

HEARING BEFORE THE SUBCOMMITTEE ON INVESTOR PROTECTION,  
ENTREPRENEURSHIP, AND CAPITAL MARKETS OF THE COMMITTEE ON  
FINANCIAL SERVICES OF THE UNITED STATES HOUSE OF REPRESENTATIVES

Examining Corporate Priorities: The Impact of Stock Buybacks on Workers,  
Communities, and Investment

Testimony of Craig M. Lewis  
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Chairwoman Maloney, Ranking Member Huizenga, and Members of the Subcommittee:

Thank you for inviting me to appear today to discuss corporate priorities as they relate to share repurchase program, workers, communities, and investment. I am the Madison S. Wigginton Professor of Finance at Vanderbilt University's Owen Graduate School of Management and a Professor of Law at the Vanderbilt School of Law. I have been on the faculty since 1987. From 2011 to 2014, I served as the Director of the Division of Economic and Risk Analysis and Chief Economist at the SEC.

## 1. General

The House Financial Services Committee is considering a number of regulatory initiatives designed to reduce or even eliminate the ability of corporations to repurchase shares. I discuss the economic substance of share repurchase programs and argue that share repurchases, or "stock buybacks," represent a highly efficient way to distribute cash to shareholders, and when compared to ordinary dividends, represent nothing more than an alternative mechanism for public corporations to distribute cash to shareholders.

As to my background, I helped develop the SEC's current approach that is used to evaluate the economic effects of rulemakings, and it is through that lens that I have made my comments.<sup>1</sup> To paraphrase the SEC's current guidance, a key requirement of any proposed rulemaking is the identification of the need for regulatory action and how the proposed rule will meet that need. An integral part of an economic analysis is to begin by identifying the "baseline." I will focus my remarks on the current baseline as a means to identify the main economic effects of stock buyback programs.

There are four House Bills under consideration: the Reward Work Act, the Stock Buyback Reform and Worker Dividend Act of 2019, the Stock Buyback Disclosure Improvement Act of 2019, and a fourth Stock Buyback Disclosure Bill. All of these rules reflect an implicit perspective that share repurchase programs represent a market failure that cannot be resolved through private action. Opponents of share buyback programs typically argue that they: 1) artificially inflate share price, 2) crowd out investment, 3) result from managerial short-termism, and 4) disproportionately benefit the wealthy and corporate insiders. I argue that these conjectures are either not supported by empirical analysis or are based on misconceptions about the how share repurchase programs actually operate.

I begin by characterizing the economic substance of share repurchase programs.<sup>2</sup> Although similar to ordinary dividends, share repurchases differ in several important ways. The most compelling examples include: 1) their ability to signal undervalued share price, 2) their role as a

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<sup>1</sup> Division of Risk, Strategy, and Financial Innovation and the Office of the General Counsel, "Current Guidance on Economic Analysis in SEC Rulemakings," March 16, 2012, [https://www.sec.gov/divisions/riskfin/rsfi\\_guidance\\_econ\\_analy\\_seculemaking.pdf](https://www.sec.gov/divisions/riskfin/rsfi_guidance_econ_analy_seculemaking.pdf)

<sup>2</sup> Parts of my analysis are derived from Lewis (2018), which was a white paper commissioned by the Association of Mature American Citizens.

mechanism for distributing *excess* cash, 3) individual income tax advantages, and 4) reallocation effects.

- *Signaling undervalued share price.* In general, the announcement of share repurchase programs is associated with share price increases of approximately 2%.<sup>3</sup> The positive wealth effects are typically attributed to management trying (and succeeding) to signal that their firms are undervalued.<sup>4</sup> Stock buyback programs are viewed as credible signals to investors because managers typically hold non-trivial ownership stakes and would not personally benefit from overpayment. By having the firm repurchase shares at what they believe to be “fair” prices, management is effectively “putting its money where its mouths is.”
- *Distributing excess cash reserves.* Investors have a tendency to view share repurchases as discretionary payments and ordinary dividends as non-discretionary obligations. In other words, when a firm announces a share repurchase program, investors do not interpret it as a long-term commitment. By contrast, once a firm begins paying ordinary dividends, investors expect them to continue to pay them, and will punish firms that cut dividends. For example, Dielman and Oppenheimer (1984) find that firms cutting dividends by more than 25% or omitting dividends entirely respectively experience abnormal returns of -7.7% and -8.1% on the announcement date. Given the downside risk associated with a dividend cut, firms respond by treating ordinary dividends as though they are just as important as new investment.<sup>5</sup>

