficient of  $\delta^T \delta^g$  and indicates the change in  $\Delta PRE$  from before the AJCA window to after. This regression determines the values of  $c_g$ , for  $g$  from 1 through 8.

¶24 The row labeled  $\delta^T \delta^g$  reports the value of the coefficient  $c_g$ . The second regression indicates increases in  $\Delta PRE$  across all groups, with statistically significant increases found in groups 1, 3, 4, 5, and 8, as shown in column (b) of Table 4. The increases in these groups are substantial as well, ranging from about \$500 million to nearly \$4000 million per firm per year.

¶25 Because an increase in  $\Delta PRE$  may be related to an increase in  $PIFO$ ,<sup>37</sup> it is informative to analyze changes in  $PIFO$  as well. Two regressions are performed to study the changes in  $PIFO$ , and the formulas expressing these regressions are:

$$PIFO_{it} = F_g + c_0 \delta_{it}^T + \varepsilon_{it} \quad \text{and} \quad PIFO_{it} = F_g + \sum_{g=1}^8 c_g \delta_{it}^T \delta_{it}^g + \varepsilon_{it}.$$

These regressions are analogous to those performed for  $\Delta PRE$  above. The coefficient  $c_0$  determined by the first regression indicates the average increase in  $PIFO$  from the period before and the period after the AJCA tax holiday for the entire sample of firms. The coefficients  $c_g$ , for  $g$  from 1 through 8, indicate the average increase in  $PIFO$  during this same change in periods for each group  $g$  in the sample of firms.

¶26 As was the case with the regressions having  $\Delta PRE$  as the dependent variable, statistically significant increases of substantial magnitude occur from the period before and after the AJCA tax holiday. Columns (c) and (d) of Table 4 show the results of the two regressions having  $PIFO$  as the dependent variable. In the first regression, the coefficient of  $\delta^T$  is statistically significant at the 1% level and also substantial in size, nearly \$1400 million. In the second regression,  $PIFO$  increased for all groups, with statistically significant increases found in Groups 3, 4, 5, 6, and 8. The increases in these groups are substantial as well, ranging from about \$500 million to nearly \$5000 million per firm per year.

<sup>35</sup> In reports of regression results in this Article, the notations \*, \*\*, and \*\*\* are used to indicate statistical significance at the levels of 10%, 5%, and 1%, respectively. These values are computed using the robust standard errors described in the above footnote.

<sup>36</sup> All amounts in Table 4 are expressed in millions of dollars.

<sup>37</sup> Permanently reinvested foreign earnings must come from foreign earnings in the first instance, and so it is possible that an increase in  $\Delta PRE$  is driven by an increase in  $PIFO$ . It is also possible for  $\Delta PRE$  to increase even if  $PIFO$  does not increase, assuming the fraction of  $PIFO$  classified as permanently reinvested increases. This latter possibility is investigated further in Part VI(B).

¶27

In summary, the four regressions reported in Table 4 indicate a substantial and statistically significant increase in both  $\Delta PRE$  and  $PIFO$  for firms in the sample, both in the aggregate and in many of the groups described in Table 1.

	<u><math>\Delta PRE</math></u>		<u><math>PIFO</math></u>	
	(a)	(b)	(c)	(d)
$\delta_T$	992.736*** (185.211)		1378.241*** (224.920)	
$\delta^T \delta^T$		760.598* (395.448)		525.717 (764.659)
$\delta^T \delta^S$		19.744 (225.629)		520.131 (357.201)
$\delta^T \delta^S$		1326.327*** (474.244)		1737.044*** (412.049)
$\delta^T \delta^S$		897.899*** (260.764)		1120.445*** (380.581)
$\delta^T \delta^S$		481.872*** (154.873)		539.554*** (90.599)
$\delta^T \delta^S$		833.768 (706.600)		2407.875** (1121.512)
$\delta^T \delta^S$		986.589 (756.830)		2022.494 (1630.182)
$\delta^T \delta^S$		3963.333* (2039.031)		4877.078* (2550.926)
Group Fixed Effects	Y	Y	Y	Y
Observations	545	545	545	545
Adjusted R <sup>2</sup>	0.1255	0.1470	0.1690	0.1933

**Table 4: Regression Results for Increase in  $\Delta PRE$  and  $PIFO$**

*B. Increase in  $\Delta PRE$  and  $PIFO$  in Relative Terms*

¶28

The Part IV(A) analysis indicates that dollar amounts of  $\Delta PRE$  increased from the period before the AJCA tax holiday to the period after, but it does not indicate whether this increase was driven simply by a reclassification of more foreign earnings as  $PRE$ , or by an increase in the overall amount of foreign earnings, or by a mixture of both effects. The first of these effects might simply constitute an expedient relabeling of earnings by firms in a way that does not substantially alter their business but positions firms to capitalize on a future tax holiday. As such, it may not represent a significant behavioral shift by firms beyond the relabeling itself. The second effect, however, might indicate a significant change in business strategy, with firms opting to increase investment overseas instead of in the United States.<sup>38</sup> It is thus important to analyze which of these effects is at work in the  $\Delta PRE$  increase documented in Part IV(A).

