



# The Impact of H.R. 4213 on Private Equity Investment and Employment

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## INTRODUCTION

H.R. 4213, The “American Jobs and Closing Tax Loopholes Act Of 2010” would increase the tax rate on long-term capital gains income received through a carried interest in a partnership from the current rate of 15% to 38.5% when fully-phased in. This represents a 157% tax increase, or more than a doubling of the government’s share of these partnerships’ long-run investment income. Such a significant increase in the effective tax rate on long-term investment could have deleterious economic consequences.

The most immediate economic impact of the tax increase would likely be felt in the real estate sector, which continues to suffer from low prices and high defaults. The default rate for commercial property mortgages held by U.S. banks more than doubled in the fourth quarter of 2009 and is expected to increase throughout 2010. One in two partnerships in America are in real estate and these 1.48 million real estate partnerships hold more than \$4.2 trillion in assets.<sup>1</sup> By comparison, the total value of all real estate owned by nonfinancial corporate businesses in America is \$6.3 trillion.<sup>2</sup> Increasing taxes on real estate partnerships reduces after-tax returns, which could reduce the prices these investors are willing to bid on properties. The likely effect is to reduce prices further, which would increase default rates.<sup>3</sup> This could place additional pressure on regional banks, as insured depository institutions with \$100 million to \$1 billion in assets hold 25% of commercial property loans outstanding and 15% of all apartment loans.<sup>4</sup>

While the impact on real estate is likely to be more immediate given current market conditions, another significant long-run economic effect will come from the reduction in corporate finance-oriented private equity investment. Venture capital, growth capital and buyout funds channel capital to otherwise capital-constrained start-ups, small-and-medium sized businesses, and larger companies in need of restructuring or new strategic direction. While it is exceedingly difficult to isolate the marginal impact on partnership investment behavior of an increase in an effective tax rate precisely, investment and tax data from 1980 to 2009 suggest that:

- A one percentage point increase in the effective tax rate is associated with a \$1.8 billion decrease in annual private equity investment, holding other factors constant. This finding is statistically significant at the 94% confidence interval.
- A one percentage point increase in the effective tax rate is associated with a 1.07% decrease in annual private equity investment, holding other factors constant. Based on 2009 investment levels, this would translate to a \$525 million reduction in investment for every one percentage point increase in the tax rate.
- H.R. 4213, The “American Jobs and Closing Tax Loopholes Act Of 2010” would increase the effective

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1 Internal Revenue Service, Statistics of Income Division, Fall SOI Bulletin, August 2009.

2 Federal Reserve Board of Governors, Z1: Flow of Funds Accounts of the United States, B.102.

3 The most significant variable for predicting commercial mortgage default is the value of the underlying property in relation to the face value of the mortgage. See Liu, Jabbour, and Green (2007).

4 Bloomberg, “Commercial Mortgage Default Rate in U.S. More than Doubles,” February 24, 2010.

tax rate on private equity investment to 38.5%. This tax increase could reduce private equity investment by between \$7.7 billion and \$27 billion per year relative to what it otherwise would have been. This does not suggest that private equity investment will not continue to grow as total investment will be influenced by many factors other than tax rates. Rather, it implies that the higher effective tax rate could cause future investment levels to be lower than they would have been absent the tax increase.

- Based on relationship between investment and job creation estimated in the Administration's initial stimulus forecast, this reduction in investment would cause aggregate employment to be between 36,600 and 127,800 lower than it otherwise would have been. The job losses would fall disproportionately on small-to-medium sized businesses. Roughly 72% of all private equity investments are made in companies with market values of less than \$250 million.
- Three sizeable changes to the effective tax rate on private equity investment have been enacted on three occasions in the past thirty years: 1986, 1997, and 2003. In each of these cases, the change in the effective tax rate had the predicted impact on private equity investment as measured in the four years before and after the rate change.

The following section provides a summary of the data and nature of the analysis. Section three provides a more detailed review of three previous periods when the effective tax rate on private equity investment was changed. Section four concludes.