The other relevant consideration is that regardless of whether a firm elects to distribute past earnings as dividends, share repurchases, or if it chooses to let them to accumulate as cash on the balance sheet, earnings represent the return to the capital that shareholders put at risk. In a well-functioning capital market, the price that investors pay for future earnings reflects a fair rate of return for the risk they bear.

- *Individual income tax advantages.* Share repurchase programs confer significant tax advantages to shareholders relative to ordinary dividends. Ordinary dividends and long-term capital gains from the sale of shares (the difference between the sale price and the shareholder’s tax basis) both qualify for a lower federal tax rate. When a shareholder receives an ordinary dividend, tax is due immediately and without regard to whether the shareholder has cash to pay the tax. By contrast, any additional value resulting from a

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<sup>3</sup> Brav, Graham, Harvey, and Michaely (BGHM, 2005) survey 384 CEOs and report that 86.4% of all CEOs agree or strongly agree that they are able to time share repurchases to coincide with periods when stock is undervalued. Papers by Dann (1981), Vermaelen (1981, 1984), Asquith and Mullins (1986), Comment and Jarrel (1991), Ikenberry, Lakonishok, and Vermaelen (1995), Stephens and Weisbach (1998), Grullon and Michaely (2004), and Bhattacharya and Jacobsen (2018) all report consistently positive announcement date returns. More recently, SEC Commissioner Robert Jackson’s office released a study (2018b) that documents an abnormal announcement date return of 1.17%. This reverses a previous 20-day cumulative abnormal return of -1.39%.

<sup>4</sup> By contrast, dividends appear to be perceived by investors as regularly scheduled announcements that are designed to convey management’s on-going assessment of future profitability.

<sup>5</sup> Brav, Graham, Harvey, and Michaely (BGHM, 2005) survey 384 CEOs and find that “maintaining the dividend level is on par with investment decisions, while repurchases are made out of residual cash flow after investment spending.”

share repurchase program is taxable only to those shareholders that elect to sell their shares, who then pay capital gains taxes.

- *Reallocation effects.* Another point that is often overlooked in the share repurchase debate is that the cash paid to shareholders does not disappear. Investors selling shares either spend the cash received on goods and services or reinvest it elsewhere. The reallocation of capital into consumption and other investments potentially redirects it to activities that have higher value than incremental investments available to firms. In the long-run, this stimulates growth and creates better jobs than would be possible if firms were to make suboptimal investments simply because the cash was available.

These explanations contrast sharply with critics who view stock buybacks as financial gimmicks, primarily aimed at “artificially” inflating share price. Consider Senator Elizabeth Warren’s comment that, “*stock buybacks create a sugar high for the corporations. It boosts prices in the short run, but the real way to boost value of a corporation is to invest in the future, and they are not doing that.*” Senator Warren’s quote is instructive because it highlights many of the misconceptions shared by critics of share repurchases.

- *Artificial price inflation.* Investors do, in fact, respond favorably to share repurchase announcements. This has led critics to conjecture that firms can engage in a type of price manipulation wherein they simply announce their intention to initiate share repurchase programs in the hope that prices will rise. This argument fails because it does not consider managerial incentives. When managers hold equity positions in the firms they manage, it would not be in their self-interest to overpay via share repurchase because to do so would subsidize departing shareholders at their expense.<sup>6</sup>

If stock buy-backs are solely designed to artificially inflate valuations, stock prices would be expected to revert to pre-announcement levels once it became clear that higher prices could not be justified on the basis of the available information. The empirical evidence is inconsistent with this conjecture and finds instead that announcement date price increases are permanent.<sup>7</sup>

- *Inadequate future investment.* It is not possible to observe investment opportunities that a firm considered but did not take, yet we can determine whether share repurchases crowd out investment or merely reflect the distribution of excess cash. Contrary to the view that

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<sup>6</sup> Jackson (2018a, 2018b) documents that some managers sell equity when buyback programs are in place. Although his analysis does not consider the size of insider residual equity stakes, many executives retain significant equity positions even after some of them may sell shares, leaving them with no incentive to repurchase shares at artificially inflated prices.