<sup>38</sup> It is also possible that foreign earnings have increased because the firm has grown proportionately on a worldwide basis, in which case both foreign and domestic earnings increase at the same rate. The question

¶29 The following regression tests the relative relationship between  $\Delta PRE$  and  $PIFO$ :

$$\Delta PRE_{it} = b_0 PIFO_{it} + c_0 PIFO_{it} \delta_{it}^T + \varepsilon_{it}.$$

The variable  $\delta^T$  is the same as in the regressions of Part IV(A). The coefficient  $c_0$  indicates the increase in the average factor by which  $PIFO$  contributes to  $\Delta PRE$  from the period before the AJCA tax holiday to the period after. The coefficient  $b_0$  indicates the baseline average size of this factor over the course of both periods. The average amount of  $PIFO$  classified as  $\Delta PRE$  increased from about 43% before the AJCA tax holiday to about 63.2% in the period after the holiday, as indicated in column (a) of Table 5.<sup>39</sup> Both the overall average amount and the amount of increase are statistically significant at the 1% level.

¶30 A second regression tests how the factor by which  $PIFO$  contributes to  $\Delta PRE$  changed for different groups of firms. This regression is expressed by the formula:

$$\Delta PRE_{it} = \sum_{g=1}^8 b_g PIFO_{it} \delta_{it}^g + \sum_{g=1}^8 c_g PIFO_{it} \delta_{it}^T \delta_{it}^g + \varepsilon_{it}$$

The coefficient  $c_g$  indicates the increase for the group  $g$  of the average factor by which  $PIFO$  contributes to  $\Delta PRE$  from the periods before and after the AJCA tax holiday. The coefficient  $b_g$  represents the baseline average size of this factor for group  $g$  over the course of both periods. All groups have statistically significant positive baseline values, represented by the  $b_g$  coefficients, seen in column (b) of Table 5. In addition, the only statistically significant changes in values, represented by the  $c_g$  coefficients, are positive as well, and these occur in the case of Groups 4, 7, and 8. The only negative values of  $c_g$  are those for Groups 2 and 3, but these are not statistically significant.

¶31 The evidence from the preceding two regressions testing the relationship between  $\Delta PRE$  and  $PIFO$  is consistent with a statistically significant increase in the fraction of  $PIFO$  classified as  $\Delta PRE$  by firms, with this increase occurring across several subgroups, and with no decrease occurring in any subgroup at a statistically significant level. Thus, the evidence is consistent with a relabeling of more foreign earnings as permanently reinvested by firms in the aggregate and across various subgroups. This evidence suggests that firms have significant flexibility in classifying foreign earnings as  $PRE$  when it is convenient to do so, indicating that  $PRE$  classification may be more of a discretionary choice than an objective standard. To the extent this is the case,  $PRE$  classification may not reflect a true permanent reinvestment, and it would be more appropriate to have current accounting recognition of the future U.S. tax liability that will occur when the funds are ultimately repatriated.

¶32 To test whether the increase in  $PIFO$  documented in Part IV(A) arises from a proportionate worldwide expansion of firm earnings or from a disproportionate increase in overseas investment, an additional regression analysis tests the relationship between  $PIFO$  and  $PIDOM$ , the domestic level of pre-tax earnings. The formula that expresses this regression is:

$$PIFO_{it} = b_0 PIDOM_{it} + c_0 PIDOM_{it} \delta_{it}^T + \varepsilon_{it}.$$

---

of whether increases in  $PIFO$  correspond to proportionate changes in  $PIDOM$  is addressed later in this Section.

<sup>39</sup> The value of 63.2% is calculated as the sum of the  $b_0$  and  $c_0$  values, which are 43% and 20.2%, respectively.

¶33 This regression implicitly assumes that *PIFO* is a function simply of *PIDOM*, and in general other variables likely determine *PIFO* as well. Despite the possible omission of additional variables, however, the results of this regression can give an indication of the first-order relationship between *PIFO* and *PIDOM* under the assumption that *PIFO* depends only on *PIDOM*. If  $c_0$  is zero, then there is an unchanging relationship between *PIFO* and *PIDOM*, and this is consistent with uniform worldwide expansion by firms in the period after the holiday. If  $c_0$  is positive, *PIFO* is a relatively larger fraction of *PIDOM* in the period after the holiday, and so the fraction of worldwide income generated outside the United States is larger after the holiday. Similarly, if  $c_0$  is negative, the fraction of worldwide income generated outside the United States is smaller after the holiday.

