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To cite this article: Lenore Palladino (2020) Do corporate insiders use stock buybacks for personal gain?, *International Review of Applied Economics*, 34:2, 152-174, DOI: [10.1080/02692171.2019.1707787](https://doi.org/10.1080/02692171.2019.1707787)

To link to this article: <https://doi.org/10.1080/02692171.2019.1707787>



Published online: 16 Jan 2020.



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Do corporate insiders use stock buybacks for personal gain?

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ABSTRACT

This paper investigates the hypothesis of whether corporate insiders sell their own personal shareholdings more frequently when they are executing stock buybacks using corporate funds. I examine transactions for nonfinancial corporations with publicly traded stock from 2005 to 2017, and find that net insider sales of over \$100,000 are nearly twice as common in quarters when stock buybacks are also occurring than in non-buyback quarters. I conduct an empirical analysis of the relationship between stock buybacks insider transactions and find that a ten percent change in stock buybacks is associated with a half-percent change in corporate insiders selling their personal shareholdings, holding the other factors constant. The results suggest that executives may be taking advantage of the regulatory loophole left in the regulation of stock buybacks, and that policymakers should reform the regulations governing stock buybacks and corporate insider share-selling. I offer a set of policy recommendations to reduce the ability of corporate insiders to use stock buybacks for personal gain.

ARTICLE HISTORY

Received 1 July 2019
Accepted 3 December 2019

KEYWORDS

Share repurchases; corporate governance; CEO incentives; insider trading

JEL CLASSIFICATION

G35; G14

1. Introduction

In recent years, corporations have been spending increasing sums of money on stock buybacks. In 2018 alone, corporate executives announced plans to spend over \$1 trillion in buybacks.¹ Stock buybacks² are the practice by which executives use corporate funds – whether borrowed or retained earnings – to repurchase shares of their own stock on the open market, reducing the number of shares available and raising the price of remaining shares.

This study adds to the literature on the problematic use of stock buybacks by analyzing how buyback programs represent an opportunity for corporate insiders to use corporate funds as a means of personal gain. Stock buybacks are justified in the economics and finance literature as the best use of corporate capital when internal uses of funds are exhausted (Edmans, Fang, and Huang 2017). But does corporate management decide to execute buybacks purely in the economic interest of shareholders, or are executives and other corporate insiders also motivated by personal gain?

For stockholders, including CEOs, the jump in stock value from stock buybacks provides a lucrative opportunity to sell their shares at a higher price. Under US securities regulation (Rule 10b-18), executives do not have to disclose exactly when, and for how

much, they execute buybacks. Lazonick (2016b, 17) summarizes clearly the problems that this paper investigates:

The failure of the SEC to require reporting of the precise days on which buybacks are done creates opportunities for senior executives who are in the know to trade on this insider information without being detected ... Stock-based pay gives top executives powerful personal incentives to boost, from quarter to quarter, the stock prices of the companies that employ them. In stock buybacks, these executives have found a potent, and SEC-approved, instrument for stock-market manipulation from which they can personally benefit, even if the stock-price boosts are only temporary.

As a regulatory matter, ‘insider trading’ on inside information is illegal, as corporate insiders are not supposed to be able to use this information at the expense of the corporation for their own personal benefit. But the joint occurrence of stock buybacks and insider transactions³ remains curiously unregulated. Insiders are required to report stock transactions by filing Form 4 with the Securities Exchange Commission (SEC) within two business days of executing a transaction. However, they are not required to report stock buyback executions until the next quarterly filing, and even then, they are only required to report monthly aggregate stock buybacks. Thus, there is a regulatory gap that could allow insiders to execute buybacks at the same time that they sell their own personal shareholdings – trading in the opposite direction of their own corporation – and personally profit.

This paper investigates the hypothesis that buybacks occur more frequently, independent of other factors, when corporate insiders are selling their own personal shareholdings, and finds positive evidence of this phenomenon, lending support to the argument that shareholders are using this regulatory loophole. Transactions for nonfinancial corporations with publicly traded stock from 2005 to 2017 are examined, and I find that net insider sales of over \$100,000 are nearly twice as common in quarters when stock buybacks are also occurring than in non-buyback quarters. I conduct an empirical analysis of the relationship between insider sales and stock buybacks and find that a ten percent change in sales of insider equity holdings is associated with a half-percent change in spending of corporate funds on stock buybacks, holding other factors constant. The findings suggest that executives may be taking advantage of the regulatory loophole left in the regulation of stock buybacks, and that policymakers should reform the regulations governing stock buybacks.⁴

The rest of the paper is organized as follows. Section 1 reviews the rise of managerial stock-based pay and the resulting link between managers’ and shareholders’ incentives. It further provides a brief synopsis of the voluminous literature on stock buybacks, focusing on work that analyzes the relationship between announced and executed stock buybacks and corporate insider transactions. Section 2 describes the data used in this study and provides summary data on the relationship between insider share-selling and stock buybacks. Section 3 describes the methodology for the empirical analysis and provides the results. Section 4 recommends policies given the findings, and Section 5 concludes.

2. Shareholder primacy and the use of stock buybacks

2.1. *The economic theory of the corporation*

Over the past 40 years, the dominant economic theory of the corporation has been ‘shareholder primacy.’ This model posits that shareholders are the only corporate

stakeholders with a variable – or risky – claim on corporate profits, as employees, bondholders, and other stakeholders have fixed claims. In this model, developed by Chicago School law and economics scholars in the 1970s, a corporation is nothing but a ‘nexus of contracts’⁵ embedded in free markets between different groups of stakeholders (Alchian and Demsetz 1972; Jensen and Meckling 1976). As corporations were themselves markets, it followed that they adhered to the ‘fundamental principle of maximizing behavior’ (Jensen and Meckling 1976, 3); tautologically this meant that whatever the current corporate governance model was, it must be optimal, as it was what stakeholders had freely contracted.

It follows that shareholders must have sole governance authority over the firm, in order to discipline corporate management to the ultimate goal of maximizing shareholder value (Friedman 1970). This model replaced an older corporate model in which shareholders were seen as deserving of control because of their ‘ownership’ of the firm – but by the late 1970s it was clear that shareholders no longer exhibited classic ownership characteristics. The shareholder primacy theory developed to replace the postwar ‘managerialist’ model, in which strong managers exerted strong decision-making power over the corporation, and shareholders expected steady dividends but no control rights (Pressman 2008; Hansmann and Kraakman 2000). Manne (1965) broke with the managerialist model, claiming that the threat of hostile takeovers and resulting disciplining of managers by shareholders was ‘the key to true corporate democracy’ (Ireland 2010, 13). By the end of the 1970s, scholars had laid the intellectual grounding that managers are shareholders’ mere agents, and the Reagan administration translated the theory into policy in the 1980s.

Recent scholars have argued that shareholder primacy is a flawed economic theory of the corporation because shareholders are not the only stakeholders making risky investments in the corporation’s success, and should not be the only group with decision-making power (Lazonick 2017). Shareholder primacy became the dominant economic theory of the corporation due to the rising political and economic power of wealthy shareholders and institutional investors (Ireland 2010). Multiple groups of stakeholders are necessary for corporations to be productive: shareholders supply initial capital and keep equity liquid, but employees, suppliers, customers, and public infrastructure are all necessary for corporate success. Employees make risky investments in corporations, investing deeply in firm-specific knowledge with no guarantee of lifelong employment. They bear more risk of bankruptcy or relocation than shareholders, as employees typically have one job, whereas shareholders own a wide variety of stock (Greenfield 2006). The actual practice of corporate governance shows how little connection the vast majority of shareholders have with any given corporation: most household shareholders own shares through an investment company and do not vote their shares. Although it is beyond the scope of this paper to fully develop the stakeholder theory of the corporation, it is worth noting that the key finding of this paper – that corporate insiders are more likely to sell their own personal shares when conducting stock buybacks with corporate funds – does not lead to the conclusion that corporate funds should solely be used to enrich shareholders, but is compatible with a stakeholder theory of the corporation.

