

