2017 TAX CUTS AND CORPORATE INVESTMENT AND FINANCING DECISIONS: AN EMPIRICAL INVESTIGATION

Rakesh Duggal

Professor of Finance

Southeastern Louisiana University

Hammond, LA 70403

rduggal@selu.edu

985-222-9403

2017 TAX CUTS AND CORPORATE INVESTMENT AND FINANCING DECISIONS: AN EMPIRICAL INVESTIGATION

ABSTRACT

The Tax Cuts and Jobs Act of 1917 (TCJA) amended the Internal Revenue Code of 1986 and significantly lowered the corporate tax rate, in addition to providing other tax incentives to spur corporate investments. The TCJA has the potential to impact corporate cash flows and corporate investment and financing decisions. In response to the TCJA, firms could enhance their capital expenditure budgets, return excess capital to shareholders, and/or hold excess capital for better opportunities in the future. Using S&P 500 firms as a sample, this study finds no statistical difference in the actual corporate taxes paid in the post-and pre-TCJA periods, which may be due to many factors, including earnings management and a new tax on multinationals' foreign income. Regardless, U.S. corporations significantly increased their capital expenditures following the tax cuts. Although this finding is consistent with the Act's intent, higher capital expenditures coincided with higher borrowing and higher dividend payments and share repurchases, implying that both investments and repurchases were primarily debt financed. Overall, the study finds significant changes in corporate investment and financing behavior after the TCJA of 2017.

INTRODUCTION

Public Law No. 115-97 (initially introduced in the House of Representatives as the Tax Cuts and Jobs Act or TCJA) passed by Congress in 2017 has significantly revised the Internal Revenue Code of 1986. In particular, the corporate tax rate has been reduced from 35% to 21%, providing significant tax savings for corporations. In addition, the Act allows for most tangible property purchased after September 27, 2017 and before January 1, 2023 to be fully expensed during the first tax year of use. Tangible property acquired during tax years beginning in 2023 will be 80% deductible in that tax year, scaling down 20% each year, with no special expensing provided for 2027 and later years (TCJA, 2017).

The act is intended to make U.S. firms globally more competitive, by leaving more cash flows in the hands of corporations to invest for greater economic growth and employment. Although the annual benefit from the tax cuts may be significant, it is not clear how firms will us this tax windfall. Firms, in general, have three options: 1) Invest in those marginal projects that were earlier rejected but have since become value enhancing due to the lower tax rate. 2) Reduce the size of the balance sheet by reducing total debt and/or shareholders' equity. 3) Hold cash, in the absence of any positive net present value (NPV) projects, and wait for better opportunities. The above options are not mutually exclusive: A firm, for example, could use some of the funds to expand its budget for capital expenditures and for reductions in loans and shareholders' equity, while keeping the remainder for future use. Media coverage of the TCJA indicates that the tax cuts have not resulted in increased capital expenditures (Forbes, 2018). Thus, the impact of the TCJA on corporate investment and financing decisions is an empirical question.

Each of the three options previously described can potentially create or destroy value, depending on the characteristics of the firms involved. For example, many studies have reported a positive stock price reaction to capital expenditure increases (McConnell and Muscarella, 1985; Vafeas and Shenoy, 2005; Chung, Wright, and Charoenwang, 1998). However, capital expenditures motivated by agency reasons can destroy value (Titman, Wei, and Xie, 2004). Likewise, debt reduction and share repurchase announcements are generally viewed positively by investors (Cai and Zhang, 2009, Vermaelen, 1981, Comment and Jarrell, 1991, Peyer and Vermaelen, (2009). Debt reductions may provide more financial flexibility to the firms in future time periods and share repurchases, by returning excess capital to shareholders, provide assurance that managers are not wasting excess capital in value-reducing activities. However, firms can also create value by borrowing more to reach their target leverage or to take on positive NPV projects (Hull, 1999; Denis and McKeon, 2012). Finally, firms can create long-term value by holding cash and waiting for better future opportunities (Mikhail Simutin, 2010). However, corporate cash hoardings have also been reported as wealth destroying (Lee and Powell, 2011),

This study focuses on corporate decision-making in the wake of the tax cuts and the study's findings should be of interest to both policy makers and investors. The study attempts to determine the impact of the TCJA on corporate taxes. More importantly, the study attempts to answer the questions of whether the tax cuts were associated with higher capital expenditures in the 2018-2019 period, as intended by the lawmakers, or whether firms found alternative uses for the excess cash flows, such as dividend payments and share repurchases.