<sup>7</sup> Since firms tend to repurchase shares after stock price declines, managers tend to act in a manner consistent with their beliefs. For example, Jackson (2018b) finds that the 20-day cumulative abnormal return prior to the announcement of a stock buyback program is -1.39%. Studies of stock market reactions to share repurchase programs report positive announcement date returns, indicating that investors react as if they find such announcements to be credible signals of undervaluation. For example, a recent study by Dittmar and Fields (2015) finds positive announcement date returns of 1.87% that do not reverse. Ikenberry, Lakonishok, and Vermaelen (1995) find that the equity of firms initiating repurchase programs outperform a set of peer firms by 12.1% over the next four years.

firms cut back on capital investment to repurchase shares, I find that, on average, firms have been able to invest in new projects, pay dividends, and repurchase shares without constraint. In situations where such firms need additional funds, they are able to access capital markets to obtain the necessary funding. By contrast, firms that do not repurchase shares would be unable to fund new investment from earnings and needed to access capital markets to obtain the necessary funding.

- *Managerial Short-Termism.* There is a widely held belief that pressure by activist shareholders creates managerial incentives to meet short-term goals at the expense of long-term value maximization.<sup>8</sup> Proponents argue that managers frequently respond by repurchasing shares in an attempt to placate disgruntled investors. An analysis by Lazonick (2014) suggests that share repurchases and dividends absorb 91% of net income.<sup>9</sup> Using an appropriately adjusted definition of net income, I report numbers that are much lower. I find that firms only pay 47.10% of adjusted net income as dividends and share repurchases.<sup>10</sup> Moreover, firms are able to retain 36.26% of adjusted net income net of new external financing after investing in productive opportunities, paying ordinary dividends, and repurchasing shares. My estimates are low enough that payments to shareholders would not be expected to significantly impair a firm's ability to focus on long-term decisions.

*Repurchase Plans Disproportionately Benefit the Wealthy.* It has been estimated that approximately one half of US families have direct or indirect investment in the stock market and that the proportion of families with equity exposure are an increasing function of age. Seniors, in particular, rely on equity markets to provide them with the ability to meet threshold spending levels in retirement. For example, a recent study by Brady (2017) examines individual W-2 tax return data and finds that participation and contribution rates for employer-sponsored retirement plans increase with age as individuals become more concerned about retirement. Brady (2017) reports that 68% of individuals aged 55 to 64 are active participants in a retirement plan or have a spouse who is an active participant, and this age group contributes an average of 7.7% of their wages to retirement plans.<sup>11</sup>

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<sup>8</sup> Consider the SEC's recent decision to study the possibility of semi-annual rather quarterly reporting. One of the motivating factors is the perception that managers feel compelled to meet short-term earnings targets rather than focusing on longer-term objectives,

<sup>9</sup> Fried and Wang (2018) find that after controlling for new share issuances and intangible investments, S&P 500 firms only return 46% of net income to shareholders. They base their findings on the observation that the Lazonick (2018) estimates are biased upward because net income does not consider intangible investments in research and development. Although the Fried and Wang (2028) estimates are much lower than Lazonick's, they continue to reflect an upward bias because net income also reflects a deduction for depreciation and amortization – a non-cash expense. In my analysis, I adjust net income by adding back depreciation and amortization *and* research and development expense.

<sup>10</sup> This estimate is obtained from Panel A of Table 1. It is calculated as the difference between Columns (5) and (3), i.e., 64.74%-17.64%.