2.2. Competing theories of stock buybacks

Spending on stock buybacks has risen steadily for decades and was estimated to reach \$819 billion in 2018 for S&P companies. The pace is not slowing: Goldman Sachs

estimates that executed buybacks will reach \$890 billion in the S&P 500 2019. Over the past 10 years stock buybacks accounted for three-quarters of the corporation profits used by nonfinancial companies (Palladino 2018). The scale of stock buybacks raises the question of what justifies their use, who they benefit, and who they harm.

Stock buybacks are justified by shareholder primacy as an efficient mechanism to 'return' corporate funds to shareholders when there is no other productive use of the funds. There are two types of challenges to this argument. The first is that, assuming shareholder primacy, funds are being used excessively on stock buybacks because of the pressure coming from short-term *sharesellers* who seek short-term profits; other productive uses of the funds are indeed being sacrificed, which will result in declining corporate productivity and a negative impact on long-term shareholders (Lazonick 2014). The second argument, embedded in a stakeholder corporation framework, is that the use of corporate funds on stock buybacks means that those funds are not available for claims from other stakeholder groups, such as employees (Palladino 2018). Not only does this present an opportunity cost problem within corporations, where money that could be spent on workers or innovation is channeled to privileged stakeholders like CEOs and shareholders, it also indicates a larger shift in whom corporate profits benefit. As corporations continue to become more financialized and invest less in capital (human or otherwise) or productive activities, aggregate levels of investment and productivity decline as well. Stakeholders, especially employees, lose out when their ability to bargain for a share of increasing firm profit declines as shareholder payments rise and shareholders gain bargaining power.

It is worth noting that in the Modigliani-Miller theorem of finance, stock buybacks would not raise share prices, as the only determination of firm value comes from operations, not from financing mechanisms. In practice, however, since 1982 corporate executives have steadily increased their use of stock buybacks while dividends have stayed steadier, because stock buybacks offer a simple mechanism to raise share prices and meet Earnings-Per-Share (EPS) targets, a central financial metric to which much executive compensation is tied. It is their ability to raise share prices that do not reflect changes in corporate fundamental value that provides the legal justification for their regulation: the enabling legislation for Rule 10b-18 governs stock market manipulation, and some legal scholars have argued that stock buybacks should be seen as illegal manipulation of stock prices. Companies who are likely to miss their EPS target are more likely to conduct stock buybacks (Almeida, Fos, and Kronlund 2016).

The argument made by proponents of buybacks is that stock buybacks efficiently 'recycle' funds back into the economy when corporations have no more use for corporate funds 'return' the funds to shareholders (presuming that shareholders are the rightful recipients of such funds), who then reinvest those funds elsewhere in the economy by purchasing equity from another corporation that can use the funds to invest (Fried and Wang 2019). They argue that 'buybacks create value by ensuring that surplus capital is not wasted' (Edmans 2017, 2), which leads to higher returns over the long-term.⁶ They further argue that stock buybacks are an effective signal of undervaluation, boosting prices and shareholder value.

The core problem with these arguments is the assumption that shareholders invest directly in the productive capabilities of publicly-traded companies (Lazonick 2016b). The vast majority of shareholders trade in the secondary market, and their funds do not

reach the company. Funds are also flowing out of the public financial markets at a higher rate than they are flowing back 'in' through new equity issuances: more has been spent by companies on stock buybacks than has been spent on new equity over the past two decades (Palladino 2018).

Another frequent justification given by corporate executives for stock buybacks is that their stock is undervalued, and conducting buybacks signals the financial markets to increase stock purchases and view the firm's underlying value more favorably. Numerous studies in the financial economics literature have examined the abnormal returns after buyback programs, finding that, compared to similar corporations not engaged in buybacks, share prices do rise (Grullon and Michaely 2002). This rationale for stock buybacks is even more at odds with the central finding of this paper: that rather than holding onto their own personal shares, corporate insiders are more likely to sell their own shares in the same period as buyback programs.

Regardless of their justification, there is little debate about whom stock buybacks help: they raise share prices for those shareholders who choose to then sell their shares (including those who happen to be corporate insiders). Their harm is more complex. Although net equity issuances (new equity issued minus stock repurchases) have been negative in the nonfinancial corporate sector for nearly 20 years, in theory wealthy shareholders who sell their shares at a higher price as a result of stock buybacks could be reinvesting in corporations whose shares are not publicly traded, giving some justification to the theory of fund 'recycling' to companies that will more effectively use the funds.⁷ If not, then stock buybacks are a mechanism to benefit short-term shareholders at the expense of longer-term shareholders and other corporate stakeholders, because of the productive opportunities lost as a result of stock buybacks as firms devote a high percentage of net income to shareholder payments – that is, stock buybacks and dividends (Lazonick 2014). Numerous studies in financial economics have measured how long 'abnormal' returns to stock (relative to similar firms) are apparent in the wake of stock buybacks, demonstrating that gains do occur for shareholders benefiting from higher stock prices to varying degrees (Bonaime and Ryngaert 2013).

What the findings of 'abnormal' returns and gains to shareholders who choose to sell do not take into account is the counterfactual of how long-term shareholders might have benefited if the corporation had chosen to invest the funds in improving long-term productivity. Numerous studies examine whether there is a correlation between rising shareholder payments and falling productive investment (for example, Lazonick 2017; Mason 2015). The question is whether the correlation between stock buybacks and declining productive investment is causal, as firms could be experiencing a decline in growth opportunities that would occur whether or not they conducted buybacks. Some studies have argued that there is a causal relationship between stock buybacks and decreased investment (Almeida, Fos, and Kronlund 2016; Gutierrez and Phillippon 2017), while others have used alternate methods of measuring shareholder payments and investment to show that there is no decline in investment (Fried and Wang 2018).

2.3. Current regulation of stock buybacks and insider transactions

Secondary trading of equities is governed by the Securities and Exchange Act of 1934 ('the Exchange Act') and includes anti-fraud and anti-manipulative provisions to ensure

the integrity of the capital markets, and to encourage capital formation. The 1982 stock buybacks ‘safe harbor,’ SEC Rule 10b-18, allows corporate executives to execute buybacks without fear of liability for market manipulation as long as they stay within a few broad boundaries. However, the SEC does not presume that stock buybacks that fall outside of these boundaries are therefore market manipulation, nor does it attempt to track when a company’s transactions are outside the confines of the safe harbor. The safe harbor has enabled the explosion of the practice, such that companies authorized over \$1 trillion on stock buybacks in 2018. Before the enactment of the safe harbor, stock buybacks were legal but uncommon, as they exposed companies to the threat of liability for market manipulation.

The SEC stated in its original regulatory release that Rule 10b-18 was intended to prevent abusive ‘purchases designed to support the price of the issuer’s securities in order to assist inside[r]s in disposing of their holdings at or above the pegged price.’⁸ But there has been a marked lack of enforcement of any attempt at manipulation under Rule 10b-18. The SEC ‘has never investigated the use of insider information on the timing of open-market repurchases for personal gain’ (Lazonick 2016b). Stock buybacks have outpaced new equity issuances by nonfinancial corporations for two decades, and are a primary means of using profits to pay shareholders, reducing the ability of other corporate stakeholders to bargain for an increased share of profits (Palladino 2018).