LITERATURE REVIEW

The marginal tax rate on corporate income in the U.S. was as low as 1% during 1909-1915 and as high as 53% during 1946-1949 (Tax Foundation, 2020), yet it appears that there is no consensus on the precise impact of corporate tax rates on investments, productivity, and economic growth For example, while the Council of Economic Advisors (2017), citing many studies, argued in favor of the tax cuts to promote higher capital investments and wages, Bivens and Blair (2018), using data from multiple countries with different corporate tax rates, showed a positive relationship between tax rates and capital employed per unit of labor. At the micro level, a lower corporate tax rate, by lowering the firm's cost of capital, should result in enhanced capital expenditures; however, the tax rate is just one of many factors impacting the firm's investment decisions, and other factors such as economic uncertainty also play an important role, at least in the short run.

Capital Expenditures and Firm Value

Finance literature is rich in research on how firms may deploy cash flows for shareholder wealth maximization or managerial entrenchment. Firms are expected to use some optimal debt-equity mix and invest the funds in value-enhancing projects. Early research attempted to determine market's response to information on capital expenditures. McConnell and Muscarella (1985) investigated whether announced changes in capital expenditures from the previous year were viewed positively or negatively by investors. The authors found that the market reaction

was positive when the change in capital expenditures was positive. The authors conjectured that the market response was caused by the enhanced or diminished future investment opportunities. McConnell and Muscarella did not use information on specific projects but focused on the level of capital expenditures relative to the previous year. Later research on capital expenditures dove into specific types of capital expenditures and firm characteristics to better understand and separate wealth enhancing capital expenditures from wealth destroying capital expenditures. Chan, Martin, and Kensinger (1990) found that increased R&D expenditures were associated with higher announcement period abnormal returns; however, increased R&D expenditures by low-tech firms were associated with significantly negative returns. In a similar vein, Titman Wei, and Xie (2004) reported that firms with greater investment discretion (high free cash flows and low debt ratios) made wealth reducing investments in years when takeovers were less prevalent. Similarly, Vafeas and Shenoy (2005) found that not all increased capital expenditure announcements were wealth enhancing. In particular, the authors found that increased capital expenditures by high free cash flow firms with limited investment opportunities elicited a negative response from the market. Lastly, Kumar and Li (2016) found that firms that invested in enhanced innovative capacity generated higher subsequent cumulative stock returns with a lag.

Capital Structure Changes and Firm Value

In a perfect market, a firm's choice of capital structure is irrelevant (Modigliani and Miller, 1958). In the Modigliani and Miller world, debt/equity issuances (repurchases) have no meaning. A firm's choice of capital structure in the real world, however, is material and impacts the firm's cost of capital in the presence of taxes, financial distress costs, agency costs, and asymmetric information costs. The trade-off theory of capital structure predicts an optimal capital structure that minimizes a firm's cost of capital, a point where the benefit of financial leverage (tax-deductibility of interest expense) and the cost of financial leverage (financial distress) are in perfect balance. Hull (1999) found that the market reaction to capital structure changes were significantly more negative when announced changes moved the firms away from the industry debt-equity averages than when the changes moved the firms closer to the industry norms, thus providing support for the trade-off theory.

According to the asymmetric information theory (Myers and Majluf, 1984), the fact that investors are less informed about the firm's investment opportunities will lead to a negative stock price reaction when managers raise additional financing. This is rational behavior on the part of investors as they try to hedge against the probability that the new issuances are over-valued. This theory predicts that managers will first use retained earnings, then debt, and lastly new equity to finance projects to minimize the costs of asymmetric information. Like Modigliani and Miller, Myers and Majluf predict no single optimal structure – firms will borrow to accept positive NPV projects and repay loans when there are no value enhancing projects. Denis and McKeon (2012) found support for this theory in their study of firms that proactively raised debt levels to meet financial shortfalls even though it meant deviating from their estimated target debt ratios for years.