## DATA AND ANALYSIS

This analysis relies on data accessed through the Thomson Reuters One Banker Private Equity database. These annual data cover the amount of reported equity invested in U.S. businesses by all forms of private equity — venture, buyout, growth capital — from 1980 to 2009. In some private equity transactions, the sponsored company also raises external debt to complete the investment. These borrowings have been excluded from this analysis so as to focus exclusively on the risk capital invested directly by private equity partnerships. Over the past 30 years, annual private equity investment in the United States increased from \$723 million in 1980 to \$49 billion in 2009. The record for amount invested was set in 2000 when \$137 billion was invested in more than 7,000 businesses. Annual investment also exceeded \$80 billion in 2006 through 2008. The investment data are available in Table A in the Appendix.

Partnership income flows through to partners. This means that when a partnership earns long-run capital gains income, its partners pay capital gains taxes on these earnings. As a result, the effective tax rate on private equity investment has been the maximum long-run capital gains tax rate. This rate is calculated each year by the U.S. Treasury Department. The Treasury adjusts the top statutory capital gains rate to account for the effects of exclusions, alternative tax rates, the minimum tax (1970-78), the alternative minimum tax, income tax surcharges, and the phase-out of itemized deductions. The Treasury data are available in Table B in the Appendix.

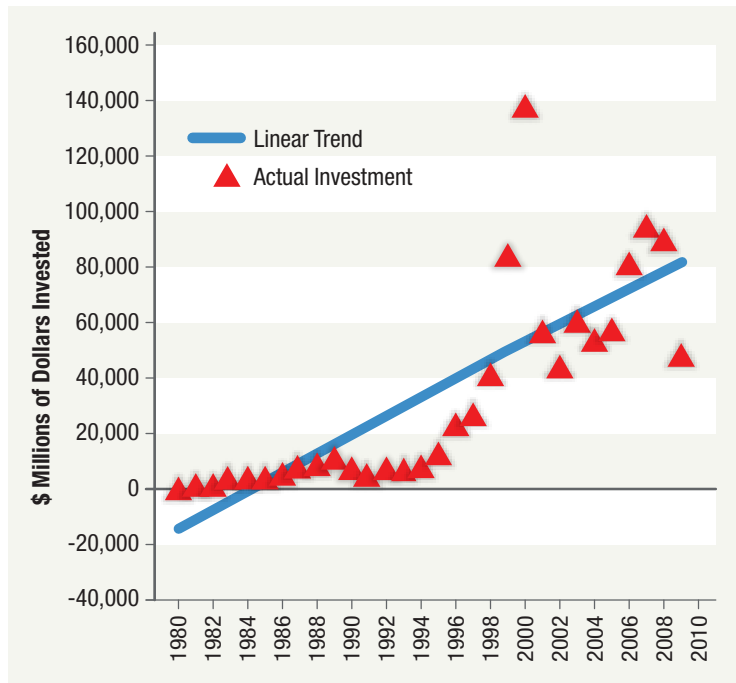
Tax rates are hardly the only factor that impact private equity investment. Indeed, over the past 30 years, private equity investment has grown dramatically through a variety of tax regimes. In 1979, the Department of Labor clarified the “prudent man rule” to ensure that pension fund investments in private equity funds would not constitute a violation of ERISA.<sup>5</sup> This led to tremendous growth in the sector, as pension funds invested in buyout and venture capital funds in the search of higher returns necessary to meet their obligations to plan beneficiaries. As private equity returns dramatically exceeded those available in the public equity markets, more investment came flowing into the sector, causing assets under management and investment to continue to reach new highs. Investment is not only influenced by total capital raised but by macro economic conditions, industry-specific trends, and financing terms. This self-reinforcing trend towards long-run growth is likely to continue given the continued outperformance of private equity relative to public equity market alternatives. As of September 30, 2009, the average private equity fund had outperformed the S&P 500 by 9.62% per year over 5 years and by 9.17% per year over 10 years.

The long-run, secular growth of private equity investment requires that the data first be “detrended” before the marginal impact of tax rates can be measured in a statistically valid manner. As shown by Frisch and Waugh (1933), this can be accomplished most efficiently through the inclusion of a time trend as an explanatory variable. As seen in Chart 1, the time trend captures the long-run average growth of private equity investment quite well. There are some outliers well above and below the line, but the subsequent observations tend to quickly revert to trend.