Proposed rulemaking from the 1970s SEC Commissioners provides an alternate way of understanding the impact of stock buybacks on the market. Before the enactment of Rule 10b-18, there were three proposed rulemakings in which Commissioners explained the threats of market manipulation from overuse of stock buybacks, seeking to place bright-line limits and restrict insiders’ transactions during periods of buyback activity. Anti-fraud and anti-manipulation statutes, including Section 9(a)(2) and 10(b) and its promulgating Rule 10(b)5, generally restrict activity in which corporate insiders use information that they have privileged access to for their own personal gain. Buybacks create two kinds of problems under the Exchange Act: whether they can be used to ‘manipulate’ the security price, and whether insiders can use them for unlawful personal benefit.

In the proposed Rule 13(e)-2 of 1973,⁹ the Commission directly addressed the question of handling conflicts of interest that arise when officers and directors are selling or buying securities while at the same time conducting a buyback program. They requested comments on the kind of restrictions or disclosure that should be required. Despite deliberation on different versions of proposed Rule 13(e)2 throughout the 1970s, none was promulgated; the election of Ronald Reagan in 1980 brought in new SEC Commissioners in the early 1980s, and the proposed Rule was dropped. The new rule, Rule 10b-18, was adopted in 1984, and continues to govern open-market share repurchases today. None of the proposed restrictions on corporate insider personal trading during periods of buyback activity made it into the Reagan-era rule, Rule 10b-18. This Rule was called a ‘constructive deregulatory action’ at the time by a Carter-era SEC staff member, which ‘contrasts markedly with past Commission views on the regulation of issuer repurchases’ (Feller and Chamberlain 1984). Unlike the Rule debated in the 1970s, intended to limit potential for manipulation, the purpose of the new Rule was to limit regulation of internal corporate decision-making.

Other rules govern the general use of inside information by officers and directors for their own personal gain. Generally, the law directs corporate insiders, including officers, directors, and large block holders, to abstain from trading or making the information public when they possess material non-public information. The SEC rule 10b5-1 outlines this prohibition explicitly and states that if an individual is ‘aware’ of material non-public information when making a purchase or sale, they are engaging in illegal insider trading. Of course, enforcing such a rule in the context of stock buybacks is inherently difficult because to determine ‘awareness’ one would need to understand when a buyback program was undertaken *vis-à-vis* an insider’s personal trading activity.

2.4. The rise of managerial stock-based pay

One issue that buyback proponents do not address is that buybacks are an effective way to increase the compensation of executive management. The ability of managers to enrich themselves through stock buybacks¹⁰ is dependent on their compensation structure: the proportion of their compensation that is dependent on share value will influence how much personal pecuniary benefit they see from its increase. The rise of stock-based compensation is well-documented, and justified in recent decades by the corporate governance framework of shareholder primacy and agency theory, which seeks to align the interests of corporate management with shareholders, who are purportedly deserving of all value created by the corporation, after fixed compensation has been provided to other stakeholders, including employees, creditors, and taxpayers (Lazonick 2016a). This ‘value-extracting CEO’ rationale rewards senior executives for ‘making decisions that foment speculation and manipulate stock prices.’ (Lazonick 2016b). This argument is in direct contrast to a value-creation-based argument for executive pay, which asks, ‘does executive compensation reflect the success of the company in value creation?’ (Lazonick 2016b; Cable and Vermeulen 2016).

Total compensation of corporate executives is increasingly driven by stock options and stock awards (Lazonick 2016a). Cable and Vermeulen (2016) show that 60 to 80 percent of the total compensation of executives is in the form of stock-based pay tied to stock-price performance. They argue that, instead of tying compensation to the movement of corporate price, the best option is to pay executives a salary. Average CEO pay has risen steadily since the mid-1970s, especially in the 1990s, when annual growth was over 10 percent (Frydman and Saks 2010). Stock options surged in popularity in the 1990s and 2000s after a change in securities regulation allowed corporations to deduct executive compensation from its corporate tax base only if it was ‘performance-based’ and after a 1991 reinterpretation by the SEC and FASB of the rule on short-swing profits from stock options.¹¹

There is a wide variety of problems resulting from the increase in stock-based CEO pay, including the focus on short-term share price appreciation over long-term productivity improvements, and its contribution to rising wealth and income inequality through tax reductions and increased bargaining power for top executives (Piketty, Saez, and Stantcheva 2013). Economists have recognized that stock-based compensation distorts executive incentives, rewarding them for forsaking long-term investment in order to increase short-term stock prices (Holmberg and Umbrecht 2014).¹²

Less widely explored in the CEO pay literature are the incentives for executives to use corporate funds – which they steward – in legal ways that directly benefit themselves. Since the rise of the large business corporations, commentators have recognized the potential for corporate insiders – principally, but not exclusively, management – to seek personal benefit by using corporate funds. The problem of ‘separation of ownership and control’¹³ was first analyzed in detail by Adolf Berle and Gardiner Means in *The Modern Corporation* (1932), in which they devoted considerable attention to the potential for corporate insiders to use stock buybacks for personal enrichment. Writing before the 1933 and 1934 securities laws were enacted, Berle and Means laid down the framework that would guide securities regulation.¹⁴ They noted that ‘The problem of open market operations reaches its most acute stage when the corporate officers themselves are trading; or when the corporation or an affiliate of it itself is buying or selling’ (p. 286).¹⁵ They subsequently argue that immediate disclosure should be required to avoid problems of managers in the market. And because, up until 1982, corporations faced potential liability for market manipulation when conducting stock buybacks, the joint occurrence of stock buybacks and insider selling was a non-issue until recent decades.

Nearly 80 years after the work of Berle and Means, Fried (2005) pointed out the theoretical danger to shareholders when insiders are able to transact while conducting stock buybacks to support the share price. He points to three kinds of potential problems: managers could hoard cash to conduct buybacks timed for their own benefit, when instead they should disperse the cash to shareholders; managers could waste cash on buybacks when instead they should invest it in productive projects; or managers could use stock buybacks instead of dividends because of the personal benefit, even though the transaction costs paid by all shareholders are higher.¹⁶ He describes the potential for managers to use ‘false signaling’ to influence stock prices through announcements before selling their own stock, even when they have no plan to follow through with the repurchase. Because the regulation of stock buybacks leaves managers with considerable opportunity to ‘use low-price buybacks and misleading repurchase program announcements to enrich themselves at others’ expense’ (p. 59). Fried proposed a change in regulatory policy so that corporations would be required to disclose buyback transactions before brokers execute them, preventing insiders from personally profiting. Others have analyzed the incentive to take risks with corporate funds for personal benefit in the financial sector. Crotty (2009) discusses how the rise of bonus compensation in the financial sector became disconnected from actual performance and incentivized highly risky leverage increases using firm funds, with no downside for the corporate insiders making the bets, contributing to the financial crisis and large losses for shareholders and the American public.

2.5. Empirical studies of relationship between stock buybacks and insider transactions

Economist William Lazonick and co-authors have done extensive research on the impact of stock buybacks on the innovation potential of the firm, and the relationship between stock buybacks and executive stock-based pay, as described above. Lazonick describes the fundamental challenge with models of the corporation that prioritize payments to shareholders as the ultimate goal for activity, noting that they lack any theory of ‘innovative

enterprise' (Lazonick 2017), his term for firms' process of developing higher-quality, lower-cost goods and services over time, which is the driver of economic growth. In numerous articles, he documents the shift over the past 40 years from a 'retain-and-reinvest' model for corporate behavior to a 'downsize-and-distribute' orientation, showing how the rise of stock buybacks are a key driver for this major shift. He has documented extensively the relationship between rising stock-based executive compensation and the use of corporate funds for stock buybacks, which motivates the research below. In short, the shift to 'downsize-and-distribute' has been incentivized by the evolution of executive pay (Lazonick 2016a).