Dividend payments and share repurchases not only change a firm's capital structure, but they also prevent wasteful investments by removing excess capital from the firm (Jensen, 1986). Early studies on dividend changes reported a positive relation between dividend changes and future profitability (Nissim and Ziv, 2001). Early studies on share repurchases focused on the effect of the changes in financial leverage on equity values and reported a positive relation between the two. For example, Masulis (1980) found a positive impact of debt for equity exchanges on the equity values of these firms. Both Dann (1981) and Vermaelen (1981) reported positive announcement period stock price gains for firms announcing share repurchases. As with capital expenditures, research on financial leverage and share buybacks also became more nuanced as researchers analyzed share buyback announcements by the announcing firms' characteristics

Managers may be motivated by selfish reasons to repurchase company stock as repurchases increase earnings per share (EPS), which may lead to higher rewards for managers. Almeida, Fos, and Kronlund (2016) found that firms were more likely to use repurchases when they were going to miss the EPS forecast. These repurchases were found to result in lower investments and employment in subsequent periods. On the other hand, repurchases can prevent managers from destroying value by removing free cash flows from managers' control (Jensen, 1986). Steven and Weisbach (1998) reported that repurchases were positively related to the level of free cash flows with the repurchasing firms. Grullon and Michaely (2004) reported that repurchases were more wealth enhancing for firms that were more likely to overinvest. Furthermore, repurchases may be signals from managers that the firm is undervalued (e.g., Vermaelen, 1981, 1984; Miller and Rock, 1985; Ofer and Thakor, 1987; Constantinides and Grundy, 1989). Stephens and Weisbach (1998) and D'Mello and Shroff (2000) reported evidence confirming the undervaluation hypothesis. Baker and Wurgler (2002), in their market timing theory, also use the equity undervaluation argument that motivates managers to repurchase their stock.

Cash Hoarding and Firm Value

Firms hold cash for a variety of reasons including making timely payments, having backup liquidity, and planning/waiting for investment opportunities. Firms approaching the mature stage of business are expected to initiate dividend payments as well as share repurchase programs to distribute excess capital to their owners. Mikhail Simutin (2010) found that excess cash holding was a proxy for risky opportunities: Cash rich firms, while earning a lower rate in the present, invested more in future time periods and earned a higher future return. Lee and Powell (2011) divided their sample of Australian firms into transient excess cash firms and persistent excess cash firms and found that the former earned consistently higher risk-adjusted returns than the latter.

STUDY QUESTIONS AND DESIGN

This study attempts to understand U.S. corporations' investment and financing decisions in the wake of the corporate tax cuts of 2017. The study examines corporate capital expenditures,

total debt levels, net share repurchases, and cash holdings in the pre- and post-TCJA periods to understand corporate decision-making in response to the tax cuts.

For the sample, the study uses S&P 500 firms as these are the largest firms representing eleven different industries. Three industries, namely, utilities, financials, and real estate investment trusts, were excluded as these industries lack operating and financial flexibility enjoyed by unregulated businesses. Financial data were gathered from Bloomberg. In particular, information was gathered on cash taxes paid (CF_CASH_PAID_FOR_TAX), corporate investments (annual change in GROSS_FIXED_ASSETS), share repurchases (NET_REPURCHASES), dividend payments (CF_DVD_PAID), current assets (BS_CURRENT_ASSET), cash and short-term investments (CASH_&_ST_INVESTMENTS), and total debt (SHORT_AND_LONG_TERM_DEBT) for the 2015-2019 period. The average value for each variable for each firm for 2015-2016 (pre-TCJA period) was computed and subtracted from the average value for 2018-2019 (post-TCJA period). The change in each variable's value was averaged across the sample firms and a t-statistic was calculated by dividing the mean value by the standard error of the mean value (standard deviation of the mean value/$\sqrt{n}$, where n varied from 334 to 370, depending on data availability).