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5 GAO-08-692, “Defined Benefit Pension Plans.”

Chart 1



Adding the effective tax rate data as an explanatory variable to a linear trend model allows the marginal impact of taxes to be measured as the deviation from the long-run trend. Private equity investment  $Y_t$  can be estimated by equation (1), where  $t$  is the time index and  $\epsilon$  is a white noise error term.

$$Y_t = \alpha + \beta t + \gamma(Tax Rate_t) + \epsilon_t \quad (1)$$

The results of estimating equation 1 through ordinary least squares (OLS) are presented in Table 1. The interpretation of the effective tax rate parameter estimate is that a one percentage point increase in the effective tax rate on private equity investment is associated with a \$1.834 billion decline in private equity investment, holding other factors constant. The t test performed on the parameter shows that this finding is statistically

significant at the 94% confidence interval (the probability of erroneously rejecting the hypothesis that the tax rate has no effect on private equity investment is 5.7%). The results of the model are presented in Chart 2. Additional statistical tests are performed in the Appendix.

Table 1

Parameter	Estimate	t Stat	P-value
Intercept	33579.99	1.26	0.218
<b>Effective Tax Rate</b>	<b>-1834.2</b>	<b>-1.99</b>	<b>0.057</b>
Time Trend	2689.8	5.07	0.000
R-squared	0.675		
AR(1)	0.362		

Alternatively, private equity investment  $Y_t$  can be estimated through a log-linear model where the relevant parameter estimates the expected percentage change in investment, rather than a dollar figure. The results of this regression are presented in Table 2. The interpretation of the effective tax rate parameter estimate is that a one percentage point increase in the effective tax rate on private equity investment is associated with a 1.07% decline in private equity investment, holding other factors constant. Based on 2009 investment of \$49 billion, this equates to a 2010 dollar value of \$525 million. While economically significant and empirically meaningful, this parameter estimate lacks statistical significance under the rejection criteria used for the first regression.

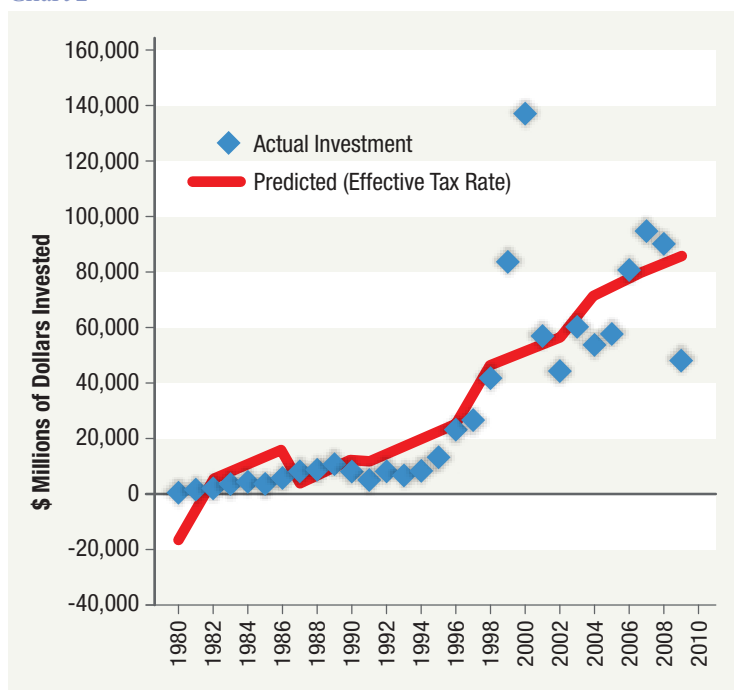
Table 2

Parameter	Estimate	t Stat	P-value
Intercept	7.6510	11.660	0.000
<b>Effective Tax Rate</b>	<b>-0.0107</b>	<b>(0.468)</b>	<b>0.643</b>
Time Trend	0.1454	11.109	0.000
R-squared	0.869		
AR(1)	0.657		

As these parameters capture the effect of a one percentage point increase in the effective tax rate, the impact of H.R. 4213 can be estimated by multiplying these estimates by 14.7.<sup>6</sup> This yields a reduction of investment of between \$7.7 billion and \$27 billion per year. Assuming private equity investment has the same impact on gross domestic product (GDP) as the public sector investments made in the American Recovery and Reinvestment Act (ARRA) — an exceedingly modest assumption given that productivity gains associated with private equity investments are likely to be several times larger — the tax increase would result in a reduction of total employment of between 36,605 and 127,856 full-time jobs.