A broad body of literature examines the impact of rising stock buybacks on corporate investment and employee compensation. Mason (2015) finds that corporate funds from borrowing and cash flow have been increasingly used for shareholder payments rather than re-investment in the firm's future productivity. He finds that over the past four decades an additional dollar of earnings or borrowing went from being associated with about a 40-cent increase in investment to less than 10 cents, while at the same time shareholder payments more than doubled (although corporate borrowing can rise for productive as well as extractive purposes). Gutierrez and Phillippon (2017) similarly demonstrate that corporate investment is historically weak relative to measures of profitability and valuation, and find that much of the trend is driven by decreased competition and increasing 'short-termism.' Yagan (2015) finds that the 2003 reduction of the dividend tax rate (from 38.6 percent to 15 percent) did not increase corporate investment or employee compensation, but rather caused a spike in payments made to shareholders, through both dividends and stock buybacks. A series of studies by Tomaskovic-Devey and Lin (2013, 2011) examine the relationship between rising shareholder primacy and other contributors to wage stagnation, finding that stock buybacks in particular contribute to stagnant employee compensation. Almeida, Fos, and Kronlund (2016) find that firms are much more likely to conduct stock buybacks when, absent the buybacks, they would have just missed their earnings per share (EPS) forecast. They conclude that corporate managers prioritize utilizing firm funds to hit an EPS target over other uses for those funds, including investment and employment.

2.5.1. Insider transactions and stock buyback program announcements

Several studies investigate the relationship between corporate announcements of stock buyback programs and insider shareholdings and transactions. Cziraki, Lyandres, and Michaely (2018) examine insider transactions around both stock buybacks and seasoned equity offerings (the periodic issuance of new stock for sale to the public after the period of an Initial Public Offering), finding that insiders' net buying increases before open-market share repurchase announcements. Babenko, Tserlukevich, and Vedrashko (2012, 2) also find that positive announcement returns are tied to past insider purchases, hypothesizing that 'large insider purchases before a repurchase announcement indicate that the managers consider the stock to be undervalued,' without investigating whether managers then sell the stock after an executed repurchase, making a personal profit.¹⁷ Jolls (1998) finds that higher levels of stock-option-based compensation encourage managers to choose stock buybacks over dividends as the means of shareholder payments, finding that the level of executive options is over twice as high at firms that choose to use buybacks rather than dividends to pay shareholders.

SEC Commissioner Robert Jackson's office has conducted research into insider transactions immediately following a buyback announcement for US firms in 2017 and 2018, and found that insider sales are much more frequent in the immediate aftermath of a buyback program: in the week after a buyback announcement, executives on average sell five times as much corporate stock as in periods without an announcement (subsequent research found that even when controlling for pre-announcement insider transactions, increased sales by executives are still statistically significant) (Jackson 2018). They also found that, compared to non-announcement periods, twice as many companies have insider transactions during the week following a buyback announcement. They conclude that 'the implications of this evidence for the SEC's work is debatable; the fact that many executives sell significant amounts of stock immediately after they announce a buyback is not'; (Jackson 2019, 3).

2.5.2. Insider transactions & executed buybacks

Several studies look at the same question as the present study, namely at the relationship between insider selling of personal shareholdings and the execution of stock buybacks (as opposed to stock buybacks program announcements). Because stock buybacks only require disclosure on quarterly filings to the SEC, tabulated by month, these studies examine the data per quarter.

Kim and Varaiya examine the 'insider timing hypothesis' for the period of 1991–2000 and find that corporate insiders do increase the net number of shares sold in a fiscal quarter when their corporation is conducting stock buybacks (Kim and Varaiya 2008). They find that 'buyback intensity,' or buybacks over share volume traded, is significantly associated with net selling by corporate insiders. They conclude that this supports their hypothesis that 'open market share repurchases can be unfairly used by insiders' (Kim and Varaiya 2008, 73). Bonaime and Ryngaert (2013) look at the same question for the period of 1989–2007, observing that 'insider selling at the time of repurchase could be viewed as using repurchases to enable management to reduce their holdings at a favorable price by supporting stock price levels' (Bonaime and Ryngaert 2013, 3). They find that share repurchases are most frequently observed at the firm level when insiders are net sellers, even when limiting both metrics to a 'meaningful' level. These studies, concentrated in the finance literature, also explore how the relationship between firm buybacks and insider transactions affects 'abnormal' returns, stock liquidity, and other corporate variables over the medium-run, in a context of rational and efficient markets. They find that the undervaluation-signaling effect often cited as a justification for stock buybacks (analyzed as abnormal returns) is mitigated when stock buybacks are accompanied by corporate insider share-selling.

The foregoing studies use time periods before the changes to Rule 10b-18 in 2003, which increased disclosure requirements for stock buybacks, as described above. The present study adds to the literature by using this more specific data on open-market common share repurchases, as opposed to a broader category of share repurchases for preferred and common stock. It also updates the analysis for the 2000s, which saw the continued increase in the use of stock buybacks to pay shareholders at the expense of other uses for corporate funds.

In order to motivate the empirical analysis, it is useful to observe specific examples in which corporations have high joint levels of buybacks and insider sales. Each of the

examples presented below demonstrates how insiders that sell their shares during a buyback program are reaping the benefits of elevated stock prices while the company foots the bill. The magnitude of the spending is important to note: in all case studies, spending of corporate funds is in the billions, while corporate insiders sold personal shares in the millions. This highlights the issues raised above by Berle and Means (1932) and Fried (2005), but shows that the relationship is far beyond one-to-one. More telling is the fact that these same insiders spend zero dollars to purchase shares of the company they serve during these buyback programs, supporting the argument that their personal gain is not reinvested to contribute to the prosperity of the firm.

- Exxon Mobil – In Q2 of 2008, Exxon Mobil insiders collectively sold \$42 million in personal shares, at the same time as the company spent \$8.4 billion on stock buybacks. Most importantly, insiders purchased zero shares themselves.
- IBM – In Q2 of 2007, IBM insiders collected \$21.5 million from selling off their personal shares while the company spent \$14.6 billion on stock buybacks. Again, insiders elected not to purchase any share themselves.
- Microsoft – In Q4 of 2005, Microsoft insiders sold \$49.5 million in personal shares and purchased zero shares. At the same time the company spent \$7.7 billion on stock buybacks.
- Gilead Sciences – In Q1 of 2016, insiders at Gilead Sciences earned \$37.4 million from selling off their personal shares. The same insiders purchased no shares themselves while the firm spent \$7.4 billion on stock buybacks.

3. Data and summary statistics

The hypothesis studied here is whether corporate insiders are more likely to conduct stock buybacks in the same quarter as when they are selling their own personal shareholdings. Such a finding would support the claim that insiders can use stock buybacks to support the share price that they will receive personally, either by raising the share price through the reduction of outstanding shares, or to cushion a falling price. Although causality cannot be inferred from this methodological approach, a positive finding would suggest that allowing stock buybacks to go unreported until after the insiders have completed their own personal sales gives insiders the motivation and an opportunity to use corporate funds for personal gain.

3.1. Data

The key variables measured per firm are the dollar amount of corporate shares sold by insiders, and the dollar amount of shares repurchased with corporate funds on the open market. Other corporate variables that commonly affect insider transactions and buybacks are included as controls, including the share volume traded, the firm's change in market-to-book ratio, the firm's revenue, and the firm's market value.