<sup>11</sup> By contrast, the corresponding participation rate for individuals aged 26 to 34 only is 52% to which they contribute an average of 4.4% of their wages. In a different analysis, the Survey of Income and Program Participation conducted by the U.S. Census Bureau reports that in 2014 seniors (the 65 and over age group) make significant directly investments in stocks and mutual funds. It reports that, on average, seniors hold about 40% of their net worth (\$80,000/\$198,000) in stocks and mutual funds that are invested outside of retirement accounts.

- *Repurchase Plans Disproportionately Benefit Corporate Insiders.* The argument that share repurchases disproportionately benefit corporate managers would only be true if share repurchases were being used to manipulate prices so that they could trade at artificially high levels. Given the discussion presented above, there is no evidence that this is the case. If, instead, share repurchase programs are used to signal “fair” value, investors and corporate insiders are simply realizing benefits that already should have accrued to them.<sup>12</sup>

Regardless of whether executives sell or retain their shares, their wealth is effectively unchanged. If they sell shares in the open market, they receive cash at post-announcement prices. If they hold onto their shares, their investment would have appreciated by the same amount. Not only would executives be indifferent between selling and retaining shares based on price alone, these are the same choices available to every shareholder.

## 2. Do Share Repurchase Programs Constrain Investment?

The short answer is no.

Much of the current debate surrounding share buybacks stems from provisions in the Tax Cuts & Jobs Act of 2017 (TCJA) to tax unrepatriated foreign earnings. To the extent that the repatriation tax frees previously inaccessible cash, one would expect these firms to redeploy excess cash. Reacting to the propensity for firms to repurchase shares with this cash, Dr. Kevin Hassett, the White House’s Chairman of the Council of Economic Advisors, offered the following at a February 2018 press conference:

*“Well, the thing that you have to remember is that we’re starting out with trillions of dollars that were parked overseas. And that trillions of dollars — those monies are*

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<sup>12</sup> A recent speech by SEC Commissioner Robert Jackson (“Stock Buybacks and Corporate Cashouts” (2018a)) discusses the results of an SEC empirical analysis (2018b) that shows managers have a higher propensity to sell shares following the announcement of a share repurchase program. Commissioner Jackson notes that

*“It’s one thing for a corporate board and top executives to decide that a buyback is the right thing to do with the company’s capital. It’s another for them to use that decision as an opportunity to pocket some cash at the expense of the shareholders they have a duty to protect, the workers they employ, or the communities they serve.”*

Although provocative, there are a number of mitigating factors that undermine this assertion. First, the extant empirical evidence suggests that investor reactions to buybacks are permanent rather than transitory. In effect, share repurchase programs help an undervalued stock reflect its true value. Consequently, it shouldn’t matter when executives sell their shares following a buyback. Second, since most equity-based compensation has significant vesting periods, managers that sell their shares may be capturing performance improvements that have helped create. A third factor is the extent to which executives continue to hold significant equity stakes after the repurchase program is completed. A fourth consideration is that the period immediately following the announcement of a stock buyback is likely to be a time when an insider has a clear window within which to sell shares because it can be assumed that the market is fully informed. The decision to sell may simply reflect that this is a period that is free from potential conflicts of interest. Finally, insider sales could be the result of preplanned sales that are part of 10b5-1 plans. The decision to buyback shares ahead of periods where there is a significant amount of “exogenous” sales could reflect actions by the company to provide liquidity to mitigate liquidity-induced price pressure.

*coming home right now and that's a one-time adjustment. And a lot of firms are taking that money and they're paying bonuses, but they're also doing things like increasing dividends and doing share buybacks, which sometimes happens when firms find money."*

The idea that some firms announce share buybacks when they “find” money is hardly surprising. As Dr. Hassett suggests, there are many valid ways to redeploy “found” money. Firms that previously faced financial constraints may optimally increase investment spending. Alternatively, firms that were able to fully invest may not need the cash. For these firms, the decision to return cash to shareholders could be a better choice than retaining it for unspecified corporate purposes.