The impact of the reduction in employment levels is likely to be concentrated among small-to-medium sized businesses. According to Thomson Reuters, between 2003 and 2008 72% of all private equity

Chart 2



investments were made in companies with market values of less than \$250 million. This includes 66% of later-stage (buyout and mezzanine) investments and over 80% of venture capital investments. These businesses tend to be capital constrained, which makes private equity a logical source of financing for expansion. In some cases, the businesses are new and lack the collateralizable assets necessary to secure a bank loan. In other cases, the business may lack a track record or credit rating, which compromises access to external debt finance. Private equity finance is often the only viable alternative to the costly and often undesirable process of raising public equity.

<sup>6</sup> As of January 1, 2013, the effective tax rate would be 38.5% including self-employment taxes. This is 75% at the new top ordinary rate of 43.4% (39.6% income plus 3.8% self-employment taxes) and 25% at the top capital gains rate of 23.8% (20% capital gains plus 3.8% self-employment tax on unearned income). Under current law, the tax rate would be 23.8%.

## EVENT STUDIES: 1986, 1997, AND 2003

As shown in Chart 3, sizeable changes to the effective tax rate on private equity investment have been enacted on three occasions in the past thirty years: 1986, 1997, and 2003. Measuring the growth in private equity investment in the four years before and after each tax change provides a “real world” test of the statistical analysis contained in the preceding section. In each of these cases, the change in the effective tax rate had the predicted impact on private equity investment, as shown in Table 3.