FINDINGS

First, this study estimated the dollar amount of tax benefit due to the lower corporate tax rate. Since the main provisions of the TCJA became effective on January 1, 2018, information on corporate taxes is available for only one year (i.e. 2018). Table 1 provides information on the mean change in the actual taxes paid (taxes paid for 2018 less the average taxes for 2015-2016) by S&P 500 firms. For the entire sample, the average tax paid in 2018 was higher by about $14 million than the pre-TCJA period but this change is statistically insignificant. The consumer discretionary industry paid significantly more taxes (about $259 million) and the energy industry paid significantly less taxes (about -$1.7 billion) in the post-TCJA period. The changes for all other industries are insignificant at the conventional confidence levels. There could be many reasons why the 2018 data do not show a significant tax reduction for the average firm. First, there is evidence that firms shift their earnings to reduce taxes. For example, Guenther (1994) found that firms, in response to the 1986 Tax Reform Act, significantly reduced their current accruals (accounts receivable and accrued payables) in the year prior to the tax rate reduction to move their incomes to the following year to lower their taxes. Klassen, Lang, and Wolfson (1993) found evidence on how multinationals moved their incomes to the U.S. in 1986-87 as a result of the lowering of the U.S. tax rates in 1986. Second, a tax law change affecting multinationals may be partly responsible for the increase in the 2018 corporate taxes. Before the TCJA, global earnings of U.S.-based companies were taxed but taxes were deferred until the earnings were repatriated. Under the TCJA, a U. S. parent firm generally must pay an immediate U. S. income tax at a 10.5% rate (the rate will increase to 13.1% after 2025) on profits of its foreign subsidiaries related to intangible assets. For profits on tangible depreciable assets, the tax bill allows firms to have tax-free treatment for a portion of their foreign income up to a reasonable amount of return. Half of the remainder is taxed at the parent's rate. Finally, the continuing economic expansion may also explain higher tax collections on higher corporate

income. The impact of the TCJA on corporate taxes will become clearer as more data become available.

Table 1

Mean Changes in Corporate Taxes in the Post-TCJA Period for S&P 500 Industries

(In Millions of Dollars)

S&P 500 Industry	Mean Change in Taxes Paid (t-value)
All S&P 500 Industries[1]	$14.06 (0.14)
Communications	$412.14 (0.58)
Discretionary	$259.04 (2.53**)
Staples	-$90.91 (-0.22)
Energy	-$1,666.22 (-3.15**)
Healthcare	$186.39 (1.10)
Industrial	$233.02 (0.92)
Information Tech.	$29.06 (0.23)
Materials	-$85.78 (-0.49)

[1]Excluding three industries, financials, REITs, and utilities.

**Significant at the 1% confidence level.

The lower corporate tax rate coupled with the ability to immediately expense an investment in tangible property should enhance the present value of the after-tax project cash flows, thus converting at least some previously negative NPV projects into positive NPV projects. However, corporate managers may be reluctant to make large capital investments if they perceive an uncertain economic future, thus leading to insignificant changes in investments. Table 2 displays information on mean changes in gross fixed assets, current assets, and cash and short-term investments between the pre- and post-TCJA periods.

Table 2

Mean Changes in Asset Values in the Post-TCJA Period for S&P 500 Industries

(In Millions of Dollars)

S&P 500 Industry	Mean Change in Gross Fixed Assets (t-value) (I)	Mean Change in Current Assets (t-value) (II)	Mean Change in Cash and Short-Term Investments (t-value) (III)
All S&P 500 Industries[1]	$1,073.84 (5.46**)	$1,465.89 (3.82**)	$82.59 (0.31)
Communications	$3,872.05 (2.42*)	$7,677.80 (2.93**)	-$1,180.5 (-0.55)
Discretionary	$1,368.31 (2.64**)	$1,642.90 (2.20*)	$443.27 (1.04)
Staples	$691.93 (2.73**)	-$483.16 (-0.83)	-$775.48 (-1.66)
Energy	$3,299.63 (1.97*)	$1,057.23 (1.29)	-$438.95 (-0.96)
Healthcare	$606.63 (2.90**)	$1,664.03 (2.22*)	$47.08 (0.07)
Industrial	$284.69 (1.74)	$602.08 (0.71)	-$347.38 (-1.02)
Information Tech.	$351.60 (1.55)	$616.94 (0.59)	-$571.50 (-0.69)
Materials	$1,329.15 (2.01*)	$1,858.38 (1.37)	-$256.54 (-1.27)

[1]Excluding three industries, financials, REITs, and utilities.

*Significant at the 5% confidence level.