The universe of corporations measured is drawn from the S&P Compustat quarterly database, a compilation of corporate accounting data from the SEC Form 10-Q required by all publicly-traded corporations every quarter. Only U.S. firms are included in the sample, and the financial and utilities sectors are excluded because they are regulated

industries, with different rules governing their use of stock buybacks.¹⁸ Small firms, measured as those with either fewer than 10,000 shares outstanding or market value less than or equal to \$2 million in the prior quarter are excluded (Bonaime and Ryngaert 2013).¹⁹ An observation is removed if revenue is below \$250,000 for the given quarter.²⁰ Only corporations whose shares are actively traded in that quarter are included. The data ranges from 2005 to 2017, the last year for which complete data are available.

Quarterly stock buyback levels and prices are used to measure stock buybacks. The data, which became available only after reform of Rule 10b-18 in 2003, requires ex-post quarterly disclosure of the monthly volume of shares repurchases, and the price at which they were repurchased averaged over the month, per firm-quarter.²¹

To control for other explanations for stock buybacks, several variables are included in the regression analyses conducted in Section 3. These include the share volume traded, gross sales revenue reduced by discounts, returned sales, and other allowances, and the change in the book-to-market ratio. The change in book-to-market ratio is used to control for the finding in the finance literature that a frequent justification for stock buybacks is that the stock is currently undervalued (Bonaime and Ryngaert 2013). Total common equity is used for book value, and the book-to-market ratio per firm-quarter is calculated. I would expect the coefficients for share volume traded and sales to be positive, as larger firms tend to have a higher dollar volume of stock buybacks. I would expect the change in book-to-market ratio over the quarter to be positive, if the signaling hypothesis of stock buybacks were true, as an undervalued stock would move more when stock buybacks were undertaken. However, if undervaluation is a justification for stock buybacks but not the actual reason that executives have for undertaking the buyback – if they are conducted for a combination of insider personal gain and to mitigate pressure from activist shareholders looking to quickly sell – then the coefficient could be ambiguous or even negative.

Corporate insider data was matched to Compustat using Thomson Reuters' Insiders database, which collections SEC Forms 3, 4, and 5, all of which firm insiders are required to supply to the SEC within two business days of an insider's transaction. I used data from Form 4, which reports insider transactions, both direct and indirect, including the sale and purchase of corporate stock. I coded the disposition reporting whether the transaction is a sale or a purchase, and used transaction price to find the value of the transaction.

In the analysis, only insider transactions where the insider could plausibly be thought to have been 'in the room' when the decision to execute a buyback was made are included. This includes corporate officers and top directors.²²

3.2. Summary statistics

Before turning to the empirical methodology, I first describe the summary statistics of the variables of interest, and then turn to their joint occurrence (Bonaime and Ryngaert 2013). The full sample includes 120,727 unique observations that include data on both stock buybacks and insider transactions, for 3,545 unique firms over the 12-year period. The wide range of mean values for the key variables, including buybacks, is due to the fact that only small corporations are excluded from the sample, but the largest corporations tend to conduct buybacks several orders of magnitude higher than small firms. For example, when considering just the firm-quarters used in the model, firms in the bottom

quartile by revenue conducted an average of \$800,000 in stock buybacks per quarter; while firms in the top quartile conducted \$159 million on average, but the top five percent by revenue conducted \$1.3 billion on average. The average value of insider sales by revenue category also varies widely, with executives at firms in the top 25 percent by revenue selling 4.5 million on average, while firms in the bottom quartile sold \$1 million on average (and executives in firms in the second quartile sold even less, \$470,000 on average). [Table 1](#) presents summary statistics for the full sample, a sub-sample of observations with positive buybacks and insider transactions, and selected sub-samples. [Figures 1](#) and [2](#) further demonstrate the dominance of buybacks expressed as a percentage of market value and insider sales among the top quarter of firms by revenue, and within that sample, the top 5 percent of firms by revenue.

It is worth examining the joint occurrence of the two variables of interest, insider sales and stock buybacks. The findings are presented in [Table 2](#). The two key variables were limited in the following manner. First, a measure of ‘buyback quarters’ was generated, where buybacks conducted exceed one percent of market value. For insider transactions, firms were sorted into three categories: a quarter was counted as a ‘net insider sales’ quarter if insider sales minus insider purchasing exceeded \$100,000; a quarter was considered ‘net insider purchasing’ if insider purchases exceeded insider sales by \$100,000; otherwise the quarter was considered a ‘neutral insider quarter’ (Bonaime and Ryngaert 2013). I also examined how frequently buyback quarters follow each other, and found that 11 percent of buyback quarters are followed by another buyback quarter (this holds for two and three quarters).

The \$100,000 threshold for a ‘net insider sales’ quarter was chosen because out of the sample, 43 percent of firm-quarters are below this threshold, whereas 57 percent are above. For corporate insiders, aggregating their total sales to total at least \$100,000 in order to count that quarter as a ‘net insider sales’ quarter means that there are significant collective pecuniary gains occurring in that quarter, which is important when evaluating the claim that personal gain may be motivating their incentive to conduct stock buybacks. Roughly 10 percent of the sample is between \$100,000 and \$250,000; the results are not substantively different when using the higher threshold. While not high percentage-wise, it is interesting to note as case studies that there are 256 firm-quarters where net insider sales are over \$100 million, and 15 firm-quarters where net insider sales are over \$1 billion. Unsurprisingly, these outliers occur for large corporations, including Amazon, Facebook, U-Haul, and a variety of energy and technology corporations.

Are stock buybacks more frequent in quarters when insiders are net sellers, as opposed to either a neutral transaction quarter or a quarter where insiders are net purchasers? The findings suggest that corporations are more likely to conduct both meaningful levels of stock buybacks (here above one percent of market value, i.e. the share price times the number of outstanding shares) in the same quarter as when insiders are share-selling at a meaningful level (here when sales are more than \$100,000 above insider purchases of corporate stock). Meaningful buybacks occur in 10% percent of all firm-quarters, but occur more than twice as frequently – 18 percent – when insiders are engaged in net selling. When examining only firm-quarters when buybacks are occurring, net insider selling is nearly twice as common, occurring in 37 percent of buyback firm-quarters, as opposed to in 20 percent of non-buyback firm-quarters (or 22 percent in the full sample). I find that the relationship does not show a meaningful difference after one or two quarters (or with one or two lead quarters). This joint occurrence suggests either that these transactions bear some relationship to each

Table 1. Descriptive statistics of key variables.

	Total Dataset				
	Mean	Std. Dev.	Min	Max	N
Buybacks	\$42.53 million	304.44	0	\$24 billion	120,727
Corporate Insider Sales	\$1.83 million	84.80	0	\$28,125	120,727
Book-to-market Change	-\$0.02	9.55	-1030.762	1367.80	120,727
Sales	\$1,095,941 million	4,704.65	.25	138,793	120,443
Common Shares Traded	8.22 million (shares)	2.81 *08	1	1.35*10	120,590
Dataset with positive buybacks and insider transactions					
Buybacks	\$187 million	583.44	2.14*06	\$14,687 million	15,083
Corporate Insider Sales	\$7.1 million	55.93	1.87*06	\$5,337.54 million	15,083
Book-to-market Change	-\$0.03	2.00	-245.61	2.18	15,083
Sales	\$3,206 million	8,819.07	.25	136,267	15,083
Common Shares Traded	1.78 trillion (shares)	4.16^08	100	7.34^09	15,083
	Complete N = 120,391	Positive Buybacks N = 39,327	Positive Insider Sales N = 30,760	Top 10% by Revenue N = 12,322	
Selected Firm Sub-Samples (in millions)					
Buybacks Mean (in millions)	\$42.35	\$129.65	\$91.46	\$329.5	
Insider Sales Mean (in millions)	\$1.83	\$2.74	\$7.16	\$6.87	
Net Insider Sales Mean (in millions)	-\$0.69	\$2.66	7.079	6.78	
Book-to-market change Mean (in millions)	-0.018	-0.032	-\$0.03	-\$0.07	
Revenue Mean (in millions)	\$1,093.14	\$2,346.91	\$2,030.773	\$8,550.27	
Common Shares Traded Mean (in trillions)	8.21^07	3.68^08	1.31^08	4.04^08	

other in the same quarter, or that they are both likely to increase based on an unknown third factor. I look at the same relationships for only firm-quarters in the top 25 percent by revenue, and find that 46 percent of buyback quarters are also meaningful net insider sales quarters, as opposed to 37 percent of non-buyback quarters.