¶34 The results of this regression indicate a statistically significant baseline relationship at the 1% level, with the average *PIFO* level equal to 50.1% of *PIDOM*, as reported in column (c) of Table 5. The incremental change is negative, and this therefore indicates a decrease in the fraction of worldwide income generated outside the United States. This negative amount is statistically significant at the 10% level.

¶35 A second regression tests how the factor by which *PIDOM* contributes to *PIFO* changed for different groups of firms. This regression is expressed by the formula:

$$PIFO_{it} = \sum_{g=1}^8 b_g PIDOM_{it} \delta_{it}^g + \sum_{g=1}^8 c_g PIDOM_{it} \delta_{it}^T \delta_{it}^g + \varepsilon_{it}.$$

¶36 The results of this regression indicate a positive baseline relationship between *PIFO* and *PIDOM* for all groups that is statistically significant for every group but Group 5, as reported in column (d) of Table 5. The results also indicate a positive and statistically significant increase for Groups 4, 6, and 8. The only groups with a negative amount of change in the second period are Groups 5 and 7, and only the value for Group 7 is statistically significant. As before, the positive increases indicate an increase in foreign earnings relative to U.S. earnings, while negative amounts of change indicate the opposite pattern.

¶37 The evidence from the two regressions testing the relationship between *PIFO* and *PIDOM* is consistent with a substantial increase in the size of *PIFO* relative to *PIDOM* for most groups of firms, with an increase that is also statistically significant for several groups. For the entire sample of firms, the evidence is consistent with an overall decrease in the size of *PIFO* relative to *PIDOM*. However, the evidence indicates that this decrease is driven by only the firms in Groups 5 and 7. Thus, the overall evidence is consistent with an increase in foreign earnings relative to domestic earnings across most groups in the sample of firms tested.



	<u><math>\Delta PRE</math></u> <u>(<math>X=PIFO</math>)</u>		<u><math>PIFO</math></u> <u>(<math>X=PIDOM</math>)</u>	
	(a)	(b)	(c)	(d)
$X$	0.430***		0.501***	
$X\delta^1$		0.242***		0.607***
$X\delta^2$		0.690***		0.394***
$X\delta^3$		0.901***		0.647***
$X\delta^4$		0.292***		0.476***
$X\delta^5$		0.482**		0.031
$X\delta^6$		0.316***		0.309***
$X\delta^7$		0.155***		0.550***
$X\delta^8$		0.632***		0.802***
$X\delta^T$	0.202***		-0.334*	
$X\delta^T\delta^1$		0.140		0.254
$X\delta^T\delta^2$		-0.368		0.213
$X\delta^T\delta^3$		-0.134		0.197
$X\delta^T\delta^4$		0.313***		0.370**
$X\delta^T\delta^5$		0.197		-0.097
$X\delta^T\delta^6$		0.135		0.329*
$X\delta^T\delta^7$		0.220*		-
$X\delta^T\delta^8$		0.141**		0.665***
Observations	545	545	545	545
Adjusted R <sup>2</sup>	0.7141	0.7212	0.4639	0.5620

**Table 5: Regression Results for Relative Increase in  $\Delta PRE$  in Terms of  $PIFO$  and Relative Increase in  $PIFO$  in Terms of  $PIDOM$**

## V. DISCUSSION AND CONCLUSION

¶38 In the wake of the AJCA tax holiday, U.S. firms with foreign subsidiaries have increased the amount of foreign earnings that they reinvest permanently overseas. The analysis of Part IV(A) shows that this amount has increased substantially in absolute dollar terms across sampled firms in the aggregate and in industry-based groups. In the case of many such groups, the increases are not only substantial but also statistically significant.

¶39 The increased amount of overseas investment appears to be driven in part by an increased tendency of firms to classify foreign earnings as permanently reinvested overseas. The analysis of Part IV(B) shows that the fraction of foreign earnings so classified increased at substantial and statistically significant levels. This reclassification may be an expedient way of relabeling funds so as to prepare to take advantage of a

future repatriation tax holiday without needing to change behavior substantially. However, the reclassification also means that these funds will be kept outside the United States for an indefinite period of time. Moreover, if the reclassification is simply an arbitrary expedient that can be performed at the discretion of the taxpayer, then it does not seem sensible to allow such a classification to enable firms to avoid current recognition of future U.S. tax liabilities.