**Significant at the 1% confidence level.

As compared to the 2015-2016 period, S&P 500 firms significantly increased their capital expenditures in 2018-2019 (Column I). The mean change is about $1 billion, which is statistically significant at the 1% confidence level. Furthermore, it does not appear that the above result was driven by one or two industries. Capital expenditures increased in all eight industries. The increase is highly significant for six of the eight industries. For the industrials and information technology firms, the change is marginally significant at the 10% level in a one-tail test. Barring the possibility that these capital expenditure increases were planned before the TCJA, the tax cuts appear to be associated with significant capital expenditure increases across all industries.

Increases in long-term investments also require greater investments in working capital accounts, such as inventories and accounts receivable, to support higher anticipated sales. Column (II) of Table 2 shows that the average value of current assets increased by approximately $1.5 billion, a significant change at the 1% confidence level. All industries except consumer staples saw increases in current assets. However, this increase was statistically significant for only three industries, communications, consumer discretionary, and healthcare. Since cash and short-term investments are part of current assets, it is possible that the increases in current assets

were caused by increases in cash and short-term investments, implying that firms were hoarding at least some cash, perhaps waiting for a more opportune time to invest. Column (III), however, shows this not to be the case. Firms on average held about $83 million more in cash and short-term investments in the post-TCJA period but this change is statistically insignificant. It is important to note that all industries except consumer discretionary and healthcare saw declines in cash and short-term investments, although none of the changes are significant, so it appears that tax cuts were not associated with higher corporate cash balances in the post-TCJA period. This finding is consistent with the view that hoarding cash, especially by large firms, may be difficult as these firms face scrutiny from shareholder activists, who, fearing wasteful investments by managers, demand all excess capital to be distributed via dividends/share buybacks. Such firms also face criticism from governments and may also become takeover targets for their cash stockpiles.

Next, this study addresses the question of whether the tax cuts were also associated with changes on the financing side of the balance sheet. More specifically, firms could use the excess funds to pay off some loans or to increase dividends/share repurchases. Table 3 contains post-TCJA changes for three variables, total debt, dividend payments, and share repurchases for S&P 500 firms.

Table 3

Mean Changes in Financing Accounts in the Post-TCJA Period for S&P 500 Industries

(In Millions of Dollars)

S&P 500 Industry	Mean Change in Total Debt (t-value) (I)	Mean Change in Dividend Payments (t-value) (II)	Mean Change in Share Repurchases (t-value) (III)
All S&P 500 Industries[1]	$2,642.43 (6.11**)	$194.94 (4.66**)	$471.31 (2.16*)
Communications	$11,012.54 (3.39**)	$871.92 (2.04*)	$1,159.61 (1.06)
Discretionary	$3,379.44 (3.54**)	$86.10 (2.14*)	$89.19 (0.44)
Staples	$2,481.23 (3.45**)	$124.12 (1.52)	-$316.53 (-1.78)
Energy	$689.50 (0.56)	$143.21 (1.35)	$647.19 (1.48)
Healthcare	$3,467.60 (2.96**)	$210.34 (3.49**)	$507.89 (1.54)
Industrial	$1,170,44 (1.05)	$44.76 (0.45)	-$265.87 (-0.69)
Information Tech.	$1,503.74 (2.90**)	$272.40 (5.31**)	$1,877.44 (2.01*)
Materials	$340.19 (0.53)	$73.53 (2.53**)	$15.42 (0.16)

[1]Excluding three industries, financial, REITs, and utilities.

*Significant at the 5% confidence level.

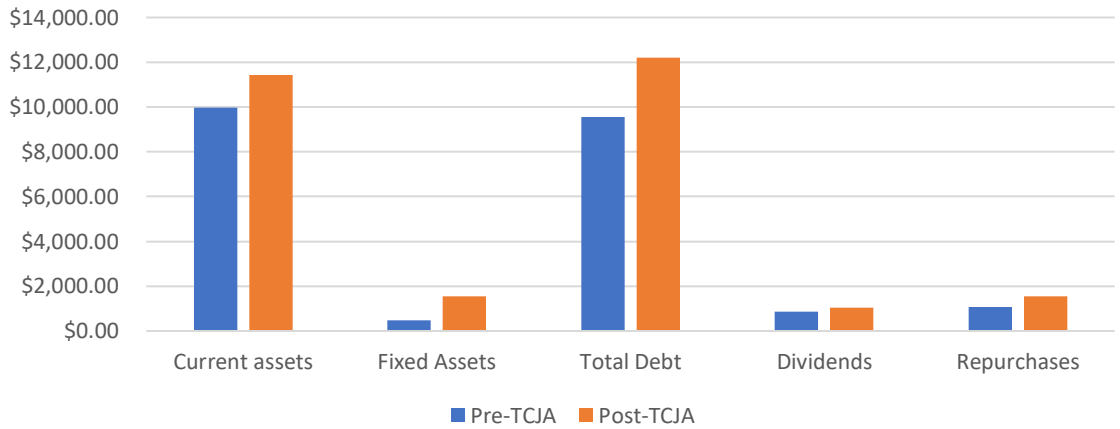
**Significant at the 1% confidence level.