4. Methodology and results

4.1. Methodology

In this section, panel data fixed effects regression analysis is employed to examine the relationship between management's decision to execute stock buybacks and the selling of their own personal shares.

The equation for the regression is:

$$\text{Log}(\text{Transaction}_{AmountSi,t}) = \alpha_i + \beta \log(\text{Buybacks}_{i,t}) + \beta \Delta BkMkt + \beta \text{Saleq} + \beta \text{Cshtrq} + \eta_t \text{qtr}_t$$

Table 2. Joint occurrences of variables of interest.

Full Sample Baseline			
Buyback Quarter	10.85%		
Net Insider Sales Quarter	22.18%		
Neutral Quarter	75.67%		
Net Insider Purchase Quarter	2.15%		
	Net Insider Sales Qtr.	Neutral Qtr.	Net Insider Purchase Qtr.
Buyback Quarter	36.74%/18%	60.8%/8.7%	2.47%/12.5%
Non-Buyback Quarter	20.41%/82%	77.48%/91.3%	2.11%/87.5%
	Lag Net Insider Sales Qtr.	Lag Neutral Qtr.	Lag Net Insider Purchase Qtr.
Buyback Quarter	21.40%/10.46%	76.24%/10.93%	2.36%/11.92%
Non-Buyback Quarter	22.28%/89.54%	75.60%/89.07%	2.12%/88.08%
	2-Lag Net Insider Sales Qtr.	2-Lag Neutral Qtr.	2-Lag Net Insider Purchase Qtr.
Buyback Quarter	21.82%/10.67%	75.81%/10.87%	2.37%/11.96%
Non-Buyback Quarter	22.23%/89.33%	75.65%/89.13%	2.12%/88.04%
	Lead Net Insider Sales Qtr.	Lead Neutral Qtr.	Lead Net Insider Purchase Qtr.
Buyback Quarter	22.46%/10.98%	75.45%/10.81%	2.08%/10.53%
Non-Buyback Quarter	22.151%/89.02%	75.70%/89.19%	2.15%/89.47%
	2- Qtr Lead Net Insider Sales Qtr.	2- Qtr. Lead Neutral Qtr.	2- Qtr. Lead Net Insider Purchase Qtr.
Buyback Quarter	21.68%/10.60%	76.03%/10.90%	2.28%/11.54%
Non-Buyback Quarter	22.24%/89.4%	75.63%/89.10%	2.13%/88.46%
Top 25% by Revenue Sub-Sample (N = 30,346)			
	Net Insider Sales Qtr.	Neutral Qtr.	Net Insider Purchase Qtr.
Buyback Quarter	45.55%/25.93%	52.27%/20.06%	2.18%/20.36%
Non-Buyback Quarter	37.50%/74.07%	60.04%/79.94%	2.46%/79.64%
	Lag Net Insider Sales Qtr.	Lag Neutral Qtr.	Lag Net Insider Purchase Qtr.
Buyback Quarter	21.61%/21.97%	76.07%/22.45%	2.33%/22.38%
Non-Buyback Quarter	22.12%/78.03%	75.74%/77.55%	2.14%/76.10%
	Lead Net Insider Sales Qtr.	Lead Neutral Qtr.	Lead Net Insider Purchase Qtr.
Buyback Quarter	39.37%/10.92%	58.36%/10.91%	2.27%/10.32%
Non-Buyback Quarter	39.29%/89.08%	58.30%/89.09%	2.41%/89.68%

Full Sample (N = 120,391).
 Percentages are reported as Row/Column.

Table 3. Regression results.

transaction_ammoun~g	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
buybacks_log	.0481016	.0078805	6.10	0.000	.0326548	.0635485
booktomarket_change	.0178422	.0068423	2.61	0.009	.0044303	.031254
saleq	.0000174	6.44e-06	2.71	0.007	4.81e-06	.0000301
cshtqr	-1.99e-10	7.56e-11	-2.63	0.009	-3.47e-10	-5.05e-11
_cons	.2336217	.0348404	6.71	0.000	.1653298	.3019136

F test that all $u_i = 0$: $F(1317, 13,761) = 5.12$ Prob > F = 0.0000.
 N = 15,083 Unique firms = 1,318.
 $R^2 = .15$ (between).

Table 4. Stock buybacks and lagged insider sales regression analysis Model:

$$\text{Log}(\text{TransactionAmount}_{Si,t-n}) = \alpha_i + \beta \text{log}(\text{Buybacks}_{i,t}) + \beta \Delta BkMkt + \beta \text{Saleq} + \beta \text{Cshtrq} + \eta_t \text{qtr}_t$$

Lagged Insider Sales	Coefficient	Std. Error	P value	N =	R ²
Same Quarter	0.048	0.007	0.000***	15,083	.15
One-quarter lag	0.129	0.006	0.000***	15,248	.24
Two-quarter lag	0.12	0.006	0.000***	15,461	.22
Four-quarter lag	0.109	0.006	0.000***	15,765	.21
Eight-quarter lag	0.081	0.006	0.000***	14,377	.20

*** Statistical significance at the 1% level.

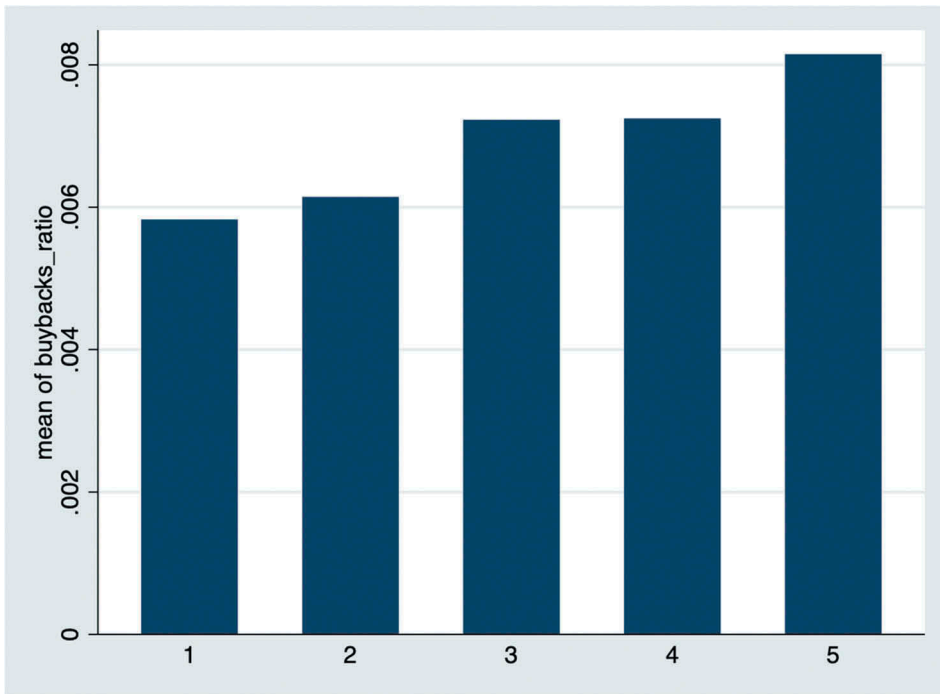


Figure 1. Buybacks-Market Value Ratio by Revenue Sub-Categories for Large Firms.