Excess cash balances are largely the result of the accumulation of retained earnings. Since the TCJA eliminated incentives to retain cash overseas, the uptick in stock buybacks is largely attributable to decisions by firms to make choices about how best to handle cash balances they may no longer need. Policy solutions that are designed to increase the cost of repurchasing shares impose a permanent cost on what is likely to be a transitory phenomenon.

One factor motivating the decision to repurchase shares could be a decision by corporate boards to actively limit managerial discretion over the unspent cash balances. Finance theory suggests that as managerial discretion increases, it becomes easier for managers to take actions that benefit themselves to the detriment of shareholders.<sup>13</sup> One only needs to look at the recent failure of the WeWork initial public offering to understand the importance of limiting managerial discretion. Former CEO, Adam Neuman, was asked to step-down once it became clear that investors were concerned about unprofitable operations and excessive perquisite spending.<sup>14</sup>

One of the most effective way to reduce managerial discretion is to eliminate excess cash balances via stock buybacks.<sup>15</sup> With less available cash, managers are forced to be more selective about investment choices. When cash balances are insufficient to fund new investment, firms must turn to external capital markets and face increased monitoring.

This raises a series of questions – What are the characteristics of firms that repurchase shares? Are they able to finance projects from cash flows? Do they access capital markets? What should firms do with cash that no longer required for investment?

Economic theory argues that new investment should only be taken if new projects are expected to earn returns that exceed the opportunity cost of capital. That is, a firm should only invest in

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<sup>13</sup> These conflicts range from excessive perquisite consumption to empire building. The former describes the fact that managers pay relatively small fractions of the cost of the perquisites they consume. The latter reflects the observation that managerial compensation is typically benchmarked to comparable firms. Since manager salary, benefits and status rises with firm size, managers have incentives to increase firm size, even if projects do not have positive net present value.

<sup>14</sup> Examples of inappropriate use of corporate assets include questionable acquisitions of unrelated businesses, a private jet that Mr. Neuman used to travel between New York and California, the hiring of at least one driver for his Maybach luxury car, and a small spa and ice bath that were reportedly attached to his office.

<sup>15</sup> Jensen (1986) has argued that agency costs of managerial discretion associated with excess cash leads to suboptimal investment.

projects that have positive net present value (NPV).<sup>16</sup> Suboptimal investments - those with negative NPVs - destroy firm value. When firms do not have attractive investment opportunities, repurchasing shares is a sensible alternative to investment in negative net present value projects.<sup>17</sup>

### ***2.1 The empirical evidence of investment by firms that do and do not repurchase shares***

I address this question by examining the investment activity of publicly traded companies over the years 2010 through 2017. Table 1 provides an analysis of gross investment rates (GI) relative to adjusted net income (NI). Gross investment represents the amount spent on capital assets, acquisitions, and research and development expense. Adjusted net income is a measure of the cash generated by operations that could be used by shareholders for investment purposes. I add back research and development expense because it is recognized as an expense for financial reporting purposes even though it is more appropriately viewed as speculative investment in future growth. I also add back depreciation expense because it is a non-cash expense that does not require the use of any funds. Adjusted net income is the amount that could be used to spend on investment, dividends, and share repurchases.<sup>18</sup>

#### ***2.2.1 Uses of cash for firms that repurchase shares***

In Panel A of Table 1, Column (1) indicates that, on average, firms spend 78.04% of adjusted net income on gross investment. While this is a substantial amount, these firms also are active in debt and equity markets. For example, Column (2) shows that net debt issues are used to finance approximately 47% of gross investment ( $47\% = (78.04 - 37.65) / 78.04$ ). This suggests that even though these firms could have financed gross investment from current cash flows, they chose to borrow funds. The decision to borrow may be a reflection of the relatively low interest rate environment that persisted over the sample period. Firms also financed new investment with equity (Column (3)). On average, equity issuances further reduced the impact of new gross investment relative to adjusted net income by 26% ( $26\% = (37.65\% - 17.64\%) / 78.04\%$ ). The yearly numbers indicate that firms were particularly active in equity markets in 2013 and 2014.

