



Stock repurchases: How firms choose between a self tender offer and an open-market program

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ABSTRACT

In practice, open-market stock repurchase programs outnumber self tender offers by approximately 10–1. This evidence is puzzling given that tender offers are more efficient in disbursing free cash and in signaling undervaluation – the two main motivations suggested in the literature for repurchasing shares. We provide a theoretical model to explore this puzzle. In the model, tender offers disburse free cash quickly but induce information asymmetry and hence require a price premium. Open-market programs disburse free cash slowly, and hence do not require a price premium, but because they are slow, result in partial free cash waste. The model predicts that the likelihood that a tender offer will be chosen over an open-market program increases with the agency costs of free cash and decreases with uncertainty (risk), information asymmetry, ownership concentration, and liquidity. These predictions are generally consistent with the empirical evidence.

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1. Introduction

Stock repurchases are generally performed either with an open-market repurchase program (henceforth “an open-market program”) or a self-tender offer repurchase (henceforth “a tender offer”). With an open-market program, the firm announces its intention to buy back shares and then starts repurchasing shares in the open market over a long period of time (generally 1–2 years). With a tender offer, the firm offers its existing shareholders the opportunity to sell their shares back directly to the firm within a short period of time from the offer date (generally 1 month).¹

During the last three decades, stock repurchases have experienced dramatic growth.² This growth has stimulated numerous empirical studies which report that open-market programs outnumber tender offers by about 10–1.³ While the literature tends

to consider the growth in repurchase activity as “the growth in open-market programs,” a careful review of the earlier empirical literature suggests that open-market programs accounted for the majority of stock repurchase activity even before the recent growth.⁴

Why are tender offers less popular than open-market programs? The commonly suggested motivations for repurchasing shares are signaling and reducing agency costs of free cash. Empirical evidence indicates that the average announcement return is significantly higher for tender offers relative to open-market programs (15% versus 3%, respectively), implying that tender offers have favorable signaling capability.⁵ Alternatively,

⁴ Vermaelen (1981) finds 198 open-market program announcements during the period 1970–1978, and only 131 tender offers during 1962–1977, a period of double the duration. Dann (1981) investigates only tender offers, but mentions that open-market programs occur more frequently. Barclay and Smith (1988) document a ratio of 14:1 between open-market programs and tender offers for the period 1983–1986 for NYSE firms.

⁵ See, Vermaelen (1981), Comment and Jarrell (1991), and Peyer and Vermaelen (2009). The announcement return is higher for tender offers even after controlling for the repurchase size, which is larger on average for tender offers. Moreover, studies find that the announcement return on open-market programs has decreased over the years (e.g., Ikenberry et al., 1995; Grullon and Michaely, 2004) whereas there are no such findings documented for tender offers.

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¹ For a detailed description of the stock repurchase institution see, Johnson and McLaughlin (2010).

² See, Grullon and Michaely (2002), and more recently, Chan et al. (2007).

³ Comment and Jarrell (1991) document this ratio over the period 1985–1988. Peyer and Vermaelen (2005) report a higher ratio for the period 1984–2001, and Banyl et al. (2008) report a higher ratio for the period 1996–2003.

if firms repurchase stock in order to reduce agency costs of free cash flow, then it would appear that tender offers are more efficient than open-market programs because the sooner the cash is distributed, the better. Taxes are commonly suggested as other frictions that affect a firm's payout policy.⁶ Taxes, however, are not likely to affect the choice of the stock repurchase method because both open-market programs and tender offers are taxed as capital gains.

The purpose of this study is to investigate how firms choose between tender offers and open-market programs. In particular, we would like to explain the prevalence of open-market programs. Our approach is theoretical. Earlier theoretical studies of repurchase activity have focused on the choice between alternative tender offer mechanisms or on the choice between repurchases and dividends. Interestingly, the question of how firms choose between open-market programs and tender offers has been largely ignored. Our goal is to fill this gap.

We consider a firm that has free (excess) cash for which it does not have good investment opportunities. If kept in the firm, this free cash will gradually decrease in value (e.g., because it will be invested in negative NPV projects). The firm can prevent the waste of this free cash by distributing it back to the shareholders either with a tender offer or with an open-market program. If it chooses a tender offer, the cash is distributed immediately and therefore the waste is completely prevented. However, because a huge number of shares are repurchased in a short time, the repurchase has significant wealth effects on the shareholders. Namely, if the repurchase price underestimates the value, tendering shareholders lose and nontendering shareholders gain whereas if the repurchase price overestimates the value, the situation is reversed. We show that this stimulates costly information gathering (e.g., firm and market analysis) among a subset of the shareholders. The resulting information asymmetry induces adverse selection, and requires the firm to offer a premium in order to make sure that the tender offer succeeds. This tender premium, in turn, reduces the value of the remaining shares. In contrast, an open-market program is gradual. Hence it does not stimulate information gathering, and no tender premium is required. However, because the cash distribution is gradual, with an open-market program, some free cash is carried with the firm for a longer time, and hence part of it is wasted.⁷ The trade off between the decrease in share value incurred in a tender offer and the waste of free cash incurred in an open-market program determines the resultant repurchase method.