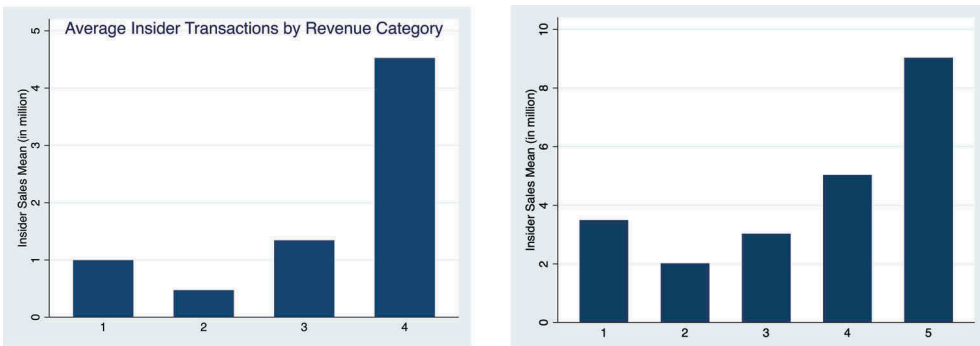


Figure 2. Average Insider Sales by Revenue Categories. (a) Average Insider Sales by Revenue Sub-Category for Large Firms.

The predictor variable is the dollar amount of corporate funds that insiders choose to spend on stock buybacks in that quarter. The outcome variable is how much insiders are choosing to spend that quarter on sales of their own personal shareholdings. The dollar level of insider sales is used, without subtracting insider purchases.

Control variables include several variables to account for the differences between firms, and to account for other explanations for why firms conduct stock buybacks. Changes in the book-to-market ratio are used to account for the fact that a common rationale for stock buybacks is that the firm's stock is undervalued. Larger firms with higher revenue will have higher dollar

amounts of buybacks and insider sales across the board, while controlling for shares outstanding as well as common shares traded helps to control for market volatility. The firm fixed-effects are included in α_i . The robust standard errors are clustered at the firm level. The final panel data includes 1,318 unique corporation and 15,083 observations over 56 quarters.

To further examine the results and test for multicollinearity, I test for correlation among the independent variables that serve as controls and alternate explanations and the predictor variable, the dollar value of insider sales of stock. These correlations are conducted using the full sample. The correlations show low correlation between the insider share-selling, the change in the book-to-market ratio, dollar level of sales, or volume of shares traded per quarter.

4.2. Results

Taking a log of the predictor variable makes it possible to calculate the percentage change in insider sales for a percentage change in buybacks. The findings are presented in Table 3. The results show a statistically significant relationship such that a ten percent change in buybacks is associated with a half-percent change in insider sales, holding other factors constant (the results are nearly identical for the largest twenty-five percent of firms by revenue). Using mean values for the full sample, this means that a 4.2 million dollar increase in stock buybacks is associated with a \$900,000 increase in insider share-selling per quarter. For the largest ten percent of firms by revenue, an increase in spending on buybacks of \$32.9 million is associated with a change in insider share-selling of \$3.4 million per quarter.

This finding is important because it reveals that insiders are choosing to increase their use of corporate funds to conduct stock buybacks in the same quarters when they are personally profiting from higher share prices. Although there are clearly other factors that can motivate corporate spending on buybacks, according to common rationales for buybacks, there should be no relationship between buybacks and insider sales. The results show that there is a meaningful relationship. The results hold when transactions are examined for only the top 25 percent of corporations by sales revenue.

Without more detailed data on actual buyback execution, it is impossible to say whether buybacks *precede* insider share-selling in the same quarter. It is also possible, given these results, that firms are conducting buybacks to prevent dilution after executives have exercised options and then immediately sold their shares. However, the findings suggest that corporate executives have the ability to use stock buybacks in ways that not only benefit shareholders to the exclusion of other corporate stakeholders, but that serve management self-interest without requiring such benefit to be disclosed.²³

4.3. Testing the relationship over time

The previous section examined the same-quarter relationship between stock buybacks and insider sales. It is also useful to examine whether higher levels of stock buybacks predict higher insider sales in subsequent quarters. To test this question, sales by corporate insiders were lagged for one, two, four, and eight to see whether and how the relationship changes over time. In this case, because information on stock buybacks is disclosed to the public within 10 to 11 weeks of the end of the previous quarter – with the publication of Form 10-K by the SEC – insiders no longer possess an informational

advantage; however, looking at the data will provide insight into the kind of personal benefit insiders may be reaping over the medium-term.

The following panel data regression was analyzed:

$$\text{Log}(\text{Transaction}_{AmountSi,t-n}) = \alpha_i + \beta \log(\text{Buybacks}_{i,t}) + \beta \Delta BkMkt + \beta \text{Saleq} + \beta \text{Cshtrq} + \eta_t \text{qtr}_t$$

I find that the relationship between corporate spending on buybacks and insider share-selling continues to be statistically significant over time, with a statistically significant positive coefficient over eight quarters. The result are presented in [Table 4](#).

5. Policy recommendation

SEC rules do nothing to discourage executives from using buybacks in this way [for personal gain]. It's time for that to change. – SEC Commissioner Robert Jackson, Jr.

It is clear that without proper regulation, corporate insiders have the ability to schedule stock buybacks to coincide with their own personal share-selling, thus benefiting personally from the use of corporate funds for repurchases. Given that the securities laws generally forbid misbegotten insider benefit, it is crucial to understand the range of policy options available to restrict this opportunity for personal gain. In this section I propose several options for new regulations.

The most straightforward policy is to ban the practice of stock buybacks because of their general potential for market manipulation, and because the appropriate economic incentive for holders of equity securities is the payment of dividends and capital gains appreciation. Another set of policy reforms would bring US law into conformity with other advanced industrialized economies and place bright-line limits on buyback activity while limiting insider transactions during periods of stock buybacks (Palladino 2018).

Regulatory changes must be made on both sides of the transaction in order to decouple buybacks and insider transactions. An appropriate policy to achieve this end would require immediate disclosure of buyback activity and establish substantive bans on profit-making. There is no legitimate reason why corporations are not required to immediately disclose the execution of stock buybacks. Sophisticated financial analysis and institutional shareholders are able to determine when such activity is taking place, but ordinary transactions generally stay hidden from shareholders. Corporations should be required to disclose buyback activity in real time to ensure that they stay within the boundaries of the safe harbor (although it would be better if it were repealed), and so that complete information about corporate activity is available to all corporate stakeholders. At the same time, corporate insiders should be prohibited from selling their own personal shareholdings or buying shares for a certain period of time²⁴ around the execution of a buyback program.