Panel A also indicates the fraction of adjusted net income net of new capital that was used for investment and to pay dividends and repurchase shares. Column (4) reports that, on average, firms used 29.35% of adjusted net income to invest and pay ordinary dividends net of net borrowing and equity issuances. This suggests that, on average, firms were able to invest and pay ordinary dividends in a relatively unconstrained manner.

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<sup>16</sup> Net present value is an estimate of the wealth that is created (destroyed) when a projects cash flows are expected to earn more (less) than the opportunity cost of capital.

<sup>17</sup> One could argue that multinational corporations could simply continue to maintain large internal cash balances as a way to hedge against future funding uncertainties. This, of course, would not satisfy critics that would like to see the cash redeployed into new investment “opportunities” nor would it be a particularly effective use of corporate resources. One way to limit managerial discretion concerns is to liquidate excess cash balances by repurchasing shares.

<sup>18</sup> Data is obtained from Calcbench, a data provider that aggregates SEC XBRL filings. I apply several data filters: 1) firms must report revenue greater than 0, 2) firms must report total assets greater than 0, 3) to control for reporting errors, firms must have an end of period stock price greater than \$10 and less than \$2,000, 4) a firm’s market capitalization of equity must exceed \$1.0 million, and 5) adjusted net income must be greater than zero. I replicate the analysis without imposing the adjusted net income constraint and the results are highly similar.



On average, firms use 64.74% of adjusted net income (net of new financing) for new investment and cash payments to shareholders. Given that “repurchase” firms retain 35.26% of adjusted net income, they show no signs of being financially constrained, even after using 35.39% of adjusted net income to repurchase shares (64.74%-29.35%).

The main takeaway is that these firms have the capacity to invest in capital assets, pay dividends, repurchase shares and still have over one-third of adjusted net income remaining for other corporate uses.

### *2.2.2 Uses of cash for firms that do not repurchase shares*

Panel B of Table 1 shows that firms that do not repurchase shares have gross investment levels that exceed adjusted net income. Column (1) reports that, on average, these firms would not be able to invest without accessing external capital markets – the ratio of gross investment to adjusted net income is 115.44%.

“Non-repurchase” firms have a tendency to rely on debt almost as much as firms that repurchase shares. For example, Column 2 of Panel B indicates that they borrow 40.39% of adjusted net income compared to 37.94% for firms that repurchase shares.<sup>19</sup> By contrast, “non-repurchase” firms issue significantly more equity than “repurchase” firms. Column 3 of Panel B finds that new equity issues are 65.91% (77.50%-11.59%) of adjusted net income for “non-repurchase” compared to 20.01% (37.65%-17.64%) for “repurchase” firms. Not surprisingly, firms that issue substantial amounts of new equity are unlikely to repurchase shares at the same time.

## **3. Key Economic Features of Bills Under Consideration**

### *3.1 Bills that are designed to eliminate or constrain stock repurchase programs*

The “Reward Work Act” and the “Stock Buyback Reform and Worker Dividend Act of 2019” are designed to reduce the ability of corporations to repurchase shares. The Reward Work Act calls for the outright prohibition of share repurchase programs. The second bill would require firms that repurchase shares to pay workers an amount proportional to 1-millionth of the amount spent to repurchase shares.

Both bills are based on the premise that if share repurchase programs are curtailed or become more expensive, firms will elect to increase investment in tangible and intangible assets (R&D) and pay workers more. This could happen if firms were to preference distributions to shareholders over investment in positive net present value projects. Given that, on average, firms are able to invest in profitable opportunities, pay dividends, and repurchase shares using a combination of adjusted income and access to capital markets, it is not clear why increasing the incentives to retain cash would lead to more efficient investment. If regulation creates incentives for firms to reinvest rather than distribute excess cash to shareholders, it would likely lead to an overinvestment problem in which firms would make inferior investments that would be unlikely to benefit the economy in the long-run.