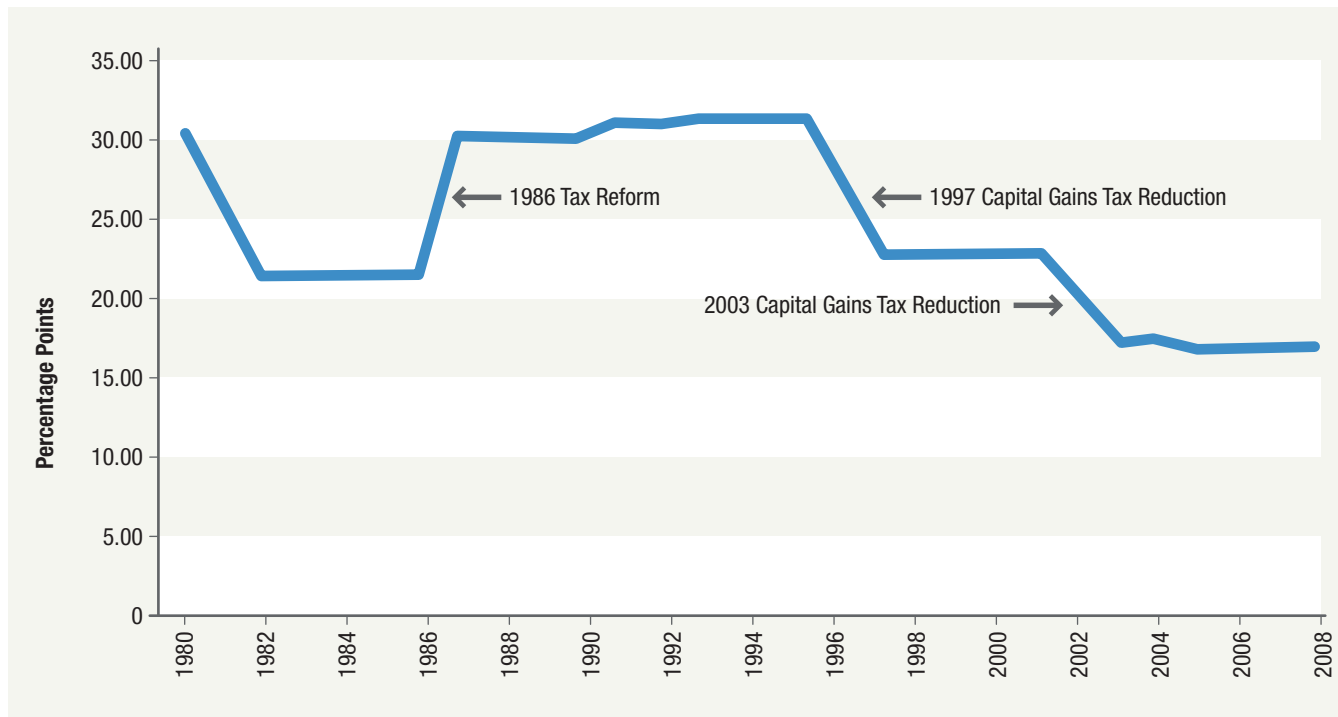


Table 3

	Annual Average Investment Growth	Average Effective Tax Rate
1983-1986	29.60%	20.00%
1987-1990	9.37%	28.00%
<b>change</b>	<b>-20.24%</b>	<b>8.00%</b>
1993-1996	30.97%	29.19%
1997-2000	55.66%	22.19%
<b>change</b>	<b>24.69%</b>	<b>-7.00%</b>
1999-2002	1.49%	21.18%
2003-2006	16.11%	16.60%
<b>change</b>	<b>14.62%</b>	<b>-4.58%</b>

In the 1986 Tax Reform Act, the statutory tax rate on private equity investment increased from 20% to 28% for capital gains realized after January 1, 1987. In the four years prior to the tax change, private equity investment increased at an annualized rate of 29.6%. This covers investment from the end of (but not including) 1982 to the end of 1986. Following the 8 percentage point increase, private equity investment grew in the following four years at a 9.37% rate, a 20.24 percentage point decline in the investment growth rate.

From 1987 to 1997, the effective tax rate on private equity investment drifted upward to 29.19% as a result to subsequent changes to the tax code relating to exemptions and self-employment taxes. The statutory capital gains rate was cut to 20% in 1997. Unlike in 1986, the cut took effect immediately, which causes 1997 to be included in the “after” portion of the analysis. In the four years ending in 1996, private equity investment grew at a 30.97% annualized rate. In the four years following the 7 percentage point reduction in the effective tax rate, private equity investment grew at a 55.66% annualized rate.

Finally, in 2003, Congress reduced the statutory long-term capital gains rate by 5 percentage points. As in 1997, this cut took effect immediately, which places 2003 in the “after” portion of the analysis. In the four years ending in 2002, private equity investment grew at a 1.49% annualized rate. In the four years following the nearly 5 percentage point reduction in the effective tax rate, private equity investment grew at a 16.11% annualized rate. The changes in the four-year private equity investment growth rates in each of these periods provide strong support for the conclusions reached in the preceding section concerning the impact of tax rates on private equity investment, holding other factors constant.

## DISCUSSION AND CONCLUSION

This paper provides evidence to suggest that the tax increases of the magnitude contained in H.R. 4213 would result in a substantial decline in private equity investment and a nontrivial reduction in overall employment levels, holding other factors constant. It is important to note that the parameters estimated in Section 2 are partial derivatives that partition the impact of effective tax rates from other variables. This means that the reduction in investment is *net* of the effect of other factors. As discussed in Section 2, private equity investment is likely to continue to grow as long as it continues to provide risk-adjusted returns in excess of those available through alternative investments. As such, this analysis does not maintain that the tax increase will cause private equity investment to fall on a gross or aggregate basis. It simply demonstrates that the data suggest that such a large tax increase will almost certainly cause private equity investment to fall relative to what it otherwise would have been.

Some dispute the notion that a tax increase on private equity firms would reduce investment. These analysts note that the bulk of private equity capital is provided by limited partners whose taxes would not be impacted by H.R. 4213. Therefore, the tax increase would have no impact on their savings and investment decisions. This analysis overlooks two factors. First, the bulk of capital to private equity funds has always been provided by tax-exempt entities. As a result, this analysis already accounts for the disparate impact of the tax change. According to Preqin, roughly 68% of global private equity capital is invested by public pension funds, private pension funds, endowments, and governmental entities that are exempt from U.S. taxation. As explained by GAO, much of the growth of private equity capital over the years has come from these tax-insensitive parties. Therefore, the change in the effective tax rate contained in H.R. 4213 is no different from previous situations in that the impact will be borne directly by the private equity firms that serve as general partners to private equity funds, not the largely tax-exempt limited partners that invest in these funds.

