

BRG WORKING PAPERS

FALL 2011

The Benefits for the U. S. Economy of a Temporary Tax Reduction on the Repatriation of Foreign Subsidiary Earnings

Prepared for the New America Foundation

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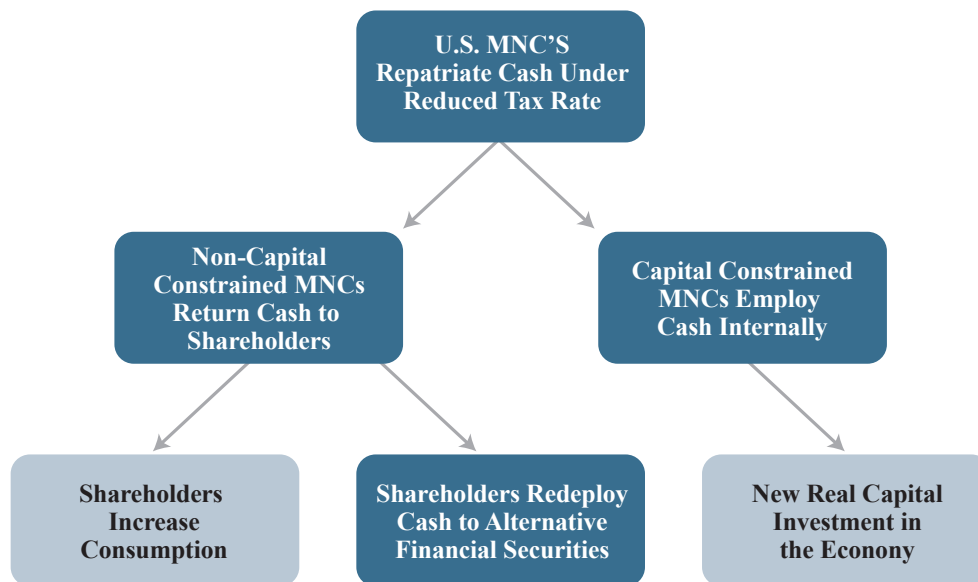
Executive Summary

U.S. multinational companies (“MNCs”) currently hold an estimated \$1.4 trillion in foreign earnings overseas, an amount that has been growing and will continue to grow without a change in the current corporate tax structure. In this paper, we assess the effects of a one-time reduction in the tax rate applied to the repatriation of foreign subsidiary earnings on spending, output and employment in the U.S. economy.

We assume that under such a policy change U.S. MNCs will have the opportunity to repatriate their foreign subsidiary earnings at reduced tax rates comparable to those provided under the 2004 Homeland Investment Act (“HIA”). Using that assumption, and analyzing firm-specific characteristics for a large group of multinational companies currently holding large cash balances abroad, we estimate that a similar policy change today will lead firms to repatriate about \$1 trillion more in foreign subsidiary earnings than they will under current tax rates. We further estimate that after accounting for taxes, \$942 billion will be available for use by the repatriating companies.

The channels through which these funds will affect spending and investment in the U.S. economy are identified in **Figure 1**.

Figure 1:



Firms that decide to participate in a new opportunity to repatriate foreign subsidiary earnings at discounted tax rates can use the earnings they repatriate in two ways: they can distribute them to their shareholders in the form of dividend payments and share repurchases; and they can use them directly to fund their domestic economic activities or to reduce their debt. An individual firm’s choice concerning how much

to distribute to shareholders and how much to use internally will depend on the extent to which the firm is capital constrained.

A tax reduction on repatriations effectively reduces the cost to a participating firm of using its internal capital held abroad to invest in profitable economic activities in the United States. Economic and finance theory predicts that this cost reduction will not increase such investments unless a firm is capital constrained. That is, unless a firm is constrained in its ability to raise capital to finance profitable investments from external capital markets (through equity or debt) or from other internal sources (domestic cash balances), the availability of repatriated foreign subsidiary earnings should have no impact on the firm's domestic investment activities. Theory also predicts that an efficiently managed firm that is not capital constrained will distribute most of its repatriated foreign subsidiary earnings to its shareholders, most likely in the form of share repurchases.

Using firm-specific data and a widely used measure of capital constraints (the Kaplan-Zingales index), we rank the firms most likely to participate in a new one-time reduction in the tax rate applied to repatriated foreign subsidiary earnings by the extent to which they are capital constrained. We identify as capital constrained the one-third of firms that are the relatively most capital-constrained based on the Kaplan Zingales index, and we assume that these firms will use repatriated funds directly for internal purposes. Based on this assumption, we estimate that capital-constrained firms will account for about 26% of total repatriations triggered by a one-time reduction in the tax rate applied to them. This estimate is consistent with estimates of the share of repatriations by capital-constrained firms relative to total repatriations by all firms that responded to a similar tax reduction in the 2004 HIA.

Based on studies of how capital-constrained firms used the funds they repatriated in response to the HIA, we estimate that between 39% and 78% of the cash repatriated by capital-constrained firms in response to a new temporary tax reduction on repatriated foreign subsidiary earnings will be used for new investment. Based on our assumption that capital-constrained firms will account for 26% of the total amount repatriated, we estimate that these firms will use between \$96 billion and \$191 billion of their repatriated foreign subsidiary earnings for new business investment spending. Using standard macro relationships between investment spending, aggregate demand and employment, we estimate that this increase in investment spending will increase GDP by between \$138 billion and \$276 billion and will create between 1.0 and 2.0 million new jobs.¹

Based on the assumptions described above, we estimate that 74% of the amount repatriated in response to a temporary tax reduction on repatriations will come from firms that are not capital constrained. We assume that these firms will distribute all of their repatriated cash to their shareholders in the form of dividend payments and share repurchases. Based on this assumption and on the fact that about 17%

of U.S. equities are held by foreign investors, we estimate that about \$581 billion in after-tax qualified dividends will be distributed to U.S. shareholders.

Shareholders can use the repatriated cash they receive through dividends or share repurchases for two broad purposes: to increase their consumption or to increase their holdings of alternative financial securities (or reduce their debt). Studies of the HIA acknowledged that shareholders likely used the funds they received through dividend payments and share repurchases either for consumption or for re-investment purposes, but these studies made no attempt to measure the size of these effects or their implications for aggregate spending, output and employment.

Standard finance theory predicts that individual shareholders will treat dividend payments and share repurchases as a change in the composition of their investment portfolios, not as a change in the value of their portfolios. According to this prediction, individual shareholders will use such distributions to purchase financial securities to rebalance their portfolios. Many empirical studies, however, have found that a surprisingly large fraction of distributions to individual shareholders is used for consumption. These studies indicate that the return to individual shareholders of repatriated cash will increase consumption spending and that the consumption effect will be larger from dividend payments than from share repurchases.

Using a variety of studies and alternative approaches, we estimate that between \$0.26 and \$0.40 of each dollar of cash returned to individual U.S. shareholders in the form of dividend payments or share repurchases will be used for consumption spending. We refer to these estimates as the marginal propensity to consume (MPC) from such payments to shareholders.

According to current data, about 33% of U.S. corporate equity is directly held by individual U.S. shareholders (or households), with the remainder held under institutional management, mainly in pension funds and mutual funds. We assume that the distribution of the shares of repatriating firms between households and institutions is the same as the overall distribution of shares; and we assume that the distribution of repatriations via dividend payments or share repurchases will directly affect consumption only to the extent that the funds are distributed directly to households (i.e., we assume that institutions or professional investment managers will re-invest the cash received from repatriating firms and that these distributions will not induce current consumption).

Based on available data, we also assume that about half of all individual holdings of the equity of repatriating firms is held in personal retirement or other tax deferred accounts. Since withdrawals from such accounts for consumption purposes are subject to tax penalties, we assume that repatriated cash flowing into these accounts from dividends or share repurchases will not generate any material increase in consumption.

Under these conservative assumptions, we calculate that of the \$581 billion in repatriated cash distributed to U.S. shareholders, approximately \$192 billion will go to U.S. households rather than to institutions and about half of that will go into retirement or tax deferred accounts, leaving about \$96 billion to households for consumption or reinvestment purposes.

Under these assumptions, and assuming a MPC range between 0.26 and 0.40, we expect that between \$25 and \$38 billion of repatriated cash distributed to U.S. shareholders will be used for consumption. Based on the distribution in equity holdings among U.S. shareholders, this consumption will be skewed to higher income U.S. households, but it will nonetheless stimulate aggregate demand.

In addition to the direct effects on household consumption that arise from the return of repatriated cash to individual shareholders, we estimate an additional wealth effect on consumption from a likely increase in the share prices of repatriating firms resulting from what we call the deferred tax liability effect and the agency effect. We estimate that together these effects will generate an increase in U.S. shareholder equity wealth of about \$159 billion. Using a standard marginal propensity to consume of 0.03 out of incremental equity wealth, we estimate that this increase in equity wealth will increase consumption spending by an additional \$5 billion.

Using a range of macro multipliers from several macro models, we conclude that the expected increase in investment spending by capital-constrained firms and the expected increase in consumption spending by shareholders caused by a significant increase in the repatriation of foreign subsidiary earnings triggered by a temporary reduction in the tax rate applied to such earnings will have the following effects:

- An increase of \$178 billion to \$336 billion in GDP;
- An increase of 1.3 million to 2.5 million jobs; and
- An increase of \$36 billion in corporate tax revenues as a result of the increase in repatriations occurring during the period the temporary tax reduction applies.

Figure 2 contains our estimates of the overall magnitude of the effects of a temporary tax reduction on repatriation on spending, output and employment along with the intermediate channels through which these effects will occur. Like the effects of other temporary tax policies to stimulate the economy, the effects of a tax reduction on repatriation will take place gradually, so the estimates in **Figure 2** should be interpreted as total effects over approximately 1-2 years from the time the policy is enacted. Some effects are likely to occur relatively quickly. For example, the wealth effect arising from an increase in the equity values of repatriating firms should begin to take effect quickly and will continue as repatriating firms efficiently employ their repatriated earnings. It is also likely that increases in consumption resulting from increases

in cash distributions to shareholders in the form of increases in dividends or share repurchases will occur relatively quickly. In contrast, new investment by capital-constrained firms and new investment resulting from an increase in demand for primary and secondary financial securities may take place over a longer period of time, with significant lags between enactment of the tax reduction, an increase in repatriations, and subsequent increases in real investment and employment in the U.S.

Figure 2:

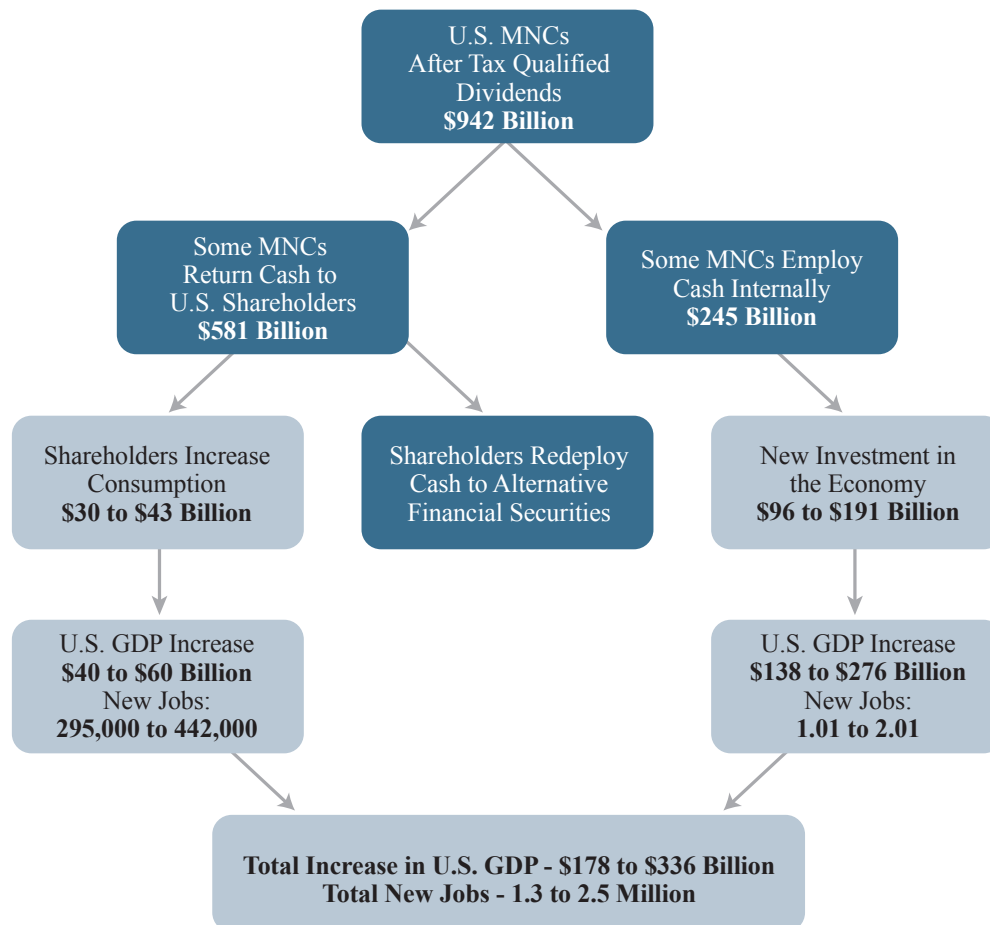


Figure 2 does not include estimates of any effects on investment spending, output and employment that will result from the re-investment of repatriated cash by shareholders into alternative financial assets. According to our calculations, shareholders will use up to \$556 billion of the repatriated cash they receive for this purpose, so these effects are likely to be substantial. Unfortunately, they cannot be quantified with existing models. In lieu of quantitative estimates, we discuss the theoretical and empirical evidence in support of our conclusion that the use of repatriated cash to purchase primary and secondary

financial securities will lead to further increases in investment spending and larger increases in output and employment than those shown in **Figure 2**. We also discuss how the channels through which these purchases are expected to increase business activity are analogous to the channels through which the Federal Reserve’s QE2 policy was expected to stimulate such activity.

In addition to the positive macroeconomic effects from the use of repatriated cash, either by the firms themselves or by their shareholders, a temporary tax reduction on the repatriation of foreign subsidiary earnings will generate significant and immediate tax revenues at a time when the federal budget is under severe pressure. These revenues – including both the corporate taxes paid on the repatriated cash and any dividend and/or capital gains taxes paid by shareholders on the amounts returned to them – could be used to finance additional job-creating measures, such as the creation of an infrastructure bank, an initiative that enjoys broad support in the business and labor communities and that is one of the key proposals of the President’s recent jobs package (The American Jobs Act or “AJA”).

The growth in employment and output, as well as the potential for stock market increases that we expect to result from the repatriation and return of cash to shareholders, may have an even wider beneficial impact through positive effects on business and consumer confidence. As a result of the deepest recession in postwar history and an anemic economic recovery with high unemployment, both business and consumer confidence are currently hovering near record lows. Many economists believe that low confidence is itself contributing to the economy’s weakness. For example, in a recent report Mark Zandi warned that sometimes sentiment can be so harmed that businesses, consumers and investors freeze up, turning a gloomy outlook into a self-fulfilling prophecy. This is one of those times.”²

It is likely that the increases in business activity, employment and spending we anticipate from a significant increase in repatriations in response to a temporary tax reduction will boost business and consumer confidence. Rising consumer confidence is associated with both increases in economic activity and stock market gains. And an increase in the demand for U.S. equities resulting from the use of repatriated cash to purchase secondary market securities should lead to higher stock market values. The linkage between higher stock prices, higher consumer confidence and economic growth has been explicitly referenced by Chairman Bernanke in his evaluation of QE2:

“[a]nd higher stock prices will boost consumer wealth and help increase confidence, which can also spur spending. Increased spending will lead to higher incomes and profits that, in a virtuous circle, will further support economic expansion.”³

Finally, we argue that a temporary reduction in the corporate tax rate on repatriations would be a beneficial interim step on the path to corporate tax reform. The U.S. has the second highest corporate tax rate (behind Japan) of the 34 developed OECD countries. The U.S. is also the only major OECD country

with a worldwide corporate tax system that taxes the dividends earned by the foreign subsidiaries of U.S. MNCs at the full domestic corporate tax rate (less applicable foreign tax credits) when the dividends are repatriated. All of the other major OECD countries have territorial corporate tax systems that exempt all or most of the dividends received from foreign subsidiaries of their MNCs from domestic corporate taxes. There is widespread agreement among economists and tax experts that the combination of a high corporate tax rate and a worldwide system puts U.S. MNCs at a disadvantage to their competitors headquartered in other countries and discourages investment and job creation in the U.S. For these reasons, both the Obama Administration and many members of Congress are calling for comprehensive corporate tax reform to reduce the corporate tax rate, broaden the corporate tax base, and move toward a territorial system. We support such a reform. However, we believe that it will take considerable time to reach the political agreements necessary to get it done. In the meantime, we support a temporary reduction in the corporate tax rate on the foreign subsidiary earnings of U.S. MNCs as an interim measure, one that would be consistent with the goals of long-term corporate tax reform and would generate significant benefits for the U.S. economy.

Given the current U.S. tax structure, in the absence of a reduction in the tax rate on repatriations, the amount of foreign subsidiary earnings held abroad by U.S. MNCs will continue to grow and will be invested abroad. Thus, the opportunity cost of a temporary tax reduction on the repatriation of these earnings is low; without such a reduction, most of these earnings will not come back to the U.S., will not be subject to the U.S. corporate tax, and will not be available to boost consumption, investment and employment through the channels identified in this paper.

Based on our analysis, we believe that a temporary reduction in the corporate tax rate on repatriations is likely to provide a powerful boost to aggregate spending and confidence at a moment of economic vulnerability. Such a policy change would also complement other policies designed to increase jobs and output, such as President Obama's current jobs (AJA) proposals.

1 We also evaluated the effect on the economy under the assumption that only the 10% most capital constrained firms as measured by the Kaplan-Zingales index would use repatriated earnings internally. Under this more conservative assumption, the increase of U.S. GDP would be between \$71 and \$141 billion and the new investment by these firms would create between 520,000 and 1.03 million new jobs.