Column (1) shows that S&P 500 firms on average increased their total debt (the sum of short-term and long-term debt) by about $2.6 billion in the post-TCJA period. This increase is statistically significant at the 1% confidence level. Five of the eight industries show significant increases in total debt. Three industries, energy, industrials, and materials show debt increases that are statistically insignificant. Firms increased dividend payments by an average of about $195 million (column (II)) and share repurchases by an average of about $471 million (column III), both these changes being statistically significant at the 1% confidence level. It should be noted that while all industries saw dividend increases, the increases are significant for only five of the eight industries. As far as share repurchases, two industries, consumer staples and industrials saw insignificant reductions in the post-TCJA period, while the information technology industry was the only industry that significantly increased share repurchases.

In conclusion, it appears that the tax cuts announced during an on-going multiyear economic expansion created more investment opportunities for businesses, who decided to finance these investments mainly with borrowed funds, while reducing shareholders' equity through increased dividends and share repurchases.

Figure 1 displays the post-TCJA changes in corporate investments and financing decisions.

FIGURE 1
Mean Investment and Financing Values Before and After TCJA
(In Millions of Dollars)



SUMMARY AND CONCLUSION

Using S&P 500 firms as a sample, this study examines the corporate investment and financing decisions in the wake of the Tax Cuts and Jobs Act of 2017. The study finds that corporate capital expenditures increased significantly in 2018-2019. However, corporations also took on significantly more debt, while simultaneously increasing dividends and share repurchases. There is no evidence that firms were hoarding cash.

REFERENCES

Almeida, H., Fos, V., & Kronlund, M. (2016). The Real Effects of Share Repurchases. *Journal of Financial Economics,* 119, 168-185.

Baker, M., & Wurgler, J. (2002). Market Timing and Capital Structure. *Journal of Finance*,57, 1–32.

Bivens, J., & Blair, H. (2018). The Likely Economic Effects of the Tax Cuts and Jobs Act (TCJA). Economic Policy Institute. https://www.epi.org/publication/the-likely-economic-effects-of-the-tax-cuts-and-jobs-act-tcja-higher-incomes-for-the-top-no-discernible-effect-on-wage-growth-for-typical-american-workers/. Retrieved June 5, 2020.

Cai, J., & Zhang, Z. (2011) Leverage Change, Debt Overhang, and Stock Prices. *Journal of Corporate Finance,* 17, 391-402.

Chan, D. H, Martin, J. D., & Kensinger, J. W. (1990). Corporate Research and Development Expenditures and Share Value. *Journal of Financial Economics*, 26, 256-270.

Chung, K. H., Wright, P., & Charoenwong, C. (1998) Investment Opportunities and Market Reaction to Capital Expenditure Decisions. *Journal f Banking and Finance*, 22, 41-60.

Comment, R., & Jarrell, G. A. (1991). The Relative Signaling Power of Dutch-auction and Fixed-price Self-tender Offers and Open Market Share Repurchases. *Journal of Finance,* 46: 1243-1271.

Constantinides, G.M., & Grundy, B.D. (1989). Optimal Investment with Stock Repurchase and Financing as Signals. *Review of Financial Studies*, 2, 445-465.

Council of Economic Advisers. (2017). Corporate Tax Reform and Wages, Theory and Evidence. https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/Tax%20Reform%20and%20Wages.pdf . retrieved June 5, 2020.

Dann, L. Y. (1981). Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders. *Journal of Financial Economics,* 9, 113–138.