In sum, the model suggests that tender offers efficiently prevent the waste of free cash but induce costly and dissipative information gathering, and result in wealth transfers among the shareholders. Open-market programs are less efficient in preventing the waste of free cash because they are slow in distributing it. However, the slow pace of cash distribution is also advantageous as it avoids negative information effects. In light of the empirical evidence that open-market programs prevail, our interpretation is that, in general, the expected loss from slowing the cash distribution with an open-market program is smaller than the expected loss from paying a premium with a tender offer.

The model makes two key assumptions. The first is that the manager-shareholder in charge who chooses the repurchase

method cannot participate in the tender offer.⁸ Because he cannot participate, a tender premium reduces the value of his shares.⁹ We show that, in our model, this induces a socially effective mechanism: a tender offer and the wealth expropriations associated with it are the equilibrium outcome only if they represent the best alternative for all shareholders. The second important assumption that we make is that the daily trade is small relative to the payout size and that the quantity the firm can purchase every day in an open-market program is even smaller.¹⁰ As a result, an open-market program does not stimulate information gathering (and hence has no price or wealth expropriation effects); however, it slows the cash distribution. Indeed, empirically, in comparison to tender offers, open-market programs hardly generate an announcement return and take years to complete. In fact, many open-market programs are not completed (Stephens and Weisbach, 1998), suggesting they are only partially effective in preventing the waste of free cash.

The model generates several new predictions about the choice between the repurchase methods. In the model, the tender premium in a tender offer represents compensation to uninformed shareholders for adverse selection they face, and hence increases with risk and information asymmetry. Open-market programs are not associated with adverse selection but rather with waste of free cash. Accordingly, the model predicts that, given a repurchase, higher risk and information asymmetry increase the likelihood of an open-market program whereas higher free cash waste increases the likelihood of a tender offer. The model also predicts that ownership concentration will increase the likelihood of an open-market program over a tender offer. This is because in a tender offer, only large shareholders can afford the information costs. Consequently, the larger the number of shares held by large shareholders, the higher the level of adverse selection, and hence, the higher the tender premium required to assure a successful tender offer. In contrast, the cost of an open-market program does not depend on ownership concentration. Similarly, market liquidity increases the likelihood of an open-market program over a tender offer because it allows the firm to execute open-market programs more quickly, whereas tender offers do not involve the secondary market.

The focus of this paper is on the trade-off between repurchase methods, and we thus abstract from other means of free cash disbursement mechanisms such as dividends and interest payments. Dividends distribute free cash immediately and do not require a premium. However, they are tax disadvantageous and informally commit the firm to future dividends. Furthermore, empirical evidence suggests that dividends and repurchases serve to distribute cash flows of different nature.¹¹

⁸ Most earlier theoretical investigations of repurchases make this assumption. See, for example, Vermaelen (1984) and Ofer and Thakor (1987). Supporting empirical evidence that managers do not sell their shares in tender offers is in Vermaelen (1981) and in Comment and Jarrell (1991). In practice, managers often own shares that they are not allowed to sell, or they only own options or a commitment for shares. Tendering could also expose them to lawsuits about use of private information or stock price manipulation.

⁹ While managers may benefit from the announcement return, empirically, this return is substantially lower than the tender premium (see, Lakonishok and Vermaelen, 1990; McNally, 2001). Hence, the loss from not being able to participate is substantial even after taking into account the announcement effect.

¹⁰ In the US, Rule 18-10b in the Safe Harbor Act (1982) limits the firm's ability to trade in an open-market program (see, also Footnote 26). Outside the US, restrictions on actual repurchase trade are more severe.

¹¹ Jagannathan et al. (2000) and Guay and Harford (2000) find that firms distribute relatively permanent free cash flows with dividends and relatively transient free cash flows with stock repurchases. Dividends could be incorporated into the model based on their tax disadvantage without affecting the qualitative results on the choice between tender offers and open-market programs.

⁶ See, for example, Allen and Michaely (2003); Gottesman and Jacoby (2006).

⁷ While the execution of open-market programs may start immediately (see, Gong et al., 2008), they generally take several years to complete (see, Stephens and Weisbach, 1998). In contrast, tender offers are generally completed within a few weeks after their initial announcement (see, Johnson and McLaughlin, 2010).

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