2 See Mark Zandi, "An Analysis of the Obama Jobs Plan," September 9, 2011.

3 Ben Bernanke, Op-Ed piece, November 4, 2010, Washington Post.

I. INTRODUCTION

According to recent estimates, U.S. corporations hold more than \$1.9 trillion in cash reserves, with up to \$1.4 trillion held abroad by U.S. multinational corporations (“MNCs”) as permanently reinvested earnings (“PRE”).¹ On December 15, 2010, President Obama met with 20 CEOs to discuss how to get companies to inject some of these reserves into an anemic U.S. economy. Following the meeting the President stated, “We focused on jobs and investment, and they feel optimistic that by working together we can get some of that cash off the sidelines.” Because a large portion of this cash on the sidelines is held abroad as PRE, getting it “off the sidelines” will require MNCs to re-designate and bring these foreign earnings back to the United States (or “repatriate” them).

The U.S. corporate tax structure, however, constrains repatriation. U.S. MNCs are not required to pay any U.S. tax owed on foreign earnings until those earnings are repatriated.² Repatriating the foreign earnings under current tax rates, therefore, would cost U.S. MNCs hundreds of billions of dollars. Given that many MNCs have little difficulty funding their U.S. operations without these earnings, they see little economic incentive to take the tax liability onto their balance sheets and incur additional levies on these earnings. Hence, it is unlikely they will be repatriated without a change in the way they are taxed.³

One suggestion to encourage repatriation that is receiving extensive attention is a one-time reduction in the tax rate at which foreign subsidiary earnings could be brought back to the United States for a limited period of time. Critics of this approach have been quick to point out that a one-time tax reduction was used for the same purpose in 2004 (the Homeland Investment Act or “HIA”).⁴ These critics argue that the HIA had no observable benefits for production, investment, and employment in the U.S. and that repatriated cash was simply distributed to shareholders.⁵

Critics support their arguments using economic studies that evaluated the economic impact of the HIA. In particular, two careful and widely cited studies by Dharmapala, Foley, and Forbes (2011) and Blouin and Krull (2009), conclude that repatriating firms used little or no repatriated monies to fund new investment activity and that a large portion of the repatriated cash was eventually returned to shareholders.⁶ Implicit in the criticism that shareholders received most of the repatriated cash is the assumption that this use provides no overall benefit to the economy.⁷

We accept as a premise of this paper that a new repatriation incentive similar to the 2004 HIA will result in a significant increase in repatriations and that most, though not all, of the repatriated cash will be distributed to shareholders. Under this premise, we examine how the repatriated cash returned to shareholders will affect the U.S. economy through changes in consumption and investment spending.

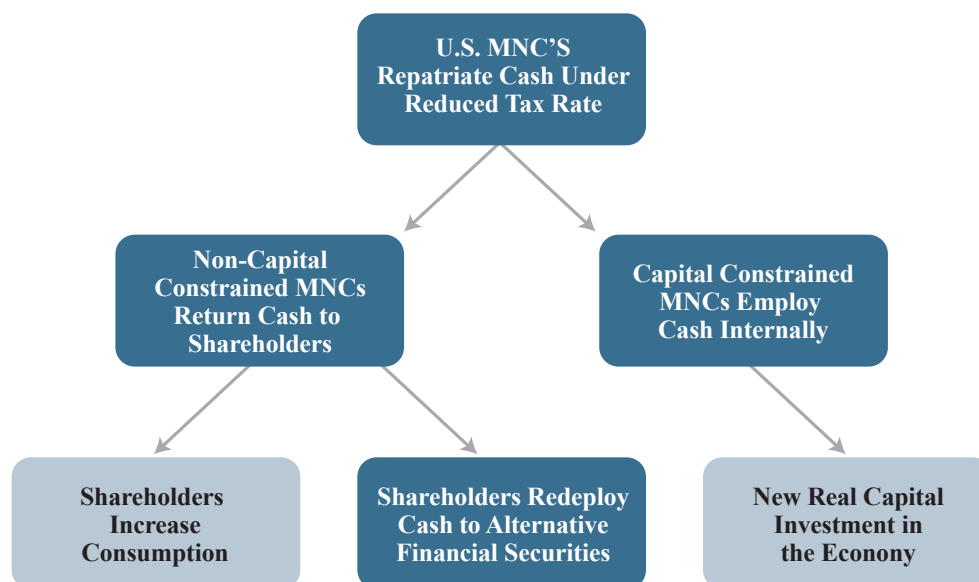
We find that consumption will increase directly because shareholders will spend a portion of the cash returned to them by repatriating MNCs.⁸ Consumption will also increase indirectly as a result of expected increases in the equity values of repatriating MNCs and the return of repatriated cash to shareholders (consumption from such an increase in household wealth is generally referred to as a “wealth effect”).⁹

We also predict that real investment activity will increase as shareholders redeploy the residual cash (i.e., cash not used for consumption) to the purchase of alternative financial securities. These purchases will likely encourage other firms in the economy to increase their real capital investment activities.

Even if much of the repatriated cash is returned to shareholders as was apparently the case in 2004, it is not likely that all of the cash will be used for this purpose. In this paper we also analyze the economic impact of a reduction in the tax rate on repatriated foreign subsidiary earnings under the assumption that some percentage of firms likely to participate are capital constrained and will use some of the repatriated cash for new investment activity.¹⁰

Figure 1 below shows how repatriated cash will be employed by the direct MNC recipients and the indirect shareholder recipients. Capital-constrained MNCs will likely use some of their repatriated foreign earnings to fund their internal activities – including new investment activity. Foreign earnings repatriated by MNCs that are not capital constrained will likely be returned to their shareholders. These shareholders will use some of this cash to increase their consumption, reduce their household debt, add to their savings, and purchase alternative financial assets.

Figure 1: PRE Flowchart



The expected increases in new investment by capital-constrained firms, as well as the expected increases in consumption and real investment from the transfer of repatriated cash to shareholders, will have positive effects on the U.S. economy. We estimate that a tax policy change that provides U.S. MNCs with a reduced tax rate on repatriated foreign subsidiary earnings similar to that provided under the HIA will lead them to repatriate a total of about \$1.1 trillion.¹¹ After accounting for expected normal repatriation amounts and for taxes paid at the reduced rate on repatriated funds, we estimate that \$942 billion will be available to the repatriating firms in the United States.

Under the assumption that capital-constrained firms will use a portion of their repatriated funds for new investment, we estimate that a temporary reduction in the tax rate on repatriated foreign subsidiary earnings will lead to new domestic investment of between \$96 and \$191 billion. In addition, under the assumption that firms that are not capital constrained will return all of their repatriated foreign subsidiary earnings to their shareholders, we estimate that household consumption will increase by between \$25 and \$38 billion.

The estimated increases in investment and consumption will have spillover or multiplier effects throughout the economy resulting in increased output and employment.¹² We estimate that the investments made by capital-constrained firms will generate additional U.S. Gross Domestic Product (“GDP”) of between \$138 and \$276 billion and will result in between 1.0 and 2.0 million additional new jobs. We also estimate that the additional consumption spending will lead to between \$34 and \$54 billion in additional GDP and between 255 and 393 thousand new jobs. Finally, we expect that the return of repatriated funds to shareholders will generate additional shareholder wealth of \$190 billion and that this wealth will generate an additional \$5 billion in consumption spending, \$7 billion in GDP, and 49 thousand new jobs.

In total, we estimate that a temporary reduction in the tax rate on repatriated foreign subsidiary earnings to a level similar to the 2004 HIA rate will generate between \$178 and \$336 billion in additional GDP and between 1.31 and 2.47 million new jobs. In addition, we expect that most of the repatriated cash returned to shareholders not used for additional consumption will likely be used to purchase alternative financial securities. We estimate that as much as \$434 billion will be used to purchase alternative U.S. financial securities. While we do not explicitly quantify the economic impact of these purchases in terms of GDP or jobs, we do, however, explain the theoretical justification for the expectation that such purchases will increase stock prices. The increase in stock prices, in turn, will indirectly stimulate additional real investment activity and boost business and consumer confidence.

Currently, the U.S. economy suffers from insufficient aggregate demand, with numerous economists calling for additional measures to support job creation.¹³ As the analysis in this paper demonstrates, the increases in investment and consumption spending that will result from a return of foreign earnings will boost aggregate demand and create new jobs.

The economic benefits of a temporary tax reduction on repatriations, like the economic benefits of other temporary tax policies to stimulate aggregate spending, are likely to take effect gradually. Some effects of a tax reduction on repatriations are likely to occur relatively quickly. For example, the wealth effect arising from an increase in the equity values of repatriating firms should begin to take effect quickly and will continue as repatriating firms efficiently employ their repatriated earnings. It is also likely that increases in consumption resulting from increases in cash distributions to shareholders in the form of increases in dividends or share repurchases will occur relatively quickly. In contrast, new investment by capital-constrained firms and new investment resulting from the increase in demand for primary and secondary financial securities may take place over a longer period of time, with significant lags between enactment of the tax reduction, an increase in repatriations and subsequent increases in real economic activity.

Unlike other temporary tax policies to stimulate aggregate demand, a one-time reduction in the tax rate applied to repatriated foreign earnings will increase rather than decrease government revenues during the next few years. The additional revenues could be used to fund other fiscal measures to boost aggregate demand and support job creation. For example, some advocates of a tax reduction on repatriations have proposed that the temporary increase in tax revenues be used as the capital base for a National Infrastructure Bank.

II. ESTIMATES OF REPATRIATED FOREIGN EARNINGS UNDER A REDUCED TAX RATE

We estimate that the dividends paid from Controlled Foreign Corporations (“CFCs”) to their U.S. parents under a reduced tax rate on the repatriation of foreign subsidiary earnings would be approximately \$1.1 trillion, assuming that the new tax is reduced to a rate similar to that of the 2004 HIA. We base this estimate on an evaluation of the financial positions of a large group of U.S. MNCs using firm-specific characteristics that we expect would influence their participation in the holiday. The \$1.1 trillion in dividends consist of two distinct components: the “baseline” dividends and the “qualified” dividends. Baseline dividends are an estimate of the expected dividends that would normally be repatriated during the year in the absence of the tax change. The baseline amount is subject to normal U.S. corporate tax rates. Qualified dividends are those in excess of the baseline, and they are the dividends that qualify for the reduced tax rate. The benefits from a lower tax rate will result only from the qualified dividends. We estimate the qualified dividends to be approximately \$977 billion. After accounting for the reduced U.S. corporate tax payments on these dividends, we estimate \$942 billion will be available for domestic use by the repatriating MNCs. (See **Appendix A** to this paper for details on these estimates.)

What will the repatriating MNCs do with this amount of repatriated cash? Some portion of the cash will

likely be used internally by the more capital-constrained firms. Firms that are not capital constrained will likely return repatriated cash to shareholders. In the following sections of this paper we analyze and estimate the impact on the U.S. economy from these two uses of repatriated cash.

III. INVESTMENT OF REPATRIATED FOREIGN EARNINGS BY CAPITAL-CONSTRAINED FIRMS

Under the 2004 HIA, repatriating firms were required to prepare a plan that described the anticipated uses of the repatriated funds. Approved uses under that Act included activities such as capital expenditures, research and development, hiring and training, debt repayment, and certain merger and acquisition activity. The evidence indicates that repatriating firms followed their plans and used the repatriated cash for approved purposes. The economic findings that many firms returned repatriated cash to their shareholders, a purpose not approved under the HIA, is explained by the fungibility of cash; essentially firms used money previously budgeted for the approved uses that was “freed up” by repatriated cash to effectuate the distributions to shareholders.

A survey performed by Graham, Hanlon and Shevlin (2010) identified how repatriating firms actually used repatriated cash, the results of which are summarized in **Table 1** below. Their results indicate that 39% of the repatriated cash was used for domestic investment activities (the combination of “capital investment” and “R&D”). The survey also evaluated how these same firms used existing cash freed up by the repatriated funds. The findings related to uses of freed up cash are summarized in **Table 2** below.

Table 1: Uses of Cash Repatriated Under 2004 HIA¹⁴

Purpose	Average Percentage of Cash Used for Each Purpose
U.S. Capital Investment	24.0%
Hiring and Training of U.S. Employees	23.5%
U.S. R & D	14.7%
Pay Down Domestic Debt	12.4%
Other	10.0%
Acquisition	7.0%
Holding in Cash	4.6%
Share Repurchases	3.4%
Dividends	0.3%

Table 2: Uses of Freed-up Cash Under 2004 HIA¹⁵

Purpose	Percentage of Respondents that Answered Yes for Each Purpose
U.S. Capital Investment	36.8%
Hiring and Training of U.S. Employees	25.5%
U.S. R & D	24.6%
Pay Down Domestic Debt	47.4%
Other	7% (approximated from figure)
Acquisition	21.9%
Executive Compensation	5% (approximated from figure)
Share Repurchases	40.4%
Dividends	17.5%

While the Graham et al. survey provides visibility in aggregate as to how repatriated cash was used by all firms, it does not distinguish between firms that were capital-constrained and those that were not capital constrained. Since capital constrained firms would not have had as much available cash as unconstrained firms prior to the HIA repatriation, it is less likely that the use of repatriated cash by capital-constrained firms “freed up” much existing cash. Therefore, assuming that capital-constrained firms used repatriated cash under the HIA in the proportions indicated in **Table 1**, it is likely that on net they invested about 39% of the cash they repatriated.

Another approach to identifying new investment from repatriated funds by capital-constrained firms is provided in the work of Faulkender and Petersen (2011). Faulkender and Petersen examined whether the HIA affected the investment decisions of capital-constrained repatriating firms. They found that such firms significantly increased investment following the implementation of the HIA. Specifically, they concluded that capital-constrained firms repatriated 27% of the total amount returned under the HIA and that these capital-constrained firms used 78% of the funds they repatriated for domestic investment activities.

We use the findings of Graham et al. and Faulkender and Petersen to estimate the magnitude of new investment likely to be undertaken as a result of a reduction in the tax rate on repatriated foreign subsidiary earnings under the assumption that capital constrained repatriating firms will use the repatriated funds internally. Specifically, we estimate that between 39% and 78% of monies repatriated by capital-constrained firms will be used for new investment.¹⁶

We employ the Kaplan-Zingales (“KZ”) index to identify the relatively more capital-constrained firms among those likely to repatriate foreign subsidiary earnings due to a temporary reduction in the tax rate.

The KZ index is a regularly used metric in financial and economic academic research used to measure capital constraints. We calculate the KZ score for all likely participants, rank them by terciles, and assume that the most capital constrained one-third of firms will use repatriated funds internally.¹⁷ Based on our calculations, the capital-constrained firms will repatriate \$277 billion out of the total expected repatriations of \$1.1 trillion, or about 26% of the total (see **Appendix B** for details of these calculations).¹⁸ After accounting for Baseline repatriations and the reduced tax on the qualified portion of the repatriated cash, we estimate that these firms will have about \$245 billion available for internal use in the United States.

Based on our assumption that the capital-constrained firms will use repatriated cash for internal uses and applying the investment range discussed above, we estimate that capital-constrained firms will spend between \$96 and \$191 billion on new domestic investment.¹⁹

Table 3: New Investment by Capital-constrained MNCs

	Gross Repatriations	After-Tax Qualified Repatriations	New Investment (low)	New Investment (high)
Capital Constrained MNCs	\$ 277	\$ 245	\$ 96	\$ 191
Non-Capital Constrained MNCs	\$ 789	\$ 697	\$ -	\$ -
Total	<u>\$ 1,066</u>	<u>\$ 942</u>	<u>\$ 96</u>	<u>\$ 191</u>

IV. CONSUMPTION OF REPATRIATED FOREIGN EARNINGS BY U.S. HOUSEHOLDS

We assume for purposes of our analysis that all foreign earnings repatriated by firms that are not capital constrained will be distributed by these firms to their shareholders. Based on the calculations above, this implies that about \$697 billion in after-tax qualified dividends will be distributed to shareholders. What will shareholders do with these distributions?

To begin the analysis to answer this question, we first assume that the distribution of repatriated cash to U.S. shareholders will reflect the actual distribution of overall equity holdings among U.S. households. This distribution is skewed to higher income categories. As is illustrated in **Tables 4 and 5**, households with incomes over \$250,000 a year have a little over half of all U.S. equity holdings. That said, equity holding in the U.S. spans all income categories, with at least some households in each category owning some equity, and with about 50% of all U.S. households owning some equity.

Table 4: U.S. Households: Distributions of Income and Equity Holdings²⁰

<i>Income Range</i>	Distribution of U.S. Households (%)	Distribuiton of Equity Ownership (%)
< \$15,000	13	1
\$15,000 to 24,999	13	1
\$25,000 to 49,999	27	6
\$50,000 to 74,999	18	8
\$75,000 to 99,999	10	9
\$100,000 to 249,999	16	22
> \$250,000	4	54

Table 5: U.S. Households: Equity Holdings by Income Percentile²¹

<i>Percentile of Income</i>	Households with Equity Holdings (%)
< 20	14
20–39.9	34
40–59.9	50
60–79.9	71
80–89.9	85
90–100	91

Next, we address the fact that the net amount of repatriated cash available for use in the U.S. will be less than the gross amount returned to shareholders because of the geographic composition of investor portfolios. Not all shareholders of repatriating MNCs are U.S. residents, so some portion of repatriated cash returned to shareholders will flow outside the United States. Additionally, when U.S. residents redeploy cash received from repatriating MNCs to the purchase of alternative financial securities, it is likely that such purchases will include some foreign securities. Thus, not all of the repatriated cash returned to shareholders will remain in the U.S. economy.

We estimate the net available cash remaining in the United States using information about the geographic distribution of U.S. corporate equity holdings and about the geographic distribution of the financial portfolios of U.S. investors. Foreign investors hold approximately 17% of U.S. equities.²² Given our estimate of \$697 billion in after-tax qualified dividends, and assuming that the entire amount is returned to shareholders, we estimate that approximately \$581 billion in cash will be put into the hands of U.S. residents.

A. Consumption from Cash Returned to Shareholders

At first blush, it may seem counter-intuitive that shareholders holding a certain portion of their wealth in the equity of a repatriating company would consume some of that wealth simply because the company distributed a portion of its assets (i.e., the repatriated cash) to them. Standard economic and finance theories predict that rational shareholders would recognize any such distributions as a change in the makeup of their investment wealth, not as a change in its amount. Shareholders would thus be expected to redeploy all such distributions to the purchase of alternative financial securities to rebalance their portfolios.²³ Poterba, in his comments to Baker et al. (2007), summarizes this expectation:

“In contemporary textbook models of consumer behavior, current household spending depends on the present discounted value of current and future labor earnings and on current financial assets. In the absence of taxes and other institutional rigidities, a dividend payment, as opposed to a capital gain, should not change a household’s net financial assets and therefore should not affect consumer spending.”²⁴

Many empirical studies of shareholder behavior, however, have found that a surprisingly large portion of distributions to shareholders are in fact used for consumption. The literature also finds that the amount of distributed cash used for consumption depends on how firms return cash to shareholders.