¶40 The increased amount of overseas investment also appears to be driven in part by an increase in foreign earnings relative to domestic earnings of firms in many of the analyzed industry groups. The analysis of Part IV(B) shows that the fraction of foreign earnings relative to domestic earnings has increased substantially for all but two of the industry groups analyzed, and several of the increases are statistically significant. This trend is consistent with a move of earnings-generating activities by firms from the United States to foreign jurisdictions.

¶41 The pattern of behavior exhibited by firms increasing permanently reinvested foreign earnings may well have been brought about by the AJCA tax holiday. An intended consequence of the holiday was to cause substantial amounts of permanently reinvested foreign earnings to be returned to the United States. A collateral consequence of substantial proportions, however, is the conditioning of firms to expect future such holidays and to arrange their affairs accordingly. In this way, the AJCA holiday may have been responsible for the long-term classification of an increased fraction of foreign earnings being labeled as permanently reinvested overseas and also for a long-term increase in the amount of earnings generation that firms carry out overseas rather than in the United States.

¶42 The findings of this Article are broadly consistent with changes in firm behavior that will allow firms to take the fullest advantage of an anticipated future tax holiday. However, the findings demonstrate only statistical correlation and not causation, and it is possible, for example, that other intervening events or changes over time may have caused the observed differences in firm behavior rather than simply the fact of the AJCA tax holiday. Nevertheless, the changes in patterns demonstrated by the methods of this article are sufficiently substantial in terms of dollar magnitude and statistical significance that they provide strong evidence of a conditioned behavioral change in firms created by the AJCA tax holiday.

¶43 These findings are important not only for evaluating the long-term impact of the AJCA tax holiday, but also for evaluating the merits of other proposed temporary holidays and amnesties, both in the arena of permanently reinvested foreign earnings and in other areas that allow for the possibility of a second holiday at some future point. Lawmakers must exercise care in weighing not only the short-term intended consequences but also the long-term behavioral changes induced by the prospect of future holidays. In the case of the AJCA tax holiday, these long-term effects were substantial and perhaps outweighed the short-term benefits, resulting in a net policy failure, at least to the extent that the policy goal was the long-term net return of foreign earnings to the United States.

**A. Appendix****Research Sample - Organized by Group****(1) Food, Beverage and Tobacco****Manufacturing**

Altria Group, Inc.  
Coca-Cola Enterprises  
Coca-Cola Co.  
Heinz (H.J.)  
Kellogg Co.  
PepsiCo Inc.

Hewlett-Packard  
Intel Corp.  
International Bus. Machines  
Lexmark Int'l Inc.  
Medtronic Inc.  
Motorola Inc.  
Sun Microsystems  
Texas Instruments  
Tellabs, Inc.

**(2) Wood Product and Paper Manufacturing**

International Paper  
Kimberly-Clark  
Louisiana Pacific  
3M Company  
Weyerhaeuser Corp.

**(5) Machinery, Equipment and Miscellaneous Manufacturing**

Bard (C.R.) Inc.  
Becton, Dickinson  
Black & Decker Corp.  
Boston Scientific  
Ford Motor  
Hasbro Inc.  
Honeywell Int'l Inc.  
Illinois Tool Works  
Johnson Controls  
Mattel, Inc.  
PACCAR Inc.  
Stryker Corp.

**(3) Petroleum, Coal Products and Chemical Manufacturing**

Abbott Labs  
Allergan, Inc.  
Amerada Hess  
Bausch & Lomb  
Baxter International Inc.  
Bristol-Myers Squibb  
Colgate-Palmolive  
Du Pont (E.I.)  
Eastman Kodak  
Forest Laboratories  
IMS Health Inc.  
Johnson & Johnson  
Lilly (Eli) & Co.  
Merck & Co.  
Pfizer, Inc.  
Praxair, Inc.  
Procter & Gamble  
Schering-Plough  
Wyeth

**(6) Software and Telecommunications**

Autodesk, Inc.  
BMC Software  
Microsoft Corp.  
Oracle Corp.  
Verizon Communications

**(7) Finance and Insurance**

Bank of America Corp.  
Citigroup Inc.  
Franklin Resources  
JPMorgan Chase & Co.  
Marsh & McLennan  
Merrill Lynch  
Morgan Stanley

**(4) Computer and Electrical Equipment****Manufacturing**

Agilent Technologies  
Analog Devices  
Apple Computer  
Cisco Systems  
Dell Inc.  
Emerson Electric  
EMC Corp.

**(8) Accommodation, Food and Other**

General Electric  
McDonald's Corp.  
Starwood Hotels & Resorts