Legislation currently enacted in other countries with advanced capital markets can be useful in guiding the development of US policymaking for that scenario. Several other economies – Japan²⁵ and Canada, for example – have substantive bans on insider transactions during buyback programs, or require disclosure of insider plans to sell their personal holdings before such a sale takes place. Other countries, including the United Kingdom and Canada, require immediate disclosure of buybacks. In the UK,

share repurchase decisions must be reported to the Financial Supervisory Authority immediately, and once the purchase is complete it must be reported to the UK Listing Authority no later than 7:30am the next business day.²⁶ In Canada, disclosure rules are slightly more lenient but do require that corporations file a notice of intention before a buyback program is undertaken to the TSE once it has board approval. Firms then have to file repurchase activity no later than 10 days after the end of each month; this information is then published monthly by the TSE.²⁷

Beyond policy reforms that focus on stock buybacks as a specific tool of corporate finance, US corporate law should be broadly reformed to reflect a norm of stakeholder governance. Without employees, customers, and the greater public, the shareholder would see no capital gains appreciation nor earn any dividends. It is an outdated and incorrect framework to assert that shareholders are the ultimate ‘owners’ of a corporation, and to presume that corporations are simply a ‘nexus of contracts’ in which market efficiency will pay all stakeholders a fair rate of return. While beyond the scope of this paper, it is important to note that in addition to ending stock buybacks, the ideology of shareholder primacy must be reformed in order to allow for future productivity of the corporation (Lazonick 2017).

6. Conclusion

This study demonstrates that corporate insiders increase the sales of their own personal shareholdings in the same quarters that they increase stock buybacks. While causality cannot be demonstrated from the data, I suggest that the absence of regulation requiring companies to disclose buybacks immediately, or even to disclose on what days they execute buybacks, leaves ample opportunity for corporate insiders to make such insider transactions for their own personal benefit. Given these findings, I propose that the SEC should rescind Rule 10b-18, and Congress should ban the practice of stock buybacks in an effort to support a more productive, inclusive, and vibrant economy.

Notes

1. Executives can announce buyback programs that they do not execute, and some studies have found high rates of announcements that do not lead to actual execution (Stephens and Weisbach 1998).
2. Stock buybacks are also referred to as stock repurchases and share repurchases, as well as equity repurchases. This paper uses the term ‘stock buybacks’ throughout, although this term only refers to open-market stock buybacks, as opposed to tender offers or other forms of ‘going private’ transactions.
3. This paper uses the term ‘transactions’ rather than ‘trading’ to distinguish the activity from what is regulated as ‘insider trading’ under the securities laws.
4. As will be discussed below, the Securities and Exchange Commission does not require corporate disclosure of the day in a month a company executes stock buybacks, although corporate insider transactions are reported with precision. Thus it is not possible to determine which transaction precedes another in the quarter. Additionally, S&P Compustat reports stock buybacks on a quarterly basis. If daily disclosure data of stock buybacks became available, further empirical investigation could determine the chronological relationship more precisely.

5. Jensen and Meckling (1976, 8) make this point clearly: 'It is important to recognize that most organizations are simply legal fictions which serve as a nexus for a set of contracting relationships among individuals.' Alchian and Demsetz (1972) and Fama and Jensen (1983) make similar claims.
6. Lazonick (2016a) notes that it is principally financial economists who claim that buybacks occur when there are no more productive investments to be made; CEOs do not make this claim because to do so would show that they are not doing their job.
7. Answering this question is beyond the scope of this paper due to the lack of disclosure in the private markets.
8. SEC, Purchases of Certain Equity Securities by the Issuer and Others, 45 Fed. Reg. 70,890, 70,892 (27 October 1980).
9. Repurchases of Securities and Prohibitions Against Certain Trading, 38 Fed. Reg. 34,341 (13 December 1973).
10. Stock buybacks are also known as share repurchases and equity repurchases. The specific corporate activity measured here is a corporation repurchasing its own shares on the open market (open-market repurchases, or OMRs), through a broker, as covered by the safe harbor SEC Rule 10b-18. I do not include tender offers or acquisitions pursuant to mergers and acquisitions or 'going-private' transactions in this category.
11. Section 162(m).
12. Holmberg and Umbrecht (2014) provide a broad overview of the executive compensation literature.
13. The problem of the 'separation of ownership and control' refers to the evolution in corporate governance from owner-managed firms to firms with dispersed shareholders who delegate managerial authority to a board of directors and ultimately to senior management leadership.
14. Berle was a close advisor of President Roosevelt.
15. They quote from Judge Lamar on this issue:
It is a matter of common knowledge that the market value of shares rises and falls, not only because of an increase or decrease in tangible property, but by reason of real or contemplated action on the part of managing officers; declaring or passing dividends; the making of fortunate or unfortunate contracts; the loss or gain of property in dispute; profitable or disadvantageous sales or leases. And to say that a director who has been placed where he himself may raise or depress the value of the stock, or in a position where he first knows of facts which may produce that result, may take advantage thereof and purchase from or sell to one whom he is directly representing, without making a full disclosure and putting the stockholder on an equality of knowledge as to these facts, would offer a premium for faithless silence, and give a reward for the suppression of truth ... (p. 289).
16. As will be discussed in Section 5, the broader solution to the problem of insider transactions is not simply to increase funds dispersed to shareholders but instead to recognize shareholder primacy as a flawed theory of the corporation.
17. Section 16(b) of the Securities and Exchange Act, the 'short-swing' profit rule, does prevent corporate insiders from making a profit by buying and subsequently selling shares within a six-month period. However, due to a change in the interpretation of Section 16(b), in which insiders no longer have to wait six months to sell shares acquired through exercising stock options, and due to the 1991 re-interpretation of options as derivatives, the clock starts to run at the grant date, not the exercise date, and therefore executives can time when they exercise their options and when they sell, potentially around when they conduct buybacks (Lazonick 2016b).
18. I exclude any firm-quarter where 'loc' does not equal the United States, and where the currency variable is not in dollars. I exclude all corporations with a NAICS two-digit code of '22,'52,' or '53'.
19. I drop the observation if the variable 'cshoq' < 0.01, and if mkvalt<2 (I impute missing 'mkvalt' with cshoq*prccq, or outstanding common shares times the average price per quarter).

20. I drop the observation if $\text{saleq} < 0.25$. I also drop any firm for which there is not at least two quarters of reporting.
21. Specifically, corporations use the 10-Q to report the per-month volume of shares repurchased, and the average price paid per month. Compustat totals the three months for a quarterly volume of shares repurchased in variable 'cshopq,' and averages the price for the quarter in variable 'prcraq.'
22. This includes individuals with the classification of 'Director,' and some of the 'Officer' roles as designated by Thomson Reuters' Insider Database. Specifically, any individual with the role code of Director, CEO, CFO, Chief Investment Officer, Chief Operating Officer, Executive Vice President, President, Board Secretary, Senior Vice President, Vice President, Associate Vice President, Other Executive, and Managing Director was included. Some individuals have multiple roles, and may have an additional role that is outside this set of roles. 'Insiders' who are Beneficial Owners or have other Insider roles but are not part of decision-making about when to execute actual share repurchases were excluded.
23. The results also hold when sales and buybacks are winsorized at the 1% and 99% levels.
24. Rather than recommend a specific period of time, I suggest that the determination of the appropriate time period should be subject to rulemaking by the Securities and Exchange Commission.
25. Tokyo Stock Exchange Guidelines state that an insider who is in a position to make buyback decisions cannot trade his own holdings of the firm's shares while a buyback program is under way.
26. The Companies Act of 2006 and UK Listing Rules.
27. Bylaws of the Toronto Stock Exchange.

Acknowledgements

The author wishes to thank Michael Ash, Armagan Gerzai, Mike Konczal, William Lazonick, and an anonymous reviewer for their insightful comments.

Disclosure statement

No potential conflict of interest was reported by the author.

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