Public corporations generally have three means by which they can distribute cash to shareholders. They can institute or increase a regular dividend on their stock; they can issue a special one-time dividend to their shareholders; or they can repurchase shares.²⁵ The empirical literature has studied the impacts on consumption resulting from cash distributions to shareholders through all three methods. The evidence indicates that shareholders consume rather than reinvest a large portion of dividend receipts.²⁶ Perhaps more surprising, the literature also finds that investors consume a portion of the cash proceeds from forced conversions of equity into cash (from corporate takeovers or share repurchases).²⁷ The findings with respect to consumption from corporate payouts to shareholders are at odds with conventional models of consumer behavior embodied in life-cycle theories of consumption.

Models of behavioral economics, however, provide a theoretical basis for these counter-intuitive findings. Shefrin and Thaler (1988), in particular, suggest that, contrary to standard economic life-cycle theories of consumption, individuals place different types of wealth into different “mental accounts.” The behavioral life-cycle hypothesis goes on to suggest that individuals have a different propensity to consume out of different mental accounts: they tend to consume the most out of their “current income” account, a lesser amount from their “current assets” account, and the least from their “future income” account.

The behavioral life-cycle hypothesis suggests that consumption from dividends (particularly regular dividends and to a lesser extent special dividends), arises because individuals consider dividends more like

current income than assets or future income. A similar life-cycle explanation is consistent with empirical studies that have found that individuals consume a significant share of the cash they receive from share repurchases. These results indicate that at least some shareholders view cash received from conversions of equity via repurchase as more like current income than assets or future income.

The few empirical studies that directly evaluate the question of the impact of dividends on consumption consistently find evidence that dividends lead to increased consumption. Primary amongst these studies is the work of Baker, Nagel and Wurgler (2007). Baker et al. found that there is a positive and statistically significant relationship between dividends and consumption. Specifically, they found a range for the amount that consumption increases from increased dividends, with the high end of this range suggesting that one dollar of dividends leads to 81 cents of increased consumption.²⁸

In addition to studies that evaluate the impact of dividends on consumption, Hantsopoulos, Krugman and Poterba (1989) and Poterba (1991) also examine the relationship between forced conversions of equity into cash (from corporate takeovers or share repurchases) and consumption. These studies found that, contrary to the expectations of standard theory, investors consume a large portion of the cash proceeds from these forced conversions. Hantsopoulos et al. found that the marginal propensity to consume (“MPC”) from cash received as a result of corporate takeovers to be 0.59, implying investors increased consumption by 59 cents for every dollar of cash received. They also found that the MPC from share repurchases was consistent with the result for takeovers. Poterba, revisited the findings of Hantsopoulos et al. and found that the MPC of forced realizations of capital gains through takeovers was 0.4. The statistical significance of the estimated MPCs in both of these studies was somewhat less than that which is normally accepted in empirical economic work as significant, though Poterba suggests that the “point estimates continue to suggest a substantively important link between cash payout and consumption.”

The empirical findings with respect to the impact of dividends and repurchases on consumption lead us to expect that the return to shareholders of repatriated foreign earnings will increase U.S. consumption. Since these findings also indicate that consumption from dividends will likely exceed that from repurchases, the question of how much consumption will emerge from a new tax holiday will depend on how the repatriated cash is returned to shareholders.

It has been suggested by some (e.g., Dharmapala et al. and Blouin and Krull) that repurchases were the primary method by which repatriated cash was to be returned to shareholders under the HIA. Specifically, Dharmapala et al. suggest that the transitory nature of the repatriated cash favors repurchases because repurchases do not imply the same likelihood of recurrence as do dividends.²⁹ Blouin and Krull also suggest that the transitory nature of the repatriated cash favored repurchases, and they also suggest that repurchase through open-market purchases would have enabled MNCs to obscure the payments to shareholders that

were explicitly proscribed under the terms of the HIA.

Even if repurchases were the dominant method used under the HIA, there are nonetheless reasons to expect that dividends may play a larger role in the return of repatriated cash resulting from a current reduction in tax rates. If firms are free to distribute repatriated cash to their shareholders, as we assume will be allowed under the terms of a new tax reduction policy, there will be no need to obscure the use of repatriated funds through open-market repurchases as suggested by Blouin and Krull. Additionally, the large MNC cash holdings in recent years have led many corporations to either initiate or increase dividend payments to their shareholders as a means to distribute this cash.

Based on the differences between the economic circumstances surrounding the 2004 HIA and current circumstances it is not unreasonable to expect that some repatriating companies will use the cash to increase dividends. In fact, at least one large U.S. MNC has publicly declared that it will double its dividend payment if it is able to repatriate its foreign earnings at a reduced tax rate.³⁰ Thus, while we expect that a new tax holiday will lead non-capital-constrained firms to return a substantial portion of the repatriated funds to shareholders, there is less certainty with respect to the means by which firms will distribute these funds, and it is likely there will be variation in the means utilized.

Given that we cannot be certain as to how companies will choose to distribute repatriated cash to shareholders, we find that one way to estimate the consumption effect from the return of repatriated cash to shareholders is to assume that a return of \$1 of repatriated cash to shareholders will lead to consumption of \$0.40. This MPC is consistent with the mid-point of the findings reported by Baker et al. concerning dividends, as well as the findings of Hantsopoulos et al. and Poterba regarding the consumption effect of forced conversions of equity to cash through repurchases.

An alternative approach to estimate the impact on the economy from increased consumer spending out of a return of repatriated cash to shareholders is to consider that consumer spending by shareholders who have their equity wealth converted to cash is similar to consumer spending resulting from unanticipated income. The receipt of such unanticipated income can be modeled analogously to a one-time tax cut. Accordingly, the impact on the U.S. economy from increased consumption resulting from a return of repatriated cash to shareholders can also be estimated using standard macroeconomic multipliers designed to measure the impact of tax cuts.

We estimate this impact using multipliers in **Section V.B** below, though we note here for means of comparison with the MPC approach described above that the macroeconomic multiplier approach is equivalent to assuming a MPC of 0.26 instead of an MPC of 0.4.

While we estimate that between 26 cents and 40 cents of each dollar returned to U.S. households will

be used for increased consumer spending, the amount of repatriated cash that will actually be available to these households, and correspondingly the magnitude of any increased consumption, depend on the structure of equity holdings. Specifically, the proportion of shares under institutional versus household management and the proportion of household equity holdings in retirement or other tax-deferred accounts limit the availability of the returned cash to households for consumption purposes.

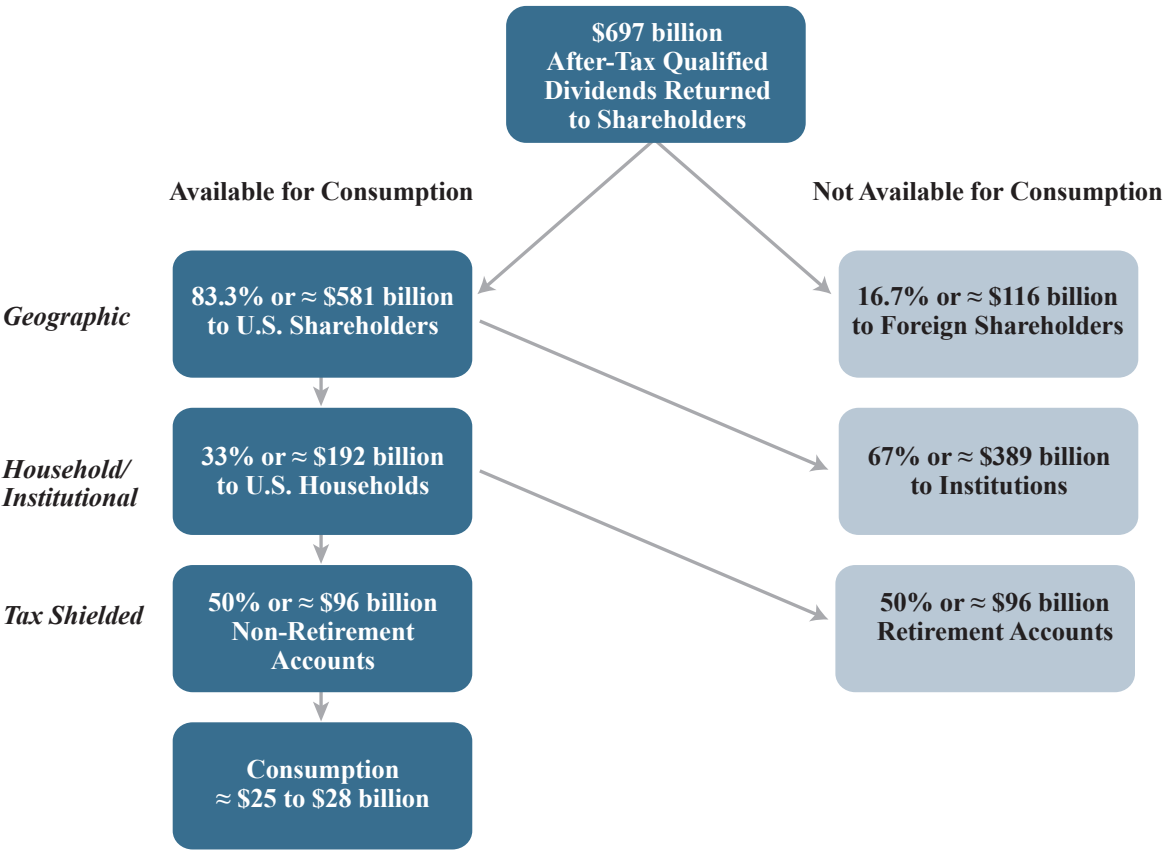
According to current data, approximately 33% of U.S. corporate equity is directly held by households.³¹ The remainder, 67%, is under institutional management, mostly in mutual funds and pension funds.³² Institutional management is important because cash returned to shares managed by institutions is not expected to be subject to the same propensity to consume as cash returned directly to households. It is expected that professional investment managers will not treat higher dividend payments or share repurchases as “current income” in the same way that households do.³³

Related to the shares under household control, a large portion of these shares, perhaps as many as half, is held in retirement or other tax deferred accounts (e.g., IRAs and 401ks).³⁴ Cash returned to shares held in such accounts would generally be subject to a tax penalty should it be withdrawn for consumption purposes. Accordingly, we would not expect additional cash flowing into these accounts from dividends or share repurchases to generate any material increase in consumption.

The apportionment of repatriated cash returned to shareholders into amounts likely available and unavailable for consumption spending by U.S. households is illustrated in **Figure 2** below. Assuming that all after-tax qualified dividends repatriated by non-capital-constrained MNCs will be returned to shareholders, we estimate that U.S. shareholders will receive about \$581 billion in cash from repatriating MNCs. We further assume that the split between household and institutional holdings of shares subject to the return of cash is consistent with the general distribution in the U.S. (i.e., 67% of the shares are held by institutions). This assumption implies that approximately \$192 billion of cash will be returned to U.S. households (for simplicity we assume cash returned to shares managed by institutions adds nothing to consumption). We further assume that half of the cash returned to households would be held in retirement or other tax-deferred accounts from which no consumption is likely. Thus, we expect that approximately \$96 billion of the repatriated cash would be available for consumption by U.S. households.

Under these assumptions, and assuming a MPC range of between 0.26 and 0.40, we expect that between about \$25 and \$38 billion would be used for consumption. Based on the distribution in equity holdings among U.S. shareholders described above, this consumption will be skewed to higher income U.S. households, but it will nonetheless stimulate aggregate demand.³⁵

Figure 2: Repatriated Cash Available for U.S. Consumption



The Deferred Tax Liability Component of the Wealth Effect

U.S. accounting regulations require firms to either expense the tax liability associated with foreign profits, or to declare the foreign profits PRE. If firms declare the foreign profits as PRE, no expense charge is taken, resulting in higher reported profits. However, the amount of the liability that would have been expensed had the profits not been PRE must nonetheless be reported in a footnote to their financial statements. (See Accounting Principles Board Opinion 23, APB 23 - Accounting for Income Taxes - Special Areas).

Rational investors should capitalize the potential deferred tax liabilities into share prices if they believe that the PRE will eventually be repatriated. By the same token, if the tax rate on repatriated funds were to fall, to the extent the liability has been incorporated into share prices, the prices should rise. Empirical research has been generally supportive of this logic.

B. Consumption from the Wealth Effect

In addition to the direct effects on consumption that arise from the return of cash to shareholders, it is likely that shareholders will benefit from an additional wealth effect resulting from an increase in the share prices of repatriating firms. These prices are likely to rise for two reasons. First, as a result of a reduced tax rate on the repatriation of foreign subsidiary earnings, expectations about the future after-tax earnings of participating MNCs may be revised upward as their discounted future tax liabilities are revised downward. Second, share buybacks or increased dividend payments may cause shareholders to improve their assessment of the effectiveness of firm management. We call the first of these effects the deferred tax liability effect and the second the agency effect.

Deferred Tax Liability Effect

The Deferred Tax Liability Effect arises because share prices of MNCs holding earnings as PRE abroad currently tend to incorporate a discount reflecting investors'

belief that the future income of the firm will be reduced by some or all of the associated U.S. tax liability. To the extent that the PRE can be repatriated with less than the full tax liability as a result of a temporary tax reduction, expectations about future firm income will be revised upward and that will increase the share price.

Assuming that the \$977 billion in pre-tax qualified dividends is currently designated as PRE, we estimate its repatriation under a new tax holiday will lead to aggregate share price increases from the Deferred Tax Liability Effect of approximately \$86 billion. (See **Appendix B** to this paper for details on this estimate).

Since a portion of this wealth increase accrues to foreign shareholders of U.S. equity, the increase in U.S. shareholder wealth is about \$72 billion.

Agency Effect

Separate and distinct from expected increases in share prices due to the Deferred Tax Liability Effect, we expect that the act of returning repatriated cash to shareholders will by itself result in an increase in share prices. We refer to this share price increase as the Agency Effect. The Agency Effect occurs when shareholders improve their perception of the effectiveness of management as a result of the decision by management to distribute the repatriated cash to shareholders rather than invest in sub-optimal projects. This change in perception leads shareholders to revise their expectations of future firm earnings upward and to bid up the share price consistent with these revised expectations.

Assuming that the \$697 billion in after-tax qualified dividends repatriated by non-capital-constrained firms under a reduced tax rate would be returned to shareholders, we expect aggregate share price increases for repatriating firms from the Agency Effect of approximately \$104 billion. (See

The Agency Component of the Wealth Effect

Empirical evidence shows that firm distributions of cash generate positive and significant above-normal returns (See Appendix B for details). One common hypothesis used to explain these findings is the free cash flow hypothesis.

The free cash flow hypothesis suggests that the return of free cash (essentially the amount of cash on hand in excess of that needed to fund operations) will lead to positive price reactions as it alleviates agency issues present in the management-shareholder relationship. The agency issue in question arises when a firm has large free cash balances with few profitable investment opportunities—a reasonable characterization of firms likely to take advantage of a tax reduction. In such a circumstance, shareholders may be concerned that managers have an incentive to engage in unprofitable investments or to otherwise engage in unprofitable expenditures (See Jensen (1986) for a discussion of the free cash hypothesis). The return of repatriated cash to shareholders prevents such waste, and informs shareholders that management is acting in their best interest. This should result in gains to share price.

The free cash flow hypothesis is directly applicable to U.S. MNCs with large overseas holdings of cash and few untapped investment opportunities; the firms that would likely take advantage of any future tax holiday. As the repatriation tax burden induces firms to hold ever larger amounts of foreign profits in highly liquid assets outside of the U.S., agency costs of the discretionary behavior of management likely mount. A return to shareholders would relieve these costs and would thus be expected to boost share prices.

Appendix B to this paper for details on this estimate). Since a portion of this wealth increase accrues to foreign shareholders of the U.S. equity, the increase in U.S. shareholder wealth is about \$87 billion.

The Deferred Tax Liability and Agency Effects each independently contribute to an increase in the share prices of the repatriating firms. To the extent that the shareholders of a repatriating firm expected some or all of the accumulated PRE to be returned to the United States under existing tax rates, the discounted repatriation itself will result in a share price increase, independent of the final use of the repatriated cash (e.g., internal use or return to shareholders). Regardless of shareholder expectations with respect to the likelihood of eventual repatriation (i.e., whether or not discounted repatriation leads to a Deferred Tax Liability Effect), a return of the repatriated cash to shareholders will result in an increase in share price from the Agency Effect.

The increase in shareholder wealth from these two effects should also boost consumption. An increase in consumption that results from an increase in shareholder wealth is generally referred to as the Wealth Effect. Increases in consumption associated with increases in wealth are expected to be smaller than increases in consumption associated with dividends and share repurchases (i.e., the MPC from equity wealth is smaller than the MPC from dividends and repurchases). Studies have found that the MPC out of an increase in equity wealth is about 0.03, or 3 cents of additional consumption for every dollar of incremental wealth.³⁶ Given the expected total U.S. shareholder equity wealth increase of \$159 billion (assuming all repatriated cash from non-capital-constrained firms is returned to shareholders) and assuming an MPC of 0.03, the consumption increase from the increase in equity wealth is estimated to be approximately \$5 billion.

V. THE MACROECONOMIC IMPACT OF INCREASED INVESTMENT AND CONSUMPTION

A. Macroeconomic Impact of Increased Investment

As discussed above, we estimate that new domestic investment by repatriating firms that are assumed to be capital constrained will be between \$96 and \$191 billion under the assumption that these firms will use cash repatriated at a reduced tax rate for internal purposes and will not return it to shareholders. The total impact on aggregate spending, GDP, and jobs will be larger than this initial increase in business investment through the so-called multiplier effect. According to standard macroeconomic theory, an initial increase in one component of spending (in this case business investment) produces a larger increase in total spending because these purchases will lead the suppliers whose goods and services are purchased to correspondingly increase their own purchases of intermediate goods and services. Moreover, the increased income of

employees of the providers of goods and services will increase their consumption, which further increases aggregate demand and spending.