Secondly, this analysis wrongly presumes that the supply of private equity investment opportunities is inelastic with respect to the tax rate. This is unlikely to be the case. The private equity firm’s willingness to identify attractive investment opportunities and invest the time and effort required to create value is likely to be especially sensitive to effective tax rates. Table 4 shows the results of an OLS estimation of equation (1) with total private equity fundraising as the dependent variable (private equity fundraising data is available as Table C in the Appendix). The data reveal that a one percentage point increase in the effective tax rate reduces aggregate private equity fundraising by \$9.197 billion. These results are statistically significant at the 98% confidence interval.

Table 4

<i>Parameter</i>	<i>Estimate</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	164570.16	1.5730991	12.73%
<b>Effective Tax Rate</b>	<b>-9197.485</b>	<b>-2.534</b>	<b>0.017</b>
Time Trend	10485.03	5.023346	0.00%
<i>R-squared</i>	0.699		
<i>AR(1)</i>	0.394		

This provides some insight as to the likely channel of the tax increase: higher taxes reduce the after-tax return associated with private equity investment; this makes marginal investments (i.e. often those posing the highest risk) less attractive because the private equity firm retains far less of the “upside” after taxes, but still must absorb all of the downside in terms of capital contributed and the considerable costs associated with the investment process and subsequent monitoring and oversight. The notion that tax rates on entrepreneurial partners can be increased by 157% without negative economic consequences is mistaken and contrary to the data. Private equity firms provide the investment opportunities to their capital partners and large increases in their effective tax rates will directly impact the availability of such investment opportunities.

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## APPENDIX

Table A

Year	U.S. Private Equity Investment (\$M)
1980	723.39
1981	1,590.07
1982	1,997.69
1983	3,675.01
1984	4,195.25
1985	3,956.08
1986	5,636.45
1987	8,217.50
1988	8,988.45
1989	11,266.20
1990	8,064.34
1991	4,658.84
1992	7,982.26
1993	6,800.99
1994	8,352.46
1995	13,470.03
1996	23,486.93
1997	26,863.01
1998	42,152.66
1999	84,089.54
2000	137,895.97
2001	57,261.60
2002	44,719.57
2003	60,847.99
2004	54,161.94
2005	57,836.76
2006	81,280.41
2007	95,235.72
2008	90,514.89
2009	49,078.08

Table B

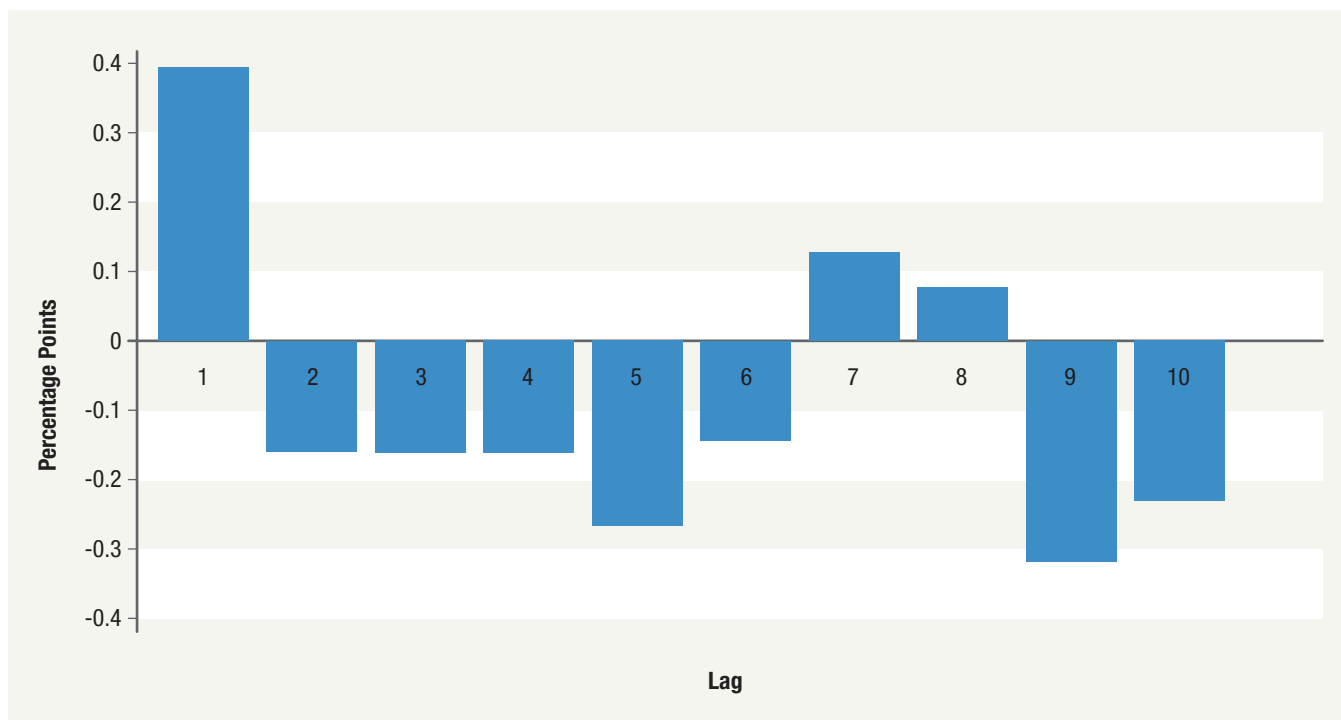
Year	Effective Tax Rate on Private Equity Investment
1980	28.0
1981	24.0
1982	20.0
1983	20.0
1984	20.0
1985	20.0
1986	20.0
1987	28.0
1988	28.0
1989	28.0
1990	28.0
1991	28.9
1992	28.9
1993	29.2
1994	29.2
1995	29.2
1996	29.2
1997	25.2
1998	21.2
1999	21.2
2000	21.2
2001	21.2
2002	21.2
2003	18.6
2004	16.1
2005	16.1
2006	15.7
2007	15.7
2008	15.7
2009	15.7

Table C

<b>Year</b>	<b>Aggregate Private Equity Fundraising (\$M)</b>
1980	2,449.3
1981	2,106.9
1982	2,826.4
1983	6,178.8
1984	7,753.4
1985	8,720.0
1986	10,190.1
1987	23,993.0
1988	22,530.3
1989	22,345.1
1990	19,568.5
1991	20,157.2
1992	20,932.0
1993	27,247.3
1994	44,305.3
1995	52,375.8
1996	66,543.1
1997	105,401.9
1998	155,156.2
1999	185,248.9
2000	306,665.6
2001	186,413.1
2002	96,274.5
2003	97,628.3
2004	149,642.6
2005	310,981.5
2006	406,100.5
2007	510,935.2
2008	495,798.8
2009	162,314.5

## STATISTICAL APPENDIX

The presence of autocorrelated residuals would cause the errors estimated in equation (1) to be understated, which could inflate the t ratio and cause the statistical significance of the parameter to be overstated. However, analysis of the residuals suggests that autocorrelation is not present. Chart A provides an autocorrelation plot of the errors. The familiar pattern of a slow decay exhibited by a series with persistent positive autocorrelation is not present, as the autocorrelation is already negative by the second lag. More significantly, using a critical value of  $Z = 2$ , we cannot reject the hypothesis that the residuals are a white noise process under Bartlett's test of autocorrelation. The t ratio for the parameter of interest enjoys a strong presumption of statistical validity.



## ABOUT THE AUTHOR

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Jason Thomas serves as Vice President of Research at the Private Equity Council. Before joining the PEC, Thomas served on the White House staff as Special Assistant to the President for Economic Policy and Director for Policy Development at the National Economic Council. In those capacities, Thomas acted as the NEC's chief economic analyst and the primary adviser to the President for public finance and served as White House liaison to the President's Working Group on Financial Markets.

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