David, D. J. (2012). Debt Financing and Financial Flexibility: Evidence from Proactive Leverage Increases. *The Review of Financial Studies*, 26, 1897-1929.

D'Mello, R., & Shroff, P. K. (2000). Equity Undervaluation and Decision Related to Repurchase Tender Offers: An Empirical Investigation. *Journal of Finance,* 55: 2399-2424.

Forbes. (2018). Tax Cuts Aren't Delivering What Was Promised: Investments, June 16. https://www.forbes.com/sites/eriksherman/2018/06/16/tax-cuts-arent-delivering-what-was-promised-investment/#4d4ad1aa6dc8. Retrieved June 5, 2020.

Grullon, G., & Michaely, R. (2004). The Information Content of Share Repurchase Program, *Journal of Finance*. 59, 651-680.

Guenther, D. A. (1994). Earnings Management in Response to Corporate Tax Rate Changes: Evidence from the 1986 Tax Reform Act. *Accounting Review*, 69, 230-243.

Hull, R. M. (1999). Leverage Ratios, Industry Norms, and Stock Price Reaction: An Empirical Investigation of Stock-for-Debt Transactions. *Financial Management*, 28, 32-45.

Jensen, M. C., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure. *Journal of Financial Economics*, 3, 305–360.

Jensen, M. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. AEA Papers and Proceedings,76, 323–29

Klassen, K., Lang, M., & and Wolfson, M. (1993). Geographic Income shifting by Multinational Corporations in Response to Tax Rate Changes. *Journal of Accounting Research*, 141-173.

Kumar, P., & Li, D. (2016). Capital Investment, Innovative Capacity, and Stock Returns, *Journal of Finance*. 71, 2059-2054.

Lee, E., & Powell, R. (2011). Excess Cash Holdings and Shareholder Value. *Accounting and Finance*, 51, 549-574.

Masulis, R. W. (1980). The Effects of Capital Structure Change on Security Prices: A Study of Exchange Offers. *Journal of Financial Economics*, 8, 139–178.

McConnel, J. J., & Muscarella, C. J. (1985). Corporate Capital Expenditure Decisions and the Market Value of the Firm. *Journal of Financial Economics*, 14, 399–422.

Miller, M.H., & Rock, K. (1985). Dividend Policy under Asymmetric Information. *Journal of Finance*, 40, 1031-1051.

Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance, and the Theory of Investment. *American Economic Review*, 48, 261–297.

Meyers, S. C., & Majluf, N. S. (1984). Corporate Financing and Investment Decisions When Firms have Information That Investors Do Not Have. *Journal of Financial Economics*, 13, 187–221.

Nissim, D., & Ziv, A. (2001). Dividend Changes and Future Profitability. *Journal of Finance*, 6, 211-2134.

Ofer, A.R., & Thakor, A. V. (1987). A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends. *Journal of Finance*, 42: 365-394.

Peyer, U., & Vermaelen, T. (2009). The Nature and Persistence of Buyback Anomalies. *Review of Financial Studies*, 22: 1693-1.745.

Simutin, M. (2010). Excess Cash and Stock Returns. *Financial Management*, 3, 1197-1222.

Stephens, C. P., & Weisbach, M. S. (1998). Actual Share Reacquisitions in Open-Market Repurchase Programs. *Journal of Finance,* 53: 313-333

Tax Foundation, Federal Corporate Income Tax Rates, Income years 1909-2012. https://taxfoundation.org/federal-corporate-income-tax-rates-income-years-1909-2012/.Retrieved February 15, 2020.

TCJA. (2017). https://www.congress.gov/bill/115th-congress/house-bill/1/text. Retrieved February 15, 2020.

Titman, S., Wei, K. C. J., & Xie, F. X. (2004). Capital Investments and Stock Returns. *Journal of Financial and Quantitative Analysis*, 39(4): 677–700.

Vafeas, N., & Shenoy, C. (2005). An Empirical Investigation of Capital Expenditure Announcements. *Applied Economics Letters*, 12, 907-911.

Vermaelen, T. (1981). Common Stock Repurchases and Market Signaling: An Empirical Study. *Journal of Financial Economics,* 9, 139–183.

Vermaelen, T. (1984). Repurchase Tender Offers, Signaling, and Managerial Incentives. *Journal of Financial and Quantitative Analysis*, 19, 163-181.