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<sup>19</sup> These amounts are calculated as 40.39% (78.04%-37.65%) and 37.94% (115.44%-77.50%), respectively.

### ***3.2 Bills that require enhanced disclosure of share purchase programs***

The Stock Buyback Disclosure Improvement Act of 2019 and a second unnamed Stock Buyback Disclosure Bill are designed to increase transparency around share repurchase programs. The first bill is largely a response to Commissioner Jackson's views regarding executive participation in share repurchase programs. For reasons I note above (see footnote 10), I believe that the underlying research that informs these concerns fails to document a significant market failure.<sup>20</sup>

The second bill seeks to increase mandatory disclosure about the nature and purpose of planned share repurchase programs. This bill includes a requirement that firms must pre-announce a repurchase program 15 days prior to its execution. Since repurchase programs are typically executed over relatively long periods of time, it is unclear what the benefit of a mandatory pre-announcement has relative to the existing 8-K disclosure requirements.

The most surprising aspect of this bill is that the SEC would be required to approve buyback programs before they can be implemented. The decision to require a disclosure-based regulator like the SEC to become involved in financial policy decisions is unprecedented. Not only does the SEC lack the expertise to make such determinations, it is unclear how this serves the Commission tri-partite mission of investor protection, the maintenance of fair, orderly and efficient markets and the facilitation capital formation.

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<sup>20</sup> Although the event-study framework reliably identifies significant stock price reactions on the announcement of material events, the use of cumulative abnormal returns to evaluate long-run stock price performance is not as reliable. Alternative approaches specifically designed to estimate long-run abnormal returns have been developed (buy-and-hold abnormal returns and calendar-portfolio returns), but even these methodologies have a number of econometric limitations that limit their usefulness.

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Table 1. Gross Investment (GI) Rates Relative to Adjusted Net Income (NI), 2010-2017

Year	GI/ NI (1)	(GI - Debt)/ NI (2)	(GI-Cap)/ NI (3)	(GI-Cap+Div)/ NI (4)	(GI-Cap+Pay)/ NI (5)
<i>Panel A. Firms that repurchased shares</i>					
2010	66.30%	49.96%	29.34%	39.59%	68.79%
2011	74.88%	37.99%	15.45%	26.15%	63.46%
2012	76.57%	44.08%	29.74%	42.51%	74.01%
2013	73.69%	30.64%	7.88%	17.50%	49.78%
2014	92.95%	32.75%	6.05%	17.57%	60.51%
2015	82.26%	36.40%	15.26%	29.18%	72.83%
2016	73.41%	37.07%	23.18%	36.14%	70.15%
2017	80.19%	35.73%	17.99%	29.28%	58.51%
All years	78.04%	37.65%	17.64%	29.35%	64.74%

*Panel B. Firms that did not repurchase shares*

2010	88.51%	73.76%	18.95%	30.69%
2011	110.33%	105.25%	57.39%	71.17%
2012	110.89%	73.48%	27.84%	38.17%
2013	116.62%	73.39%	-10.53%	-1.31%
2014	145.21%	79.28%	-25.92%	-14.17%
2015	121.77%	64.11%	-6.85%	6.85%
2016	113.32%	82.13%	16.54%	27.22%
2017	114.07%	72.54%	25.18%	37.03%
All years	115.44%	77.50%	11.59%	23.12%

Gross investment (GI) is defined as the sum of capital expenditures net of capital asset sales, acquisitions net of divestitures, and research and development expense; Net new debt financing (Debt) is defined as the proceeds from the issuance of debt net repayments of debt; net new capital (Cap) is the sum of net new debt plus new equity capital; new equity capital is defined as the sum of the proceeds from the issuance of common stock the issuance of preferred stock, and the sale of treasury shares; ordinary dividends (Div) are defined as payments of dividends to common stock; total cash payouts (pay) are the sum of ordinary dividends and the amount paid to repurchase common stock; adjusted net income (NI) is defined as the sum of reported net income, depreciation expense, and research and development expense. All estimates are winsorized at the 1-percentile and 99-percentile levels.