There are two distinct ways by which we can estimate the multiplier effect of increased business investment. The first way is to employ publicly available social accounting matrices (“SAMs”) such as IMPLAN or RIMS II. These models are regularly utilized to evaluate the local or regional impact of new economic activity such as new business investment. In general, the multipliers that result from these models are not readily applicable to the national economy because they are not comprehensive macroeconomic models and do not account for financial variables and the impact of price changes on economic agents. In the current U.S. economy, however, the results from these models may be more relevant because low capacity utilization and high unemployment suggest that gains from new activity will not dissipate in the form of changes in relative prices.

We evaluated business expenditure multipliers using the IMPLAN SAM.³⁷ Specifically, we estimated a multiplier for R&D investment as well as a multiplier for aggregate business investment.³⁸ We found that a \$1 billion increase in R&D spending results in an increase in GDP of about \$1.8 billion – a multiplier of 1.8. The IMPLAN model also finds that this increase in R&D spending would lead to about 22,000 new jobs.³⁹ IMPLAN finds that each \$1 billion increase in aggregate business investment results in an increase in GDP of about \$1.38 billion – a multiplier of 1.38. The IMPLAN model finds that each \$1 billion increase in aggregate business spending would lead to about 15,000 new jobs. As an alternative to the IMPLAN input-output approach, we also use a traditional multiplier approach to estimate the effects of an increase in business investment triggered by an increase in repatriations. We assume that the multiplier for this increase is the same as the multiplier for an increase in government spending on infrastructure projects. One reason for this alternative approach is that while SAMs are used to estimate the effect of sector-specific expenditure, the question we seek to answer is how increased business expenditure on investment that is not sector-specific will impact the economy. Such broad-based business expenditure is analogous to broad-based government infrastructure spending that spans regions and sectors.⁴⁰ In our calculations of the effects of increased business investment from repatriations based on this alternative approach, we use Zandi’s one-year multiplier for federal infrastructure spending of 1.44.⁴¹

This multiplier is consistent with the multiplier calculated from the IMPLAN model when R&D investment and other investment are weighted according to the relative proportions reflected in the Graham et al. survey: under this assumption, the weighted average multiplier from IMPLAN is 1.54. Applying the Zandi multiplier to the estimated range of new domestic investment of between \$96 and \$191 billion, we estimate U.S. GDP to increase by between about \$138 and \$276 billion. These GDP numbers are

summarized in **Table 6** below.

We base our estimates of job creation that will result from this increase in GDP on extrapolations from historical data used by the CBO and others. Romer and Bernstein use this methodology and estimate that a 1% increase in GDP will result in an increase of 1 million jobs. The CBO uses the same methodology and estimates that a 1% increase in GDP will result in an increase of 1 to 1.2 million jobs. Studies by the Economic Policy Institute that evaluate ARRA’s impact on job creation use this same range and cite both Romer and Bernstein and the CBO (one EPI study uses Romer and Bernstein’s estimate while the other uses the high end of the CBO range). Using the mid-point of this range – 1.1 million jobs for a 1% increase in GDP – and using the second quarter 2011 GDP estimate of about \$15 trillion, we estimate that the \$138 to \$276 billion increase in GDP will lead to between about 1.0 and 2.0 million new jobs. These jobs numbers are summarized in **Table 6** below. We also note in **Table 6** the job creation figures that result from the IMPLAN model for the same increases in business spending.⁴²

Table 6: Summary of Macroeconomic Impact of Increase in Investment

		GDP Increase		New Jobs	
Source	Multipliers	Investment \$96b	Investment \$191b	Investment \$96b	Investment \$191b
Zandi	1.44	\$138	\$276	1,011,639	2,023,278
IMPLAN	1.54	\$148	\$295	1,670,782	3,341,563

While the Zandi multiplier is defined as a “bang for the buck” multiplier designed to measure the one-year change in GDP, it should be noted that the output and employment increases estimated in **Table 6** should not necessarily be anticipated to occur within the one-year period from the date of implementation of a new repatriation incentive plan. Depending upon the extent of a firm’s capital constraints, the implementation of new investment plans may be delayed until all desired funds have been repatriated. In addition, the time necessary to translate a profitable investment opportunity into a “shovel ready” project may delay the stimulative impact of the investment decision on output and employment.

B. Macroeconomic Impact of Increased Consumption

As discussed in **Section IV.A** above, using a MPC of 0.4, we estimate that households who receive repatriated cash through dividends or repurchases will increase their consumption spending by about \$38 billion. This increase in consumption enters the economy directly with no leakage from household income into savings or taxes. In that sense, the first-round effect of the initial increase in consumption triggered by repatriation is similar to the first round effect of an autonomous increase in federal government spending. Therefore, we base our estimates of the multiplier effect of the initial increase in consumption spending on a range of federal spending multipliers.

We evaluated federal spending multipliers related to the 2009 American Recovery and Reinvestment Act (“ARRA”) used by the Congressional Budget Office (“CBO”), by Mark Zandi, and by Christina Romer and Jared Bernstein. We also examined Valerie Ramey’s estimate of the multiplier for temporary, deficit-financed increases in government purchases. The CBO estimates the range for the federal spending multiplier is between 1.0 and 2.5.⁴³ Zandi estimates that the one-year average federal spending multiplier is 1.4, with individual component spending multipliers between 1.14 and 1.71.⁴⁴ Romer and Bernstein estimate the federal spending multiplier for the ARRA at 1.57 (after 8 quarters.)⁴⁵ Finally, Ramey concludes that the government purchase multiplier lies in the range of .8 to 1.5.⁴⁶ In addition, we employed IMPLAN to estimate the total effects on the economy of the initial increase in consumption. The IMPLAN model results in a spending multiplier of 1.38.

The range of multipliers we evaluated is summarized in **Table 7** below. Based on this range of multipliers, we find Zandi’s estimate of 1.4 to be the most reasonable multiplier to use to assess the effect of the initial increase in consumption on GDP. This multiplier lies within the CBO range, is consistent with the multipliers of IMPLAN, and Romer and Bernstein, and is at the top of Ramey’s range. Using the multiplier of 1.4, the initial increase in consumption of about \$38 billion is estimated to lead to an increase in U.S. GDP of about \$54 billion.

The alternative methodology we used to estimate the macroeconomic impact from an increase in consumption was to treat the return of repatriated cash to shareholders as analogous to the increase in disposable income that would result from a tax cut. Here we used Mark Zandi’s multiplier of 0.35 for the one-year impact of the Bush tax cuts. Using this approach and our estimate of \$96 billion of repatriated cash available to households for consumption, we estimate that GDP will increase by about \$34 billion. As discussed above, this approach is comparable to assuming a MPC of 0.26 from repatriated cash available to households.⁴⁷

The two alternative approaches for estimating the economic impact of households’ spending out of cash

received from repatriating MNCs provide a range for the increase in GDP of between \$34 and \$54 billion. In addition to the increase in GDP attributable to increased household spending of repatriated cash, the wealth effect described in **Section IV.B** above would add an additional \$7 billion in consumption.⁴⁸ Thus, the total GDP increase estimated to result from increased household consumption is between \$40 and \$60 billion. These GDP numbers are summarized in **Table 7** below.

Based on the GDP-to-jobs relationship described in **Section V.A** above, we estimate that the increase in GDP from increased consumption of between \$40 and \$60 billion will result in between about 295,000 and 442,000 new jobs. These job numbers are summarized in **Table 7** below. We also present the GDP and job creation results utilizing the IMPLAN model in **Table 7**.

Table 7: Summary of Macroeconomic Impact of Increase in Consumption

Source	Multipliers	Consumption (low)	Consumption (high)	Consumption (low)	Consumption (high)
Zandi (Bush Tax Cuts)	0.35	\$40		294,857	
Ramey	.8 to 1.5		\$35 to \$65		252,793 to 473,986
CBO	1.0 to 2.5		\$43 to \$108		315,991 to 789,977
Romer and Bernstein	1.57		\$68		496,106
Zandi (Spending)	1.4		\$60		442,387
IMPLAN	1.38		\$59		717,165

It is likely that the benefits from increased consumption will occur more quickly than those from new investment. While there may be a time lag between repatriation and a subsequent return of cash to shareholders, additional consumption activity would not be expected to require the same degree of planning or the same time to implement as additional investment activity. Moreover, it is reasonable to anticipate that the increased consumption arising from an expected increase in shareholder wealth would occur very quickly upon announcement of a reduction in the tax on repatriation. As has been explained, the announcement itself should lead to an increase in equity prices as a result of the reduction in the tax liability captured in the share price. An announcement by firms regarding the use of the funds for increased dividends or share repurchases would also be expected to take place relatively quickly, further boosting share values through a reduction in agency costs.

VI. RETURNED CASH REDEPLOYED TO THE PURCHASE OF ALTERNATIVE FINANCIAL SECURITIES

As described above, we estimate that between about \$25 and \$38 billion out of the \$581 billion of repatriated cash available to U.S. shareholders under a temporary reduction in the tax rate on repatriated foreign subsidiary earnings will be used for consumption, assuming all of the repatriated cash is returned to shareholders. The portion of the \$581 billion not used for consumption (between \$543 and \$556 billion) is likely to be used to reduce household debt, to add to household savings, or to purchase alternative financial assets, with the vast majority likely going to the third of these.⁴⁹ Currently available data indicates that U.S. equity investors allocate about 21.9% of each investment dollar to foreign equities.⁵⁰ Accounting for the likely purchases by U.S. investors of foreign securities based on this allocation percentage, we estimate that up to \$434 billion of the repatriated earnings distributed to U.S. shareholders will be used to purchase alternative U.S. financial securities. To the extent such purchases occur, the repatriation will indirectly move capital from surplus cash within the repatriating firms to actively deployed capital by other firms. This movement involves a number of intermediate steps. First, repatriated cash returned to shareholders realigns shareholder portfolios from equity capital to cash. Second, some of the cash will be used to purchase alternative financial securities. Finally, these new financial investments will either directly finance an increase in real capital investment in the U.S. economy or indirectly encourage such real investment through market signaling.⁵¹

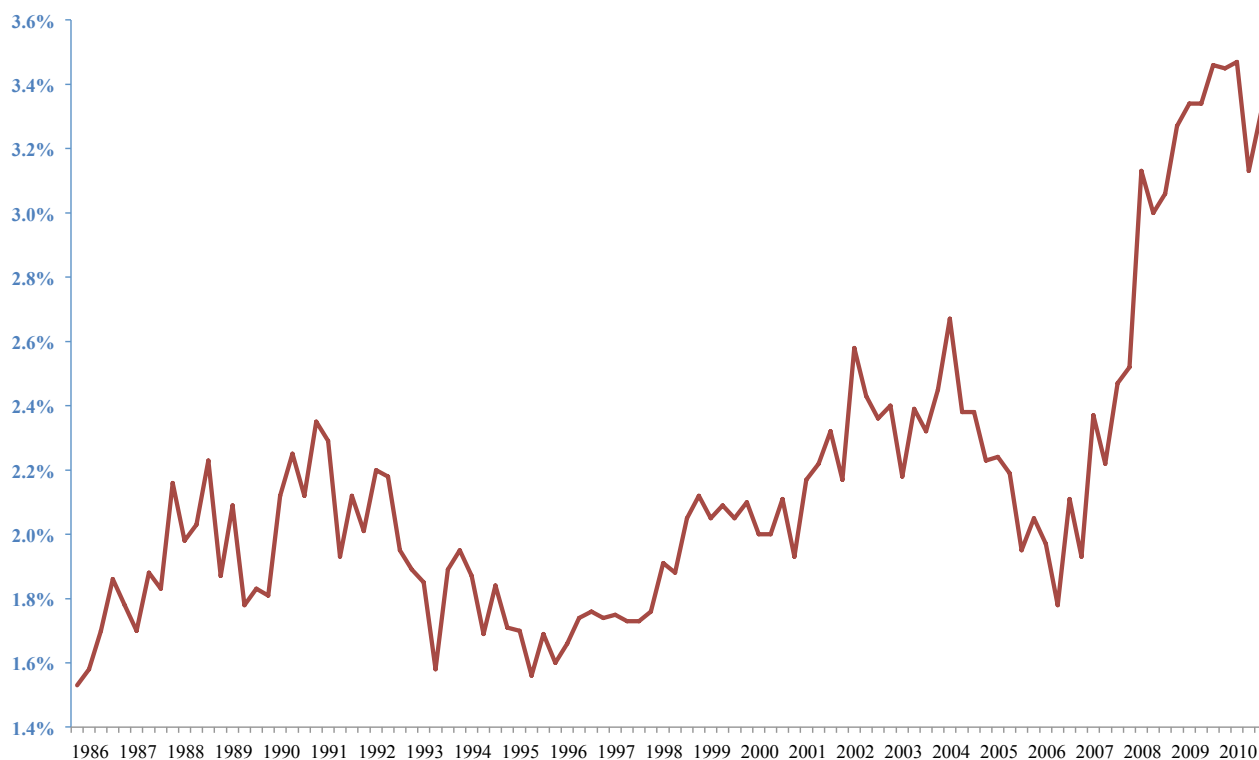
Direct Increase in Real Investment through Primary Capital Market Purchases

Current evidence indicates that U.S. firms, particularly smaller firms, continue to experience significant constraints in accessing bank credit. This lack of access is likely to have caused such firms to postpone or cancel capital investment or other incremental business activities (such as R&D or organic job growth) that they would otherwise undertake were financing available on more normal terms.⁵² According to the Pepperdine Private Capital Markets Project, 95% of private business owners see current growth opportunities, but only 53% report adequate capital resources to execute these opportunities.⁵³

Moreover, banks report that they are currently declining 60% of business loan applications. The banks also indicate that they face regulator pressure to avoid risky lending (in survey results 76% report such pressure), and that this pressure leads to the denial of some loans that would have been approved in the past (61% of banks report pressure by regulators causes such denials).⁵⁴ The interest rate spread between bank lending rates to businesses (i.e., risky rates) and the risk-free Federal Funds rate may also be indicative of lending constraints. Although lending rates have declined in response to strong monetary easing, the

spread between interest rates on business and industrial loans and the Federal Funds rate increased sharply after 2007, and despite a recent decline continues to be well in excess of historical averages, as is shown in **Figure 3** below.⁵⁵

Figure 3: Spread between Bank Lending Rates to Businesses and Fed Funds Rate⁵⁶



For U.S. companies that do not repatriate and return foreign earnings and that continue to face constraints on access to bank capital, repatriated cash flowing to primary market securities may be a more attractive source of capital than more costly and difficult to obtain bank loans. And as investment in primary securities is a source of funds for investment in new real activity, to the extent that shareholders use repatriated cash to purchase primary capital market securities, the transmission from redeployment of repatriated cash to real capital investment is direct and immediate.

The data indicate that many U.S. companies have been turning to primary security markets to finance new investment. The IPO market in particular has witnessed a strong resurgence from the lows hit in 2009. The surge in demand for capital in these public markets speaks to the strength of the untapped investment opportunities that have accumulated within the U.S. economy following the disruption of capital markets in 2008. Given the continued strength of these markets, at a time when the broader stock market has lost and may continue to lose momentum, it is likely that a significant portion of the funds reinvested from repatriation will be absorbed by primary capital markets.

The availability of additional investor capital for the IPO market is critical to reinvigorating the overall market for private investment capital (e.g., private equity and venture capital) – a market that many smaller, younger and less established firms rely on.⁵⁷

Although there continues to be a large amount of cash available to private equity and venture fund managers, they are reluctant to commit this cash to new opportunities without good exit prospects.⁵⁸ The recent resurgence in the IPO market has helped private capital

Primary Securities

Primary market securities can take many forms, and include both public and private alternatives. Publicly traded options include initial public offerings (or “IPOs”) or seasoned offerings (i.e., issuance of new securities by a publicly traded firm). IPOs allow privately-held firms to access public capital for the first time by issuing shares. Seasoned offerings allow already-public firms to raise additional funds by selling new debt or equity claims. Such offerings include securities issued in order to replace existing sources of financing (e.g., a re-financing of maturing debt).

Private options can take the form of contributions to venture capital funds or private equity firms. Private options allow capital to be channeled to firms with attractive investment opportunities that are not yet ready for public capital markets. The IPO market can also significantly, if indirectly, stimulate such private investments. By allowing venture capitalists and private equity firms to bring their investments to fruition through a public sale (i.e., through an “exit”), the IPO market allows their private capital to be injected into the next generation of emerging firms.

The IPO Market

In the second quarter of 2011, the proceeds from IPOs in the U.S. reached \$11.9 billion, 129% higher than in the same quarter in 2010. Through the first half of 2011, companies have raised roughly \$22 billion through IPOs, more than three times the amount during the same period in 2010. The demand for IPO capital has also been gaining strength since the middle of 2010. IPO proceeds in the United States have now surpassed \$10 billion for three quarters in a row.¹

Seasoned offerings by already-public firms have also increased significantly. Companies have raised nearly \$72 billion in such offerings between January and May 2011, 67% higher than in the corresponding period in 2010.¹ By tracking companies that have entered the IPO registration process, PricewaterhouseCoopers reports that another 77 firms have entered the IPO pipeline in the second quarter of 2011, far more than the 47 firms that completed IPOs in the first half of the year.²

¹ PricewaterhouseCoopers, *US IPO Watch*, June 29, 2011

² PwC press release, June 29, 2011, "U.S. IPO Proceeds Surpass \$10 Billion for Third Consecutive Quarter, According to PwC." Retrieved from <http://www.prnewswire.com/news-releases/us-ipo-proceeds-surpass-10-billion-for-third-consecutive-quarter-according-to-pwc-124702678.html>

exit from investments in which it had been trapped through the depths of the financial crisis, and this has increased the willingness of private investors to provide capital for younger smaller private firms in the economy.⁵⁹ As venture capitalists bring their prior investments to fruition through IPOs, they will be able to invest the liberated capital into the next generation of growth-oriented firms. The primary investment from repatriated cash, therefore, may serve to continue to "prime the pump" of the private capital investment cycle by injecting funds into the IPO market.⁶⁰

Indirect Increase in Real Investment through Secondary Market Purchases

Although primary markets are presently the more dynamic segment of U.S. capital markets, it is likely that a portion of the repatriated funds not directed into consumption will be used to purchase securities in secondary capital markets. The most prominent among these markets, and the ones to which the greatest number of potential investors have access, are the stock markets on which previously issued shares are traded. Therefore, our analysis will focus on the implications of an increase in the purchase of securities on these markets. However, it should be noted that a similar analysis would also apply to other secondary capital markets, including the market for corporate debt.

If the recipients of repatriated cash use a portion to purchase existing shares of public companies, the companies whose shares are purchased do not

receive additional capital and therefore these purchases do not directly result in additional real capital

The Theoretical Relationship Between the Stock Market and Real Investment

Since the existing stocks of public firms are in fixed supply, the additional cash can be absorbed by the secondary market only if some stock prices rise sufficiently to account for the additional dollars directed at secondary market securities.

In a rational market, the stock price of a firm has to reflect the value of the firm's expected future cash flows, discounted sufficiently to ensure that investors earn their required expected return from this stock, given its risks. Since the firms whose stock prices are increasing would not have received any additional financial capital, their projected earnings streams are no different than they were before the infusion of repatriated funds into the secondary market. Thus, if the secondary market is to absorb a portion of the repatriated cash, it must be true that investors are willing to pay a higher price, or equivalently receive a lower expected return, for the same projected earnings stream. This link, which is rooted in the fundamental discounted cash flow valuation framework of modern finance, was articulated by Stanley Fischer and Robert Merton (1984) when analyzing the link between macroeconomics and finance.

The rate of return required by shareholders is, from a firm's perspective, its cost of equity capital. Firms evaluate their potential real investment decisions by considering whether the expected rate of return generated by an investment is adequate to meet the expected returns required by the firm's investors. If the firm's cost of equity capital decreases, investment projects that previously did not meet the threshold return required by investors will now become acceptable. Firms will find it optimal to undertake these projects either by issuing new equity and debt securities or by using the firm's internal cash. Therefore, the decrease in the firm's cost of equity capital will induce the firm to increase its real investment levels, even though the firm did not directly receive any of the repatriated cash redeployed to secondary market purchases.

investment. However, the additional secondary market purchases of stock will increase the stock prices of these firms, lowering their cost of equity, and thereby making new real investment more attractive. As a result, even secondary market purchases are likely to stimulate additional business investment by the firms whose shares are bought through these purchases.

This link between stock prices, the cost of capital, and new corporate investment was clearly articulated by John Maynard Keynes in *The General Theory of Employment, Interest and Money* in 1936:

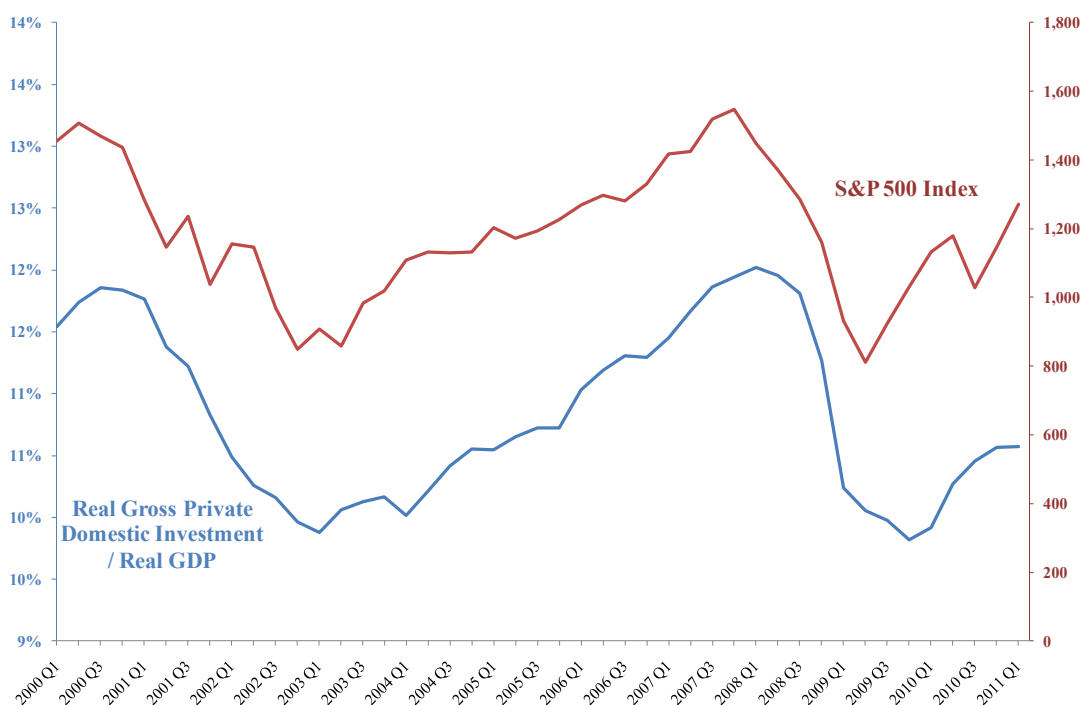
“[The] daily revaluations of the Stock Exchange, though they are primarily made to facilitate transfers of

old investments between one individual and another, inevitably exert a decisive influence on the rate of current investment. For there is no sense in building up a new enterprise at a cost greater than that at which a similar existing enterprise can be purchased; whilst there is an inducement to spend on a new project what may seem an extravagant sum, if it can be floated off on the Stock Exchange at an immediate profit.”

Tobin (1969) formalized Keynes’ intuition in what is generally referred to as Tobin’s Q theory. Tobin’s Q measures the relationship between the market value and replacement costs of assets. When this measure exceeds unity, the market value of assets exceeds the cost of those assets, which can be a signal to increase the accumulation of assets through new investment. This follows because higher equity market prices lower the cost of capital, and lower capital costs make previously unprofitable investments viable, thereby increasing incentives to invest.⁶¹

The relationship between equity prices and investment has been extensively studied, and there is an undeniable positive empirical relationship; higher stock prices are associated with higher levels of investment, even during the recent financial crisis, recession and slow recovery. As shown in **Figure 4** real gross private domestic investment fell significantly in the wake of the dramatic drop in equity prices in 2008. This same measure of investment then began to recover as the stock market began to recover.

Figure 4: Real Private Domestic Investment vs. S&P 500



The question of causality – do higher equity prices lead to more capital investment – has seen more mixed empirical results. Some studies, including those by Tobin and Brainard (1977), Barro (1990), and Baker, Stein, and Wurgler (2003), have found evidence of such a causal relationship, while other studies by Morck, Shleifer and Vishny (1990) and Blanchard, Rhee and Summers (1993) have concluded that only the fundamentals underlying the equity prices, not the equity prices themselves, explain investment. Although there is debate about the overall predictive power of equity prices on investment, we find the work of Baker et al. to be particularly relevant to the issue at hand – namely, the likelihood that reinvested repatriated cash will lead to new business activity by U.S. firms.

The link between secondary market stock prices and business investment is likely to be strongest for firms that rely predominantly on stock markets to finance their investments. Baker et al. focus their attention on the question of how the investment decisions of “equity-dependent” firms respond to changes in their equity prices. Baker et al. describe firms as equity dependent when they are reliant on equity to finance marginal investments due to, for example, high levels of existing debt and low cash reserves. Baker et al. find strong evidence that higher equity prices lead such firms to increase investment activity.⁶² Since Baker et al. proxy for equity dependence using the Kaplan-Zingales index, an accepted method of measuring capital-constrained firms, the results they find actually indicate that more capital-constrained firms are more likely to invest from stock price gains. This work, therefore, tends to suggest that if the redeployed cash is used to purchase the secondary market securities of capital-constrained firms, we should expect an increase in real investment activity.

An increase in the prices of secondary market equity can also serve to increase the access of private firms to investment capital through a signaling effect. Suppliers of capital to such firms – e.g., angel investors, venture capital, and private equity – seek significant returns on their investment. The equity prices of public firms are sometimes a signal about the likely returns on investment in private firms in the same industry. Accordingly, an increase in the price of equity of publicly traded firms as a result of repatriation might encourage more investment in private firms in the same industry.

The channels through which secondary equity market purchases are expected to lead to increased business activity are analogous to the channels through which the so-called QE2 policy of the Federal Reserve was designed to work. Chairman Bernanke described these channels in a speech in August 2010:

“The channels through which the Fed’s purchases affect longer-term interest rates and financial conditions more generally have been subject to debate. I see the evidence as most favorable to the view that such purchases work primarily through the so-called portfolio balance channel, which holds that once short-term interest rates have reached zero, the Federal Reserve’s purchases of longer-term securities affect

financial conditions by changing the quantity and mix of financial assets held by the public. Specifically, the Fed’s strategy relies on the presumption that different financial assets are not perfect substitutes in investors’ portfolios, so that changes in the net supply of an asset available to investors affect its yield and those of broadly similar assets. Thus, our purchases of Treasury, agency debt, and agency MBS likely both reduced the yields on those securities and also pushed investors into holding other assets with similar characteristics, such as credit risk and duration. For example, some investors who sold MBS to the Fed may have replaced them in their portfolios with longer-term, high-quality corporate bonds, depressing the yields on those assets as well.”⁶³

Just as QE2 was designed to work primarily through the debt portfolio balance channel, the return of repatriated cash to shareholders will work through a similar equity portfolio balance channel; the conversion of equity to cash (either through share repurchases or through dividends) will adjust the equity-to-cash ratio in private portfolios, leading shareholders to increase their purchases of alternative financial securities. The changes in the prices of these securities will have beneficial effect on real investment activity for the reasons described above.

QE2 was anticipated to stimulate the economy through a three step process. First, the Fed purchases longer-term securities, which affects financial conditions by changing the quantity and mix of financial assets held by the public; second, investors are “pushed ... into holding other assets with similar characteristics, such as credit risk and duration;” and third, investors are expected to move to replenish portfolios with alternative assets “affect[ing] [their] yield[s] and those of broadly similar assets.” The resulting reduction in yields reduces the cost of borrowing. To the extent that lowered borrowing costs apply to corporate debt, the cost of capital to business declines, making previously unattractive investment opportunities viable. A similar chain of events can be expected from the return of repatriated cash to shareholders.

First, in response to share repurchases and dividend payments from repatriated earnings to shareholders, the quantity and mix of financial assets held by the public will change; a smaller component of value will reside in equities, and cash balances will increase. Second, shareholders will seek to deploy the non-consumed portion of the repatriated earnings they receive into new financial investments in either primary or secondary securities.⁶⁴ Third, the purchases of these securities will put downward pressure on the cost of capital for U.S. companies and encourage new business activity.

A repatriation-based change in shareholder portfolios may have a more powerful effect on real economic activity than QE2 had for two reasons. First, as described above, the return of repatriated earnings to shareholders is expected to increase consumption directly through both income and wealth effects. In contrast, the QE2 policy had no direct effects on consumption behavior.

Second, the return of repatriated cash to shareholders acts directly on their portfolio, and shareholders should respond in part by adjusting their purchases of alternative financial assets. This in turn is expected to stimulate real investment activity. In contrast, QE2 worked primarily by injecting cash into the banking system, and the data suggest that the banks chose to hold much of this cash in excess reserves.

Current excess reserves stand at approximately \$1.6 trillion, or almost 2000% of required reserves. To put this in perspective, heretofore this percentage had never exceeded 50% and that occurred in the immediate aftermath of September 11, 2001. As a result of the buildup of excess reserves by the banks, QE2 has triggered a smaller increase in corporate borrowing and new investment than had been expected. One explanation for this disappointing result is that there is limited demand in the economy for additional lending. But another explanation is that banks have increased their excess reserves not because of weakness in the demand for loans by the private sector but because of regulatory pressure, tighter lending standards, and uncertainty about future capital ratios. In addition, the Federal Reserve now pays interest on these reserves – a recent phenomenon.⁶⁵

The effects of increased purchases of alternative financial securities could also benefit the economy through a confidence building effect. It is relatively undisputed that rising consumer confidence is associated with increasing economic activity. It has also been found that consumer confidence is positively impacted by gains in the stock market.⁶⁶ Increased demand for U.S. equities resulting from the use of repatriated cash to purchase secondary market securities should then, all else being equal, lead to higher stock market values. Thus, the use of repatriated cash in secondary markets may not only lead to increased business investment, but should also lead to increased consumer confidence and additional consumer spending.

This linkage between higher stock prices, higher consumer confidence and economic growth has been explicitly referenced by Chairman Bernanke in his evaluation of QE2:

“[a]nd higher stock prices will boost consumer wealth and help increase confidence, which can also spur spending. Increased spending will lead to higher incomes and profits that, in a virtuous circle, will further support economic expansion.”⁶⁷

VII. CONCLUSION

Despite unprecedented amounts of fiscal and monetary stimulus, the recovery of the U.S. economy from the 2008 financial crisis and ensuing deep recession remains weak and the unemployment rate remains unacceptably high. The primary cause of the economy’s anemic recovery is a lack of aggregate demand. Consumption spending that accounts for about 70% of aggregate demand in the U.S. economy is especially

weak as indebted households curtail their spending relative to their incomes, increase their saving, and struggle to cut their debt despite the fact that interest rates are near zero. Since early 2008, consumption spending has grown at an average rate of 0.5% in real terms. Never before since World War II has consumption growth been this weak for such an extended period.

Under these conditions, there is a strong economic case for additional fiscal measures to boost private sector spending. A temporary reduction in the corporate tax rate on repatriations of foreign subsidiary earnings by U.S. MNCs has been proposed as one such measure. Based on the analysis and estimates in this paper, it is likely that such a policy would provide a significant boost to investment spending, consumption spending and job creation.

Our analysis indicates that even if a large proportion of the repatriated cash is distributed to shareholders in the form of dividend payments or share repurchases, there will be a significant increase in private spending and economic activity. We also show that if capital-constrained MNCs use some of the funds they repatriate for new investment activities there will be sizable increases in output and employment. This latter finding is consistent with that of Sinai (2008) who uses a large-scale structural macroeconomic model to estimate the impact of incremental corporate cash flow from repatriation on economic activity. According to his model, an increase in repatriated cash triggered by a lowering of the tax rate would generate significant additional investment, employment, GDP growth, and consumption in the United States.

In addition to the positive macroeconomic effects from the use of repatriated cash, either by the firms themselves or by their shareholders, the reduction in the tax rate on repatriated foreign subsidiary earnings would generate significant and immediate tax revenues at a time when the federal budget is under severe pressure. These revenues – including both the corporate taxes paid on the repatriated cash and any dividend and/or capital gains taxes paid by shareholders on the amounts returned to them – could be used to finance additional job-creating measures such as payroll tax cuts for employers and employees or additional infrastructure investment.⁶⁸

It is also likely that the increases in business activity, employment and spending we anticipate from a significant increase in repatriations in response to a temporary tax reduction will boost business and consumer confidence. As a result of the deepest recession in postwar history and an anemic economic recovery with high unemployment, confidence is currently hovering near record lows. Many economists believe that low confidence is itself contributing to the economy's weakness. For example, in a recent report Mark Zandi warned that sometimes "sentiment can be so harmed that businesses, consumers and investors freeze up, turning a gloomy outlook into a self-fulfilling prophecy. This is one of those times."⁶⁹

Federal Reserve Governor Elizabeth Duke made a similar point in a recent speech concerning the current

crisis, arguing that the shrinking economy has “had a significant impact on consumer confidence. Consumer spending has fallen off as a result, further exacerbating the negative cycle.”⁷⁰

Rising consumer confidence is associated with both increases in economic activity and stock market gains. And an increase in the demand for U.S. equities resulting from the use of repatriated cash to purchase secondary market securities should lead to higher stock market values.

Finally, we argue that a temporary reduction in the corporate tax rate on repatriations would be a beneficial interim step on the path to corporate tax reform. The U.S. has the second highest corporate tax rate (behind Japan) of the 34 developed OECD countries. The U.S. is also the only major OECD country with a worldwide corporate tax system that taxes the dividends earned by the foreign subsidiaries of U.S. MNCs at the full domestic corporate tax rate (less applicable foreign tax credits) when the dividends are repatriated. All of the other major OECD countries have territorial corporate tax systems that exempt all or most of the dividends received from foreign subsidiaries of their MNCs from domestic corporate taxes. There is widespread agreement among economists and tax experts that the combination of a high corporate tax rate and a worldwide system puts U.S. MNCs at a disadvantage to their competitors headquartered in other countries and discourages investment and job creation in the U.S. For these reasons, both the Obama Administration and many members of Congress are calling for comprehensive corporate tax reform to reduce the corporate tax rate, broaden the corporate tax base, and move toward a territorial system. We support such a reform. However, we believe that it will take considerable time to reach the political agreements necessary to get it done. In the meantime, we support a temporary reduction in the corporate tax rate on the foreign subsidiary earnings of U.S. MNCs as an interim measure, one that would be consistent with the goals of long-term corporate tax reform and would generate significant benefits for the U.S. economy.

Appearing on the CBS television program 60 Minutes, the CEO of Cisco Systems, Inc., John Chambers, said his company had \$40 billion tied up in foreign banks because of the high U.S. corporate tax rate. He further stated, “We leave money over there. I create jobs overseas; acquire companies overseas; I build plants overseas; and I badly want to bring that money back.” Other corporate leaders have provided the same message; given the current U.S. tax structure, the bulk of their companies’ foreign earnings will not be returned to the United States. These warnings indicated that if nothing is done, the amount of PRE will continue to grow and money will not be returned to the U.S. economy but instead will be invested abroad. Thus, the opportunity cost of a repatriation tax holiday is low: without the holiday, most of these earnings will not come back to the U.S., will not be subject to the U.S. corporate tax, and will not be available to boost consumption and investment through the channels identified in this paper.

Endnotes

1 U.S. MNCs have the option to designate the earnings generated by their foreign affiliates as PRE, though the MNCs may also hold such earnings abroad without this designation. We are able to directly measure the magnitude of PRE for most large MNCs from these firms' public financial disclosures. Any earnings held abroad that are not designated as PRE are less easily measured. There are a variety of estimates for the current level of earnings held abroad cited in the popular press. Most, if not all, such estimates are based on the reported financial disclosures of PRE of the large U.S. MNCs. Sources for the quoted estimates include Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States, Flows and Outstandings, First Quarter 2011*, Table L.102, line 41, and JP Morgan findings as discussed in "Accounting Issues: Show Us the Foreign Cash," JP Morgan North America Equity Research, dated September 12, 2011.

2 Under current federal tax law, the repatriated foreign earnings of U.S. MNCs are subject to both the corporate income tax of the country in which the controlled foreign corporation ("CFC") is located, and the U.S. corporate income tax, to the extent to which the foreign tax rate is lower than the U.S. tax rate (35%). U.S. corporations, however, are permitted to defer indefinitely payment of any difference between the foreign and U.S. taxes they owe if they designate their foreign earnings as PRE and leave them abroad. The U.S. corporate tax rate is high relative to the rest of the world, and the residual tax that would be owed on most repatriated foreign earnings leads many MNCs to forego repatriation and designate a large share of their foreign earnings as PRE. As MNCs leave a significant amount of each year's foreign earnings abroad as PRE, the cumulative stock of PRE has grown over time.

3 For example, James Tisch, CEO of Loews, wrote a letter to the editor of the *Wall Street Journal* stating that, "Unbeknownst to many (including legislators and Joint Committee on Taxation estimators) GAAP allow corporations to avoid the accrual of taxes on foreign earnings...The results of the interaction of our repatriation tax laws and the GAAP accounting rules is that very little in the way of foreign earnings are repatriated...The accounting penalty for repatriating even a penny of foreign profits is so great that those foreign funds will not come back to the U.S...." Cited in Graham, J., Hanlon, M., and Shevlin, T., (2009) "The Effect of Financial Reporting on the Location, Reinvestment, and Repatriation Decisions of Multinational Companies."

4 In the early part of the last decade, the level of cumulative PRE approached \$500 billion, and pressure grew to grant a one-time reduction in tax rates to encourage MNCs to repatriate some of these funds and use them to increase their economic activities in the United States. On October 22, 2004, President Bush signed the Homeland Investment Act of 2004. The HIA granted a temporary reduction in taxes paid by U.S. MNCs on the repatriation of their cash held abroad. Specifically, the HIA allowed MNCs to repatriate their PRE under a temporary 85% dividends received deduction ("DRD"), thereby subjecting repatriated cash to an approximate 5.25% tax rate instead of the normal 35% rate. The HIA was successful in its goal of encouraging MNCs to repatriate more of their foreign earnings: over \$300 billion was repatriated in 2005 (See Redmiles, 2008). Since 2005, however, the cumulative stock of foreign earnings held abroad as PRE has once again grown in response to tax-based disincentives to repatriate, and currently stands at more than \$1.3 trillion (almost three times the PRE level at the time of the HIA).

5 Under the 2004 HIA, foreign earnings needed to be repatriated as cash in order to qualify for the reduced tax rate. Throughout this paper, and consistent with other literature on this issue, we refer to the foreign earnings that would be repatriated under a new tax holiday as cash. We further use the term cash to refer to the monies that shareholders would receive from repatriating companies should those companies return the repatriated foreign earnings to shareholders using share repurchases or dividends. If MNCs were to choose to return the repatriated foreign earnings to shareholders through dividends, and if these dividends were "normal" dividends (i.e., regularly reoccurring dividends) rather than a "special" dividend (i.e., a one-time event), the monies received by shareholders may more aptly be described as "income" rather than cash. Since, however, it is not likely that many MNCs will return the repatriated earnings through normal dividends we use the term cash throughout this paper.

6 Dharmapala et al. analyze the effects of the 2004 HIA on payouts to shareholders and test whether corporate governance affects the extent to which firms returned money to shareholders. Their results indicate firms were not financially constrained; higher levels of repatriation did not lead to increased domestic capital expenditures, increased domestic employment compensation, increased R&D expenditures, or reduced debt levels in 2005. They find that repatriations were associated with higher shareholder payouts, mainly in the form of share repurchases. They estimate a \$1 increase in repatriations was

associated with a \$0.79 increase in share repurchases and a \$0.15 increase in dividends. Blouin and Krull also investigate the characteristics of the firms that repatriated foreign earnings under the HIA and how they used the funds. They find that firms that repatriated have limited investment opportunities and higher free cash flows. Thus the optimal use of funds is to make shareholder distributions. They find that in 2005, repatriating firms increased share repurchases by 20.9% more than non-repatriating firms.

7 Interestingly, those researchers whose findings are cited by the critics recognize that the return of funds to shareholders can have beneficial effects on the economy. For example, Dharmapala et al. note that:

“The tax holiday encouraged U.S. multinationals to repatriate roughly \$300 billion of foreign earnings, and firms paid out most of these earnings to shareholders. Presumably these shareholders either reinvested these funds or used them for consumption, thereby having indirect effects on firm investment, employment, or spending.”

Blouin and Krull (2009), also acknowledge that:

“[a]lthough this flow of funds may deviate from the intention of the Act, these firms are putting overseas profits back into the U.S. economy – just not in the manner Congress intended. Whether distribution to shareholders is the preferred way to put funds into the U.S. economy is subject to debate.”

8 While counter intuitive, empirical research has indicated that a forced reallocation of shareholder portfolios due to share repurchases does in fact induce new consumption even though overall wealth holdings have not been impacted. This empirical research and the corresponding theoretical basis for this outcome are discussed later in this paper.

9 We expect a wealth effect from repatriation regardless of a corresponding return of repatriated cash to shareholders. A return of the cash to shareholders additively increases this wealth effect. Details of the derivation of the wealth effect are found later in this paper.

10 This use of repatriated cash is consistent with the findings of Faulkender and Petersen (2011), who examine whether the HIA affected the investment of capital-constrained repatriating firms. They find that such firms significantly increased investment. Specifically, they find that capital-constrained firms accounted for 27% of the amount repatriated and that these firms invested 78% of the amount they repatriated in domestic approved investments. We note that Dharmapala et al. tested the proposition that the sub-group of capital-constrained firms increased investment in response to the HIA using their (different) econometric method and they did not reach the same conclusion as Faulkender and Petersen.

11 For purposes of our analysis, we assume that U.S. MNCs will be allowed to repatriate up to the total amount current and accumulated earnings and profits for the year a deduction is claimed per the language of the proposed “Brady Bill,” (H. R. 1834). We further assume that the year in which the MNCs will claim this deduction will be 2012.

12 Such effects are measured through what is referred to as the “multiplier effect.” For example, if consumption spending were to increase by \$1, the recipient of the \$1 would in turn increase spending due to this increase in income, providing a further demand stimulus to the economy.

13 Christina Romer, Professor of Economics at the University of California, Berkeley and a former Chair of the Council of Economic Advisers in the Obama administration, stated in a lecture on public policy at Stanford University that “we should take responsible monetary and fiscal actions today to stimulate demand and hasten the recovery.” She further stated that “I agree that we need to be passing a plan to get our deficit under control over time. But more short-run fiscal stimulus could be a part of a comprehensive plan.” She also said “I feel there is certainly more that the Fed could be doing.” (May 5, 2011). Lawrence Summers, professor and past president at Harvard, Treasury secretary in the Clinton administration and economic adviser to President Obama from 2009 through 2010 wrote in a Washington Post opinion, “The central irony of financial crisis is that while it is caused by too much confidence, borrowing and lending, and spending, it is resolved only by increases in confidence, borrowing and lending, and spending.” In addition, he wrote “Substantial withdrawal of fiscal support for demand at the end of 2011 would be premature. Fiscal support should, in fact, be expanded by providing the payroll tax cut to employers as well as employees. Raising the share of the payroll tax cut from 2 percent to 3 percent would be desirable as well. At a near-term cost of a little more than \$200 billion, these measures offer the prospect of significant improvement in economic performance over the next few years translating into significant increases in the tax base and reductions in necessary government outlays.” (June 12, 2011). Fed Chairman Ben Bernanke also recognizes the need for additional aggregate demand in the economy. In a speech just before the Fed undertook QE2, Chairman Bernanke said that “[f]or a

sustained expansion to take hold, growth in private final demand – notably, consumer spending and business fixed investment – must ultimately take the lead.” (August 27, 2010 speech to the Federal Reserve Bank of Kansas City).

14 Source: Graham et al., 2010.

15 *ibid*

16 We assume that only the new investment out of internally used funds will have a stimulative impact on the economy. While we do not perform any analyses of other internal uses, it is reasonable to expect that the types of other uses and the amounts allocated to those uses is consistent with the survey results of Graham et al.

17 We follow the lead of Martin, Novack, and Pereira (2009) who find that those firms in the top two terciles of the KZ index experienced a significant increase in their share prices around the announcement of the HIA. This, they explain, is consistent with the hypothesis that the more relatively credit constrained firms would be expected to benefit the most from having access to less costly foreign earnings. We use this logic to suggest that the most credit constrained, those in the top tercile, would be expected to have profitable investment opportunities that may have gone unfunded due to a relative lack of financial credit.

18 Faulklender and Petersen (2011) utilize a different approach to measure capital constraint. They found that 27% of the repatriated cash accrued to capital-constrained firms, a finding that is consistent with our estimate of 26%. We also ranked our sample of likely repatriators using the Faulklender and Petersen method and found that our estimate using the KZ index is consistent, though lower, than the result using the Faulklender and Petersen method. We use the more conservative result from the KZ index for our estimates.

19 We also calculated the amount of after-tax qualified dividends by the top 10% most credit constrained firms among likely repatriators. We find that this group would repatriate approximately \$126 billion, or about 51% of that repatriated by the top tercile, implying new investment of between \$49 and \$98 billion.

20 Wolff, Edward N., “Recent Trends in Household Wealth in the United States: Rising Debt and the Middle-Class Squeeze - An Update to 2007”, dated March 2010, Table 15b. 159. Available at: <http://ssrn.com/abstract=1585409>.

21 2007 Survey of Consumer Finances, Expanded Versions of the Tables in the Federal Reserve Bulletin, Federal Reserve Board, Table 7. Available at: <http://www.federalreserve.gov/pubs/oss/oss2/2007/scf2007home.html>

22 Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States, Flows and Outstandings, First Quarter 2011*, Table L.213.

23 It is also possible that some shareholders would use the reallocation of their financial holdings to reassess their personal debt-to-asset ratios. Some such shareholders may then choose to reduce their personal leverage by retiring some amount of personal debt. While we do not expressly model such a use of repatriated cash by shareholders, we do consider this possibility as relevant in the analysis.

24 See Comment to Baker, Nagel, and Wurgler (2007).

25 Regular dividends are payments made by a corporation to its shareholders on a pro-rata basis – an amount in proportion to their shareholding – and they usually relate to the firm’s earnings and are paid on a regular basis. A special dividend, on the other hand, is a one-time payment to shareholders and tends to be considerably larger than regular dividends. Typically, special dividends are used to distribute unusually large amounts of cash.

Share repurchases, on the other hand, return cash to shareholders by removing some number of the firm’s publicly traded shares from the market by purchasing the shares and retiring them. Repurchases generally take the form of either open-market purchases or fixed price tender offers. Under the former, the firm will purchase its own shares on the open market just like an individual investor would, at the market price. Alternatively, under fixed tender offers firms announce their desire to purchase a certain number of shares at a fixed price either directly set by management or arrived at through a Dutch Auction method (generally at a premium to the market price).

While both dividends and repurchases would enable a repatriating firm to return cash to their shareholders, the two approaches differ in several important respects. First, unlike dividends, repurchases are not made on a pro-rata basis. That is, not everyone chooses to participate in a repurchase. By contrast, every shareholder receives the dividend. Second, dividends and share repurchases receive different tax treatment. Dividends are a form of investment income and the full amount received by the recipient is usually taxable in the year it is paid. Currently this tax rate is 15%. When a shareholder sells

shares back to the corporation, however, the shareholder is taxed only on their profit (i.e. capital gains), if any, from the sale. The capital gains tax rate is currently the same 15% as the dividend tax rate.

Dividends and repurchases also differ in the way they affect the market price of equity. All else equal (and setting aside any effects the return of funds itself would have on equity prices – e.g., an Agency Effect), a repurchase of shares will have no impact on the per share price, while dividends will decrease the per share price.

To illustrate the differing effect of the two methods on share prices, assume the firm has \$10 million of assets and 1 million shares outstanding at \$10 per share (i.e. the firm is trading at book value). Assume further the firm uses \$100,000 of its assets to repurchase 10,000 shares on the open market. Following the repurchase there are only 990,000 shares outstanding and the firm has a book value of \$9,900,000, implying that each share is still valued at \$10. Now suppose the same firm returns \$100,000 through a special dividend instead of a repurchase. Following the special dividend there are still 1 million shares outstanding, but the firm's book value has fallen to \$9,900,000. Each share, therefore, is now valued at \$9.90. From the point of view of net shareholder wealth, both circumstances are identical, but the market price of the firm's equity is different.

26 See, for example, Baker, Nagel, and Wurgler (2007) and Rantapuska and Kaustia (2008). Baker et al., using two distinct data sources reflecting U.S. investor behavior, found that investors treat corporate dividends differently than capital gains, and that there is a positive and statistically significant relationship between dividends and consumption. Rantapuska and Kaustia, using Finnish stock market data, found shareholders tend to consume regular dividends.

27 See, for example, Rantapuska and Kaustia (2008), Hantsopoulos, Krugman, and Poterba (1989) and Poterba (1991). Rantapuska and Kaustia found reinvestment of tender offer proceeds and special dividends to be less than expected, with less than 50% of either type of cash flow being reinvested (though they do find greater levels of reinvestment for tender offers than for special dividends). This latter finding of Rantapuska and Kaustia is consistent with earlier findings of Hantsopoulos, Krugman, and Poterba (1989) and Poterba (1991). Both of these papers examined (among other things) the relationship between forced conversions of equity into cash (from corporate takeovers or share repurchases) and consumption. These studies found that, contrary to the expectations of standard theory, investors consume a large portion of the cash proceeds. Hantsopoulos et al. found that the marginal propensity to consume ("MPC") from cash received as a result of corporate takeovers to be 0.59, implying investors increased consumption by 59 cents for every dollar of cash received. They found that the MPC from share repurchases was even greater than 0.59. Poterba, revisited the findings of Hantsopoulos et al. and found that the MPC of forced realizations of capital gains through takeovers was 0.4. The statistical significance of the estimated MPCs in both of these studies was somewhat less than that which is normally accepted in empirical economic work as significant, though Poterba suggests that the "point estimates continue to suggest a substantively important link between cash payout and consumption."

28 The mid-point of the Baker et al. range is around .4, a finding consistent with that of Poterba (1991).

29 Although Dharmapala et al. make this suggestion, they nonetheless find empirical evidence that some portion of the returned cash to shareholders was through dividends. See Dharmapala et al. at Table V.

30 See statements of John Chambers, CEO of Cisco. For example, see <http://abcnews.go.com/Technology/wireStory?id=12879741>

31 Calculated using the Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States, Flows and Outstandings, First Quarter 2011, Tables L.213, L.100 and L.100a*.

32 *The 2010 Institutional Investment Report*, published by the Conference Board.

33 Mutual funds are required to distribute fund income to fund shareholders. Under this requirement, dividends (regular or special) and net capital gains must be distributed to shareholders. If mutual fund shareholders were apt to withdraw these cash distributions, then the effect would be expected to be similar to that of cash distributions going directly to household shareholders; it would be subject to the high MPCs discussed above. Since many mutual fund shareholders choose to automatically reinvest most of these cash proceeds, however, less consumption is expected when the cash is returned to mutual funds. As for the portion of cash returned to mutual funds that is not considered income (primarily the portion of share repurchases that is not capital gain – i.e., the cost basis portion), this cash will likely be directly reinvested by the mutual fund according to fund investment covenants. For example, an S&P 500 fund, subject to certain cash holding allowances, will by covenant invest any additional cash among the S&P 500 stocks. Net fund capital gains, to the extent that there are any, will be returned by mutual funds to shareholders. Most of the proceeds from a share repurchase, however, will be part of the cost basis and not capital gains. Moreover, mutual fund managers actively manage the fund assets to achieve value for shareholders. One aspect of such

management is taxable income management. If the conversion of equity to cash results in a capital gain, the fund manager may sell other fund holdings with accrued losses to net against the gain. Such fund management lessens the likelihood that any individual equity conversion will result in a distribution to shareholders. To the extent that dividends on fund assets exceed the fund fees, mutual funds will necessarily distribute dividends each year.

34 Per the 2011 Investment Company Fact Book published by the Investment Company Institute [www.icifactbook.org], as of year-end 2010 51% of household holdings of mutual funds are held in retirement accounts (i.e., in IRA's and other DC accounts such as 401(k), 403(b), or 457 plans) Direct household holdings are likely held in retirement accounts at a rate no higher than their mutual fund holdings in such accounts.

35 As will be discussed in more detail below, we calculated the low end of the MPC range by using a tax-cut multiplier based on the Bush Tax Cuts. These tax cuts were skewed to the wealthy and the multiplier is low because of this skew. Accordingly, the low end of the MPC range incorporates the fact that most households who will receive the payments of repatriated cash are disproportionately wealthy.

36 See Poterba (2000).

37 The IMPLAN model in an input-output model that considers 440 industrial sectors, nine types of households (differentiated by income levels), four types of government spending (Federal: Defense & Non-Defense, State & Local Government, Education & Non-Education), 22 types of taxes and transfers (15 at the State and Local level including sales and property, seven at the Federal level including personal income tax, corporate income tax and social security contributions), and four types of investment flows (Capital Formation, Inventory Additions, and two types of Government investment). It combines classical input-output analysis, region-specific Social Accounting Matrices, and Multiplier model. The data are from 2008 and combine many sources to produce a balanced account format. In a broad sense, the IMPLAN model is an all-encompassing snapshot of the economy. More than 1,500 public and private institutions have used this model – and data base, which BRG customized to produce the estimates cited in this report.

38 The calculation of business investment performed excludes expenditure for construction, oil wells, and retail purchases as we do not expect the repatriated cash to be used for these categories of expenditure.

39 The results of the IMPLAN model for new jobs associated with increased R&D spending are comparable to those found by Robert D. Atkinson in his evaluation of the benefits of the U.S. R&D tax credit in “Create Jobs by Expanding the R&D Tax Credit,” prepared for The Information Technology & Innovation Foundation. In Atkinson’s study he found that each \$1 billion in R&D spending results in 21,600 new jobs.

40 This approach has been used by others to estimate the impact of business expenditure on the economy. For example, Douglas Holtz-Eakin in his recent analysis of a new repatriation tax holiday suggests that “[t]he economics of a repatriation holiday parallels those that used to justify government stimulus via infrastructure projects and other direct-purchase programs.” (“The Need for Pro-Growth Corporate Tax Reform: Repatriation and Other Steps to Enhance Short- and Long-Term Economic Growth,” August 11, 2011). Additionally, Ethan Pollack, in evaluating the impact of increased investment in U.S. telecommunications, uses a macroeconomic multiplier of 1.5 which he states is consistent with “with a range of independent estimates of the net macroeconomic effects of government investments in infrastructure—including those supplied by the Congressional Budget Office and Moody’s Economy.com.” (“The Jobs Impact of Telecom Investment,” Economic Policy Institute Policy Memorandum #185).

41 See “An Analysis of Obama Jobs Plan,” September 9, 2011. <http://jaredbernsteinblog.com/wp-content/uploads/2011/09/An-Analysis-of-the-Obama-Jobs-Plan.pdf>

42 Based on the top decile of capital-constrained firms, the \$49 to \$98 billion in new investment (see endnote 19), would lead to between \$71 and \$141 billion in increased GDP and between 520 thousand and 1.03 million new jobs.

43 See Congressional Budget Office, Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output From January 2011 Through March 2011, dated May 2011.

44 See Zandi, Mark. 2011. “At Last, the U.S. Begins a Serious Fiscal Debate.” Moody’s Analytics’ Dismal Scientist website. April 14. http://www.economy.com/dismal/article_free.asp?cid=198972&src=msnbc.

45 See Romer and Bernstein, “The Job Impact of the American Recovery and Reinvestment Plan,” January 9, 2009.

46 See Ramey and NBER, “Can Government Purchases Stimulate the Economy,” draft paper prepared for *Journal of Economic Literature* forum on “The Multiplier,” dated June 14, 2011.

47 The simplified formula for the tax cut multiplier is $MPC/(1-MPC)$. Assuming the multiplier is equal to .35, the MPC would be approximately .26.

48 Employing a spending multiplier of 1.4, \$5 billion wealth effect spending would add an additional \$7 billion in GDP.

49 It is also possible that some of the cash will be saved or used for household debt reduction rather than consumed or used to purchase financial securities. An increase in household savings would likely be accomplished by increases in demand deposits. We do not expect a large amount of the repatriated cash to end up saved, however, except possibly for a short transitory period. Permanent savings are not likely to increase from the repatriated cash because most of the cash that is not used for consumption will be held by institutions, as described above. These institutions received the repatriated cash because of their holding of corporate equity. Their reinvestment of cash received as a result of these holdings will likely also be in corporate equities, or possibly debt securities, but it is very unlikely to sit as cash or near-cash equivalents. By similar logic, it is unlikely that any household recipients of the cash that do not use it for consumption will permanently hold it as cash or near cash equivalents. The use of repatriated cash for household debt reduction is also relatively limited. As we do not expect the cash received by institutions holding corporate equity to be used for household debt reduction, it is only the portion of the \$99 billion we estimate that will be available to households that is not used for consumption, savings, or to purchase financial securities that will be available for debt reduction. Given our estimate of consumption, the maximum amount that could be used for household debt reduction is \$60 billion.

50 Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States, Flows and Outstandings, First Quarter 2011*, Table L.213. The 21.9% estimate relates only to the geographic composition of U.S. equity portfolios. To the extent that U.S. residents would purchase debt securities instead of equities, this estimate is only a proxy for the portion of such purchases that would flow to foreign debt securities.

51 Quantifying the impact on real economic activity resulting from the purchase of alternative financial securities would require several assumptions. First, we would need to determine the type of financial securities likely to be purchased. A purchase of a new equity offering, for example, would be expected to have a more direct impact on real investment activities than would a purchase of equity in the secondary market. Even if we were able to provide a reasonable split between the types of securities shareholders would purchase with the repatriated cash, we would need to estimate the impact on real economic activity from the purchase of secondary market financial securities. While there is a strong theoretical basis for suggesting that the redeployment of cash into secondary market securities will indirectly impact real investment activity, this linkage is not explicitly or empirically defined in any widely accepted manner. We therefore discuss the theoretical basis that suggests the purchase of alternative financial securities will lead to new real investment in the U.S. economy without estimating the amount or the impact of such new real investment.

52 Credit constraints have an adverse impact on real economic variables. Jermann and Quadrini (2009) find that the tightening of firm’s financing conditions (i.e., shocks to firms’ ability to borrow) strongly influenced the GDP (and labor) decline in 2008-2009, as well as the downturns in 1990-1991 and 2001. Campello, et al., (2010) conducted a survey of 1,050 CFO’s in the U.S., Europe, and Asia in December 2008. They find in the United States, under normal credit market conditions (i.e., pre-2008) 46% of credit constrained firms state they have had to skip “attractive” investment opportunities, versus 20% of unconstrained firms. During the credit crisis, 86% of credit constrained firms state they have had to skip “attractive” investment opportunities, versus 44% of unconstrained firms. More specifically, financially constrained firms plan to cut more R&D (13% more), capital investment (8.5% more), market expenditures (28% more), employment (8% more) and dividends (11.25% more) than unconstrained firms.

53 See Pepperdine Private Capital Markets Project Survey Report – Summer 2011, bschool.pepperdine.edu/privatecapital.

54 Other sources are consistent with the Pepperdine study findings. For example, the Federal Reserve Board’s *Quarterly Senior Loan Officer Opinion Survey on Bank Lending Practices*, as of January 2011 “a modest net fraction of domestic respondents continued to ease standards on [commercial and industrial] loans to large and middle-market firms. Few banks reported changing standards on such loans to small firms.” Further, in April 2011 more domestic banks reported narrowing the spread over their cost of funds on loans to large and middle market firms than to smaller firms (55% v. 50%). The Pepperdine study also finds similar results. It reports that 68.6 % of respondents found that companies with \$1 million in EBITDA

were difficult or very difficult to arrange senior debt for. However as companied EBITDA increased the difficulty dropped dramatically.

55 This spread averaged around 2% for much of the period between 1986 and the onset of the recent crisis. As a result of the 2008 credit crisis, spreads widened to above 3%, and currently stand at 3.31%.

56 Source: Federal Reserve Bank: Commercial and Industrial Loan Rates at Domestic Banks - All Loans - (Spreads over intended federal funds rate, by loan size)

57 These firms do not have significant access to bank capital even in the best of times and have been particularly rationed out of this capital in the recent crisis. Such firms traditionally rely on venture capital and private equity capital to fuel their growth. However, as Block and Sandner (2009) report, the recent financial crisis led to a 20% decrease in the average amount of funds raised in each round of venture financing, with the effects being most severe for firms in the later stages that are closer to a potential exit in the IPO market. (Joern Block and Phillipp G. Sandner, "What is the empirical effect of the Financial Crisis on Venture Capital Financing? Empirical Evidence from US Internet Startups," *Venture Capital – An International Journal of Entrepreneurial Finance*, Vol. 11, 4, 2009, pp., 295-309.)

58 According to recent figures, private equity and venture capital funds are currently sitting on almost \$500 billion of capital awaiting investment.

59 PricewaterhouseCoopers estimates that IPOs backed by "financial sponsors" – private equity and venture capital – accounted for 80% of the total proceeds in the second quarter of 2011 (or \$9.5 billion of the \$11.9 billion quarterly total mentioned above), and will likely continue to lead the IPO market. According to J.P. Morgan, the venture-backed portion of this amount tripled from the same quarter of 2010.

60 These indirect effects are likely to strengthen the stimulative effect of the repatriation on capital investments by young firms in rapidly developing markets, where growth prospects are strongest. Gilson and Black (1999) have noted that stronger IPO markets help venture capital and private equity firms raise additional contributions from investors, further expanding the pool of capital available for such firms.

61 In theory, the effect that increased stock values have on corporate capital would affect all firms whose stock prices increase due to the flow of repatriated cash through capital markets. This effect should then impact both the relatively unconstrained repatriating firms as well as relatively more constrained non-repatriating U.S. firms. Even though the we might expect to see additional investment from repatriating firms (as the increase in their own stock prices reduces their cost of capital as infra-marginal investments that did not meet necessary hurdle rates prior to repatriation may now become viable – implying increased investment), for purposes of this paper we ignore this potential and focus solely on how the flow of cash through capital markets redistributes the cash from repatriating companies who will not invest to non-repatriating companies who will invest.

62 Morck, Shleifer and Vishny (1990) note that smaller firms, which are more dependent of external financing, may be particularly apt to respond to equity price signals.

63 Federal Reserve Bank of Kansas City Economic Symposium on August 27, 2010

64 Had these shareholders wanted to adjust their portfolios and hold more cash, that option was always available; holdings of shares could have been sold in the secondary market at any time. In addition, many shares are held in mutual funds and other pooled funds that have covenants requiring reinvestment of cash received through repurchases.

65 Beginning in October 2008, the Federal Reserve began to pay interest on bank reserves. Currently this interest rate is 0.25%.

66 See Statman and Fisher (2002) and Bremmer (2008).

67 Ben Bernanke, Op-Ed piece, November 4, 2010, Washington Post.

68 If the cash is returned via dividends, all shareholders will incur a dividend tax of 15% on the entire amount. If the cash is returned via repurchases, some shareholders who sell their shares will incur a capital gains tax of 15%. While the capital gains tax rate is currently equal to the dividend tax rate, the total taxes collected on share repurchases will be much less than taxes collected on dividends because (i) the tax will only apply to the *gains* from the sale of repurchased shares, not the cost

basis portion, and (ii) shareholders have the opportunity to net any capital gains from one investment against capital losses from another; no such opportunity exists for dividends. As discussed above, dividends also are likely to induce greater consumption than would a repurchase. Thus, the direct stimulus associated with a return of repatriated cash to shareholders will be greater if the return is accomplished through dividends.

69 See Mark Zandi, “An Analysis of the Obama Jobs Plan,” September 9, 2011.

70 <http://www.federalreserve.gov/newsevents/speech/duke20090610a.htm>

APPENDIX A:

Estimating PRE Repatriation under a Temporary Reduction in U.S. Tax Rates on the Repatriation of Foreign Subsidiary Earnings

The analyses performed in this study relied on a set of 843 publicly traded U.S. MNCs. This group of MNCs holds a very large portion of the total amount of PRE held by all U.S. MNCs. Using this set of firms as a starting point, we were able to locate the amount of PRE held in 2010 by 634 of these MNCs. These 634 firms held a total of \$1.3 trillion in PRE in 2010. Our analysis assumes that the implementation of a new repatriation incentive policy would occur in 2012. To estimate PRE available for repatriation in 2012 we increase each firm's 2010 PRE by 15.7% per year for two years based on the cumulative average growth rate observed from 1999 to 2010 in the reinvestment of foreign earnings reported by CFCs of U.S. based MNCs. We estimate that the 634 firms will hold \$1.7 billion in PRE by 2012.

In order to determine the likely amount of PRE these firms would repatriate due to a tax change similar to that under the HIA, we reviewed several empirical studies that attempt to quantify how a firm's observable characteristics relate to its propensity to repatriate funds. These studies, which are discussed in depth below, identified a number of factors that are correlated with the decision to repatriate. Three major explanatory factors stood out as being consistently included in the literature and highly statistically significant, both in the literature examined and in our own econometric analysis of the data: the amount of PRE relative to assets, the effective foreign tax rate, and the size of a firm are all significant factors in predicting firm repatriation behavior. In addition, we assume that prior firm behavior – specifically whether the firm chose to participate in the 2004 HIA - increases the likelihood of the firm's participation under a similar policy.

We estimate the likelihood of repatriation based on a four point scale derived from these four factors. A firm receives one point for each of the following thresholds it meets:¹ 1) The firm's current PRE- to-assets ratio is greater than the PRE-to-assets ratio of the median firm that made qualified repatriations under the HIA; 2) The average effective foreign tax rate faced by the firm is less than the average effective foreign tax rate faced by the median firm that repatriated under the HIA; 3) The firm is larger than the median HIA participant; and 4) one point if the firm made qualified repatriations under the HIA tax holiday. For these first three points, we compare the firm's current characteristics to the characteristic of the median firm that participated in the HIA.² To the extent that the conditions underlying the repatriation decision have not changed, the characteristic of the median HIA participant indicates a level that was sufficient to allow 50% of firms to repatriate. We consider any firm which meets at least three of these criteria likely to repatriate. Each criterion is more fully explained below.

Available PRE

A primary consideration in a firm's ability to take advantage of a reduced tax rate on repatriations is the existence of qualified foreign subsidiary earnings available to be repatriated. Firms with a limited stock of un-repatriated foreign subsidiary earnings stand to gain little from a temporary reduction in the tax on repatriation. A number of studies on repatriation behavior during the 2004 HIA and on repatriation under normal statutory rates confirm this intuition. For example, Faulkender and Peterson (2011) found that "the most powerful predictors of whether a firm repatriates foreign earnings under the [HIA] is their supply of un-repatriated foreign earnings. ... Both the presence of permanently invested foreign earnings (PIFE) and the actual magnitude of these earnings predict repatriation behavior."³ To capture the availability of qualified foreign earnings we calculate the ratio of PRE to total firm assets in 2009 (the most recent year in which asset data is available) for each of the 634 firms in the base sample. We then compare this ratio to the median PRE-to-asset ratio for firms in this sample that chose to participate in the HIA tax holiday. To the extent that firms currently exceed the PRE-to-assets ratio possessed by the firms that repatriated under the HIA, these firms are more likely, all else being equal, to have sufficient PRE to make repatriation worthwhile. Overall, 369 firms in our sample meet this criterion.

Repatriation Tax

The potential benefit of repatriating foreign earnings during a tax holiday is partially determined by the effective foreign tax rate these earnings face. Under normal circumstances, U.S. firms that repatriate foreign earnings pay the U.S. corporate tax rate of 35% less a credit received for the amount of foreign taxes already paid on those earnings. Foley et. al. (2007) finds that the magnitude of this incremental tax on the repatriation of foreign earnings is significantly correlated with a firm's propensity to hold cash overseas. During a tax holiday similar in structure to the HIA, each firm would be allowed to reduce its tax liability by 85%. The potential tax savings under such a holiday can be represented as (where EFTR is the effective foreign tax rate):

$$\text{Tax Savings} = .85 * (.35 - \text{EFTR}) * \text{PRE} / (1 - \text{EFTR})$$

Thus, the more the firm has already paid in foreign taxes, the less it stands to gain from a reduction in the U.S. tax rate. Blouin and Krull (2009) and Dharmapala et. al. (2011) find that firms facing a foreign tax rate of less than 35% and firms with larger costs of repatriating under normal statutory rates were significantly more likely to make qualified repatriations during the HIA. The correlation between effective foreign tax rates and repatriation behavior is also found in our sample of 634 firms; those who repatriated under the HIA faced an average effective foreign tax rate of 25% in 2003 while those who chose not to repatriate faced a rate of 28%.⁴

It is likely that each firm requires some minimum tax savings to make holiday participation worthwhile. While this threshold may not be the same for each firm, the tax savings achieved by the median firm that repatriated under the HIA serves as a reasonable proxy for this threshold. Of the 508 U.S. MNCs for which tax rate data is available in 2009, 249 firms had a rate lower than the 25% median effective foreign tax rate faced by firms in our sample that repatriated under the HIA.

Firm Size

The literature relating the characteristics of firms to repatriation decisions under the HIA found that, even after controlling for the PRE-to-asset ratio and the effective foreign tax rate, larger firms were significantly more likely to make qualified repatriations than were smaller firms.⁵ This may be due to the fact that larger firms tend to have larger and more sophisticated tax and accounting departments that were better able to meet the planning and filing requirements under the HIA. In our base set of firms, the median HIA participant held \$2.8 billion in assets in 2003, while the median of those that did not participate held \$980 million in assets. To account for the effect of firm size on likely repatriation decision, we assign each firm one point if assets are greater than \$2.8 billion.

HIA Participation

The final repatriation criterion explicitly accounts for a firm's revealed preference for participation in tax holidays. To the extent that a future reduction in the tax rate on repatriated foreign subsidiary earnings has parameters similar to those of the HIA, then all else being equal, a firm that participated in the HIA is likely to be predisposed to participate once again. Thus, we assign one point to each of the 282 firms in our sample that made qualified repatriations under the HIA. This criterion captures any unobserved firm characteristics that motivate repatriation.

Expected Repatriations

Table A.1 summarizes the results of the repatriation analysis. 31% of the 634 firms in our sample met at least three of the criteria. These firms, which we consider likely to repatriate if a future tax holiday is similar in structure to the HIA, are expected to have a total of \$1,254 billion of PRE held abroad in 2012.

As it appears that not all of the PRE available was repatriated under the HIA, we need to determine what percentage of the \$1,254 billion in PRE participating firms will repatriate. We base this percentage on the total amount of HIA repatriations made by 77 large firms as reported by Mock and Simon (2008) and then match the amount these firms repatriated to the total amount of PRE they held as of June 30, 2003 (the value as of this date represents the maximum amount of PRE eligible for a discount under the HIA).

We find that these 77 firms repatriated 85% of their eligible PRE, and use this figure as our estimate for repatriations under a future tax holiday. It should be noted, however, that to the extent a future tax reduction plan places fewer limits on the quantity or qualified uses of repatriated funds, this 85% figure may underestimate the fraction of PRE likely to be repatriated. Applying the 85% repatriation rate to the \$1,254 billion of PRE expected to be held by firms likely to repatriate yields a total predicted repatriation of approximately \$1,066 billion. **Table A.1** contains the calculations behind our estimate.

Table A.1
Estimated Repatriation under a Tax Policy Similar to the HIA
(in Billions of USD)

Score¹	Estimated PRE 2012²	PRE of Firms likely to Repatriate³	Fraction of PRE likely to be Repatriated⁴	Estimated PRE Repatriated in 2012
0	17	-	85%	-
1	91	-	85%	-
2	382	-	85%	-
3	344	344	85%	292
4	910	910	85%	774
Total⁵	\$ 1,745	\$ 1,254		\$ 1,066

Notes:

- ¹ A firm receives one point for each of the following conditions: 1) The firm made qualified repatriations under the 2004 HIA, 2) The firm's ratio of PRE to assets in 2009 was greater than the median ratio of PRE to assets possessed by firms that repatriated under the HIA, 3) The 3-year average effective foreign tax rate faced by the firm in 2009 was less than the median foreign tax rate faced by firms that repatriated in 2003, 4) The firm's assets in 2009 were greater than the assets possessed by the median firm that repatriated in 2003. To the extent that data was not available for one or more of the relevant variables, the firm was assigned a score of zero for that variable. This may cause artificially low scores for firms with missing data and will result in a conservative estimate of a firm's likelihood of repatriation. Due to data inconsistencies regarding foreign tax rates, we drop any year in which a firm earned negative profits or paid negative taxes as well as any year the firm's total foreign taxes to total foreign earnings ratio exceeded 50% or differed more than two standard deviation from the average tax rate it paid between 2001 and 2009.
- ² The decision to repatriate is assumed to occur in 2012. Available PRE in 2012 is based on the value of PRE reported by the firm in 10ks or other financial filings for fiscal year 2010. This 2010 value is assumed to grow at 15.73% per year for two years based on the cumulative average growth rate observed from 1999 to 2010 in the reinvestment of foreign earnings reported by U.S. based CFCs to the BEA and summarized in Bureau of Economic Analysis, U.S. International Transactions Accounts Data, Table 7a.
- ³ We assume firms which score a 3 or 4 in the above methodology are likely to repatriate.
- ⁴ Limited information is available on firm by firm repatriations under the HIA. Here, we assume the fraction of PRE repatriated under a proposed tax holiday will be similar to the fraction of PRE repatriated under the HIA by a sample of 77 firms given in Mock and Simon (2008). To the extent that fewer requirements and limitations are placed on repatriations under a new tax holiday, this represents a conservative estimate of repatriations.
- ⁵ To the extent our initial set of 843 firms fails to capture all firms that have PRE abroad in 2010, this number likely understates the amount of PRE that will be repatriated.

Taxes on Repatriations

Not all of the \$1,066 billion in estimated repatriations will be returned to shareholders or used directly by repatriating firms. At a minimum, repatriations will be taxed at a rate around 5.25%.⁶ Further, if the proposed tax holiday has a structure similar to the 2004 HIA, only repatriations beyond ordinary “baseline” levels will qualify for a reduced tax rate. This baseline attempts to capture the amount of foreign earnings that would be repatriated in the absence of a tax reduction; it is only the amount repatriated above the baseline that is eligible for a reduced tax treatment. These baseline repatriations will face the normal repatriation tax rate of 35% less the foreign taxes already paid on these earnings to foreign taxing authorities.

In **Table A.2** we estimate the baseline level of repatriations for the sample of firms likely to repatriate, then we apply the relevant tax rates to the qualified repatriations. Overall, we estimate that \$977 million in qualified (above baseline) repatriations will be available to return to shareholders. Of this, approximately \$942 billion will be available after accounting for the reduced U.S. corporate tax rate.

Table A.2
Estimated Tax on Baseline and Qualifying Repatriations
(in Billions of USD)

Total estimated repatriations	(a)	\$	1,066
Baseline repatriations			
Average repatriations by all CFCs	(b)	\$	156
Fraction of all repatriations capture by sample repatriaters	(c)		56.8%
Estimated baseline of repatriaters	(d)	\$	89
Qualified repatriations			
Qualified repatriations	(e)	\$	977
Tax rate on qualified repatriations	(f)		3.65%
Tax revenue	(g)	\$	36
Qualified repatriations net of tax	(h)	\$	942

Notes:

- (a) See Table A.1.
- (b) If the proposed tax holiday has a similar structure to the HIA, only repatriations beyond ordinary 'baseline' levels will qualify for a reduced tax rate. According to HIA methodology, the estimated baseline level of repatriations will be calculated as the mean of repatriations in the previous 5 years after the highest and lowest years have been dropped. According to BEA data, repatriations for all CFC's of U.S. based MNC's were \$101,686, \$132,833, \$172,448, \$111,297, and \$105,490 million in 2006 through 2010. Thus estimated baseline repatriations for all CFC's in 2010 is \$116,540 million. We grow this value by the assume growth in PRE from 2010 to 2012 to estimate 2012 baseline levels. Source: Bureau of Economic Analysis, U.S. International Transactions Accounts Data, June 16, 2011, Table 7a, Line 3.
- (c) Calculated as the sum of 2009 foreign income of expected repatriaters in our sample with a score above 3 divided by the total foreign income of all CFC's in 2009, as reported in Bureau of Economic Analysis, U.S. International Transactions Accounts Data, June 16, 2011, Table 7a, Line 1. Implicitly, we assume that under non-holiday rates the firms in our sample will repatriate the same fraction of their foreign earnings as that repatriated by all CFCs.
- (d) Calculated as (b) * (c).
- (e) Calculated as (a) - (d).
- (f) E. Kleinbard and P. Driessen, "A Revenue Estimate Case Study: The Repatriation Holiday Revisited", Tax Notes, Sept. 22, 2008, p. 1200.
- (g) Calculated as (e) * (f).
- (h) Calculated as (e) - (g).

-
- 1 To the extent that data was not available for one or more of the relevant variables, the firm was assigned a score of zero for that variable. This may cause artificially low scores for firms with missing data and will result in a conservative estimate of a firm's likelihood of repatriation.
 - 2 Data on the PRE-to-asset ratio, effective foreign tax rate and firm size is only available through 2009 in Compustat – a third-party electronic database we use to obtain financial information. As such, we make use of 2009 data in our analysis.
 - 3 Faulkender and Peterson (2011), p. 20.
 - 4 One common method of estimating foreign tax rates is to divide the total foreign taxes by total foreign income as reported in firm annual statements and available in the Compustat database. Unfortunately, accounting and transfer pricing rules, as well as the unique tax treatment of certain industries (e.g., oil and gas extraction) often skew foreign tax rates calculated in this manner. For example, it is common for this methodology to yield tax rates well over 50%, while the maximum statutory rate is currently 44.6% in Japan and only one country has exceeded 50% in the past decade. We take several steps to limit the impact artificially high tax rates have on this analysis. We begin by calculating the effective foreign tax rate for each firm for every year between 2001 and 2009. Next, we drop any year in which a firm earned negative profits or paid negative foreign taxes. We then drop any year in which the firm's foreign tax rate exceeded 50% or was more than two standard deviations away from that firm's mean tax rate between 2001 and 2009. Finally, to smooth fluctuations in tax rates we take a three year average of each firm's rates. Thus 2009 foreign tax rates are based on an average of rates in 2007, 2008, and 2009 and 2003 foreign tax rates are based on the average of rates in 2001, 2002 and 2003.
 - 5 See Foley et. al. (2007), Baghai (2010), Faulkender and Petersen (2011)
 - 6 Kleinbard and Driessen (2008) report that qualified repatriations under the HIA faced an average rate of 3.65% after accounting for foreign tax credits. There is little reason to assume the rate of qualified dividends would be different under a tax holiday with a similar structure.

APPENDIX B:

Stock Market Effects of Repatriation

The Stock Market Impact from a Reduction in a Deferred Tax Liability

U.S. accounting regulations require firms to either expense the tax liability associated with foreign profits, or to declare the foreign profits as permanently reinvested (“PRE”). If firms declare the foreign profits as PRE, no expense charge is taken, resulting in higher reported profits. However, the amount of the liability that would have been expensed had the profits not been PRE must nonetheless be reported in a footnote to the firm’s financial statements. Economic literature has shown that this reported deferred tax liability is often priced into share prices by investors. For example, Collins, Hand and Shackelford (2000) find that the aggregate share value of firms with net foreign tax liabilities are depressed by the amount of the tax liability that is reported to be due upon repatriation, even if the firm has reported the funds as permanently reinvested.

Dividends Received Deduction tax holidays provide firms with the opportunity to repatriate PRE at a discount. To the extent a firm chooses to repatriate funds under a holiday, the actual tax due on repatriated funds may be substantially less than the deferred tax liability reported in the firm’s financial statements and factored into its share prices. Oler, Shevlin and Wilson (2007) examine the deferred tax liability hypothesis and find a significant reduction in the extent to which investors capitalized deferred repatriation tax into current stock prices around the passage of the HIA.

Martin, Novack and Pereira (2009) take the analysis a step further by determining which firms’ share prices reacted positively to the 2004 HIA. They hypothesized that firms facing the highest level of financial constraints, arguably the firms most likely to repatriate PRE absent a holiday, would be the most likely to benefit from the announcement of the HIA. To test this hypothesis they divided firms into three equal-sized groups based on each firm’s Kaplan-Zingales (KZ) score.¹ They then examined stock price reactions around the announcement of the HIA. They found that relatively unconstrained firms – those in the group with the lowest KZ scores – showed no statistically significant abnormal increase in share price, while firms in the 2nd and 3rd tercile of K-Z scores showed substantial statistically significant gains in share prices around the enactment of the HIA. This result is consistent with the hypothesis that shareholders of financially constrained firms price deferred tax liability into share values and reduce this discount upon the announcement of the HIA.

We use the findings of Martin, Novak and Pereira to estimate the potential impact on share prices of a reduction in deferred tax liability due to a new temporary tax reduction on repatriated foreign subsidiary earnings. We start with the sample of firms predicted to repatriate PRE under such a change in policy (See

Appendix A for details). Next, we calculate the KZ score of each firm, divide these firms into terciles based on the KZ score, and aggregate the total estimated PRE likely to be repatriated by firms in each tercile.² Baseline repatriations that do not benefit from a tax reduction are then subtracted from this total. Finally, since taxes are paid on total foreign earnings, not on the after-tax foreign earnings that PRE reflect, total eligible PRE is grossed up by the effective foreign tax rate.

We next estimate the potential decrease in repatriation tax rates likely to occur under a tax policy structured in a similar manner to the HIA. Under normal circumstances, firms must typically pay 35% of foreign earnings less the foreign taxes are already paid on those earnings. According to detailed IRS data, the average foreign tax rate paid by firms with foreign earnings was 16.4%.³ This yields an effective repatriation tax of 18.6% on foreign earnings (where $18.6\% = 35\% - 16.4\%$). Under a tax structure similar to the HIA, firms pay no tax on 85% of the dividends they repatriate and 100% of the tax on the remaining 15% of returned dividends. After accounting for foreign tax credits, firms that repatriated under the HIA paid on average 3.65% on repatriated funds.⁴ These rates imply that the total tax rate reduction on foreign earnings repatriations will be approximately 14.9% (where $14.9\% = 18.6\% - 3.65\%$).

Table B.1 estimates the total reduction in deferred tax liability for firms in each K-Z tercile. Per the findings of Martin, Novak and Pereira, we assume that the deferred tax liability is only incorporated into the share prices of firms in the 2nd and 3rd terciles. If a temporary tax reduction on repatriated foreign subsidiary earnings was enacted, we estimate there would be a \$86 billion reduction in the amount of deferred tax liability priced into the share prices of likely participants.

Table B.1
Equity Wealth Increase from Reduction in Deferred Tax Liability
(in Billions of USD)

		<u>1st KZ Tercile</u>	<u>2nd KZ Tercile</u>	<u>3rd KZ Tercile</u>
Total estimated repatriations by KZ tercile	(a)	\$ 502	\$ 235	\$ 259
Repatriations grossed up to correct for missing data	(b)	538	251	277
Fraction of repatriations going to baseline	(c)	8.3%	8.3%	8.3%
Repatriations receiving tax deduction	(d)	\$ 493	\$ 230	\$ 254
Repatriations grossed up by foreign tax rate	(e)	\$ 590	\$ 276	\$ 304
Reduction in repatriation tax rate				
U.S. Statutory Rate	(f)	35.0%	35.0%	35.0%
Average foreign effective tax rate	(g)	16.4%	16.4%	16.4%
Effective holiday rate on qualified repatriations	(h)	3.65%	3.65%	3.65%
Total rate reduction	(i)	14.9%	14.9%	14.9%
Decline in deferred tax liability (DTL)	(j)	\$ 88	\$ 41	\$ 45
Fraction of DTL passed through to share price	(k)	0%	100%	100%
Wealth creation due to DTL reduction	(l)	\$ -	\$ 41	\$ 45
Total increase in equity wealth from DTL reduction		\$ 86		

Notes:

- (a) Categories do not sum to total repatriations in Table A.1 because there is insufficient data to calculate a Kaplan-Zengales score for all firms that were likely to repatriate.
- (b) Calculated as (a) * (total estimated PRE repatriated / the sum of the total estimated repatriations by 1st, 2nd, and 3rd KZ terciles.) This method assumes firms with missing data are evenly distributed across each tercile.
- (c) Fraction of baseline relative to all repatriations from Table A.2.
- (d) Calculated as (b) * [1-(c)].
- (e) Calculated as (d) / [1-(g)].
- (g) Average effective foreign tax rate paid by firms with non-negative foreign earnings, calculated from IRS SOI - Controlled Foreign Corporations statistical tables: Form 5471 Table 2 - 2006, Column 10 divided by Column 9, available at: <http://www.irs.gov/taxstats/bustaxstats/article/0,,id=96282,00.html>.
- (h) E. Kleinbard and P. Driessen, "A Revenue Estimate Case Study: The Repatriation Holiday Revisited," Tax Notes, Sept. 22, 2008, p. 1200.
- (i) Calculated as (f) - (g) - (h).
- (j) Calculated as (e) * (i).
- (k) Only firms that ranked in the 2nd and 3rd terciles of capital constraint experienced statistically significant gains in response to the announcement of the HIA. Martin, Novack and Pereira, "Firms' share price reactions to the American Jobs Creation Act," Journal of International Accounting, Auditing and Taxation 18 (2009), p. 141-151.
- (l) Calculated as (j) * (k).

Stock Market Impact from a Reduction in Agency Costs

A tax reduction may also result in wealth creation if it induces firms to repatriate cash and subsequently return this money to shareholders. There is extensive empirical evidence showing that firm distributions of cash through stock repurchases or one-time “special” dividend payments generate positive and significant above normal share price increases in the range of 3% to 5% for open market repurchases and 3.5% for special dividends.⁵ As discussed in depth in the body of this report, one hypothesis used to explain this finding is that the return of cash alleviates agency issues present in the management-shareholder relationship. Specifically, shareholders of firms with large cash balances and few profitable investment opportunities may be concerned that managers have an incentive to make unprofitable investments or expenditures. The repatriation of PRE and its return to shareholders prevents such waste and informs shareholders that management is acting in their best interest.

Lie (2000) tested this theory by comparing the abnormal stock market returns accruing to firms with high and low investment opportunities around the announcement of special dividend payments.⁶ He found that firms with higher cash-to-asset ratios and limited investment opportunities experienced significantly larger abnormal returns around the announcement of special dividends than firms with profitable investment opportunities. For every one percent increase in the cash-to-asset ratio of a low opportunity firm, there was a 0.113 percent incremental increase in the share price of that firm relative to a comparable firm with more investment opportunities. In Lie’s interpretation of this result he notes “the market responds particularly favorably to special dividends announcements when the announcing firm has potentially large agency problems, as indicated by substantial cash levels and poor investment opportunities that may be mitigated by a reduction of the cash level.”⁷

This finding is directly applicable to the firms most likely to take advantage of a future one-time reduction in the tax rate on repatriated foreign subsidiary earnings and return the repatriated funds to shareholders: U.S. MNCs with large amounts of PRE and few untapped investment opportunities. We estimate the magnitude of incremental increases in share value due to a reduction in agency effects in **Table B.2**. We begin by sorting the 197 firms expected to participate in a tax holiday into KZ index terciles as described in the previous section. We then multiply the market capitalization of each firm with its cash-to-asset ratio and sum the resulting values by tercile. The firms in the most financially constrained 3rd tercile are assumed to have internal uses for the repatriated funds and are less likely to benefit from a reduction in agency effects. Firms in the 1st and 2nd terciles are less likely to have domestic investment opportunities and thus more likely to show share price appreciation upon the repatriation and return of funds to shareholders. The weighted market capitalization totals for the 1st and 2nd terciles are multiplied by the coefficient on share price returns estimated in Lie (2000), to yield an estimated increase in stock market wealth due to a reduction in agency concerns of approximately \$104 billion. **Table B.2** shows these calculations.

Table B.2
Equity Wealth Increase From Reduction in Agency Costs through Payment of Special Dividends
(in Billions of USD)

		<u>1st KZ Tercile</u>	<u>2nd KZ Tercile</u>	<u>3rd KZ Tercile</u>
Reduction in Agency Costs				
Market capitalization weighted by cash to asset ratio	(a)	\$ 521	\$ 364	\$ 94
Market capitalization grossed up to correct for missing data	(b)	541	379	97
Impact of dividends on market cap due to agency cost reduction	(c)	<u>11.3%</u>	<u>11.3%</u>	<u>0.0%</u>
Wealth creation due to agency cost reduction	(d)	\$ 61	\$ 43	\$ -
Total increase in equity wealth from DTL reduction		\$ 104		

Notes:

- (a) Calculated as the sum of each firm's market capital as of 8/09/2011 multiplied by the most recently available cash to asset ratio for firms that had a score of 3 or above.
- (b) Increases each category by 4% to correct for missing data. This method assumes that the firms for which a KZ score could not be calculated are evenly distributed across terciles.
- (c) Eric Lie, "Excess Funds and Agency Problems: An Empirical Study of Incremental Cash Disbursements," Review of Financial Studies, 13:1, p. 219-247, 2000, Table 4. The share prices of all repatriating firms in this study are assumed to incorporate a discount due to agency costs, by virtue of holding large quantities of liquid assets abroad.
- (d) Calculated as (b) * (c).

1 The Kaplan-Zingales index measures a firm's level of financial constraints based on its cash flows and balances, dividend payments, leverage and the market value of equity. A detailed description of how the KZ index is calculated is available in Martin et al.

2 The KZ index was calculated according to the methodology described in Martin, et al. It should be noted that an equal number of firms in each tercile does not imply an equal amount of expected repatriations in each tercile. As seen from Table B.1, relatively unconstrained firms have, on average, higher levels of PRE. Due to data limitations, a KZ index score could only be calculated for 254 repatriators. To adjust for this discrepancy, each estimate is grossed up by the ratio of total PRE expected to be repatriated divided by the PRE for which a KZ score could be calculated.

3 As noted in Appendix A, actual effective foreign tax rates can be difficult to calculate from values reported in financial statements since these values are influenced by one-time adjustments to account for the transfer of assets across jurisdictions and incorporate special industry specific taxes. Here we choose to calculate the effective foreign tax rate based on foreign income and taxes reported by CFCs reporting non-negative foreign earnings as reported in IRS SOI - Controlled Foreign Corporations statistical tables. As such, the most current data available is from 2006. The weighted average effective foreign tax rate of the firms in our sample that are expected to repatriate is quite similar.

4 See Klienbard and Driessen (2008).

5 See Yook and Gangopadhyay (2010) and Lie (2000)

6 Lie also considered self-tender offers and announcements of planned increases in regular dividend payments. He found no statistically significant difference in abnormal returns between high and low opportunity firms around the announcement of regular dividend payments. He found a large and statistically significant difference in abnormal returns around self-tender share repurchases, however self-tender offers typically incorporate a premium to the existing share price which automatically inflates the return.

7 Lie (2000), p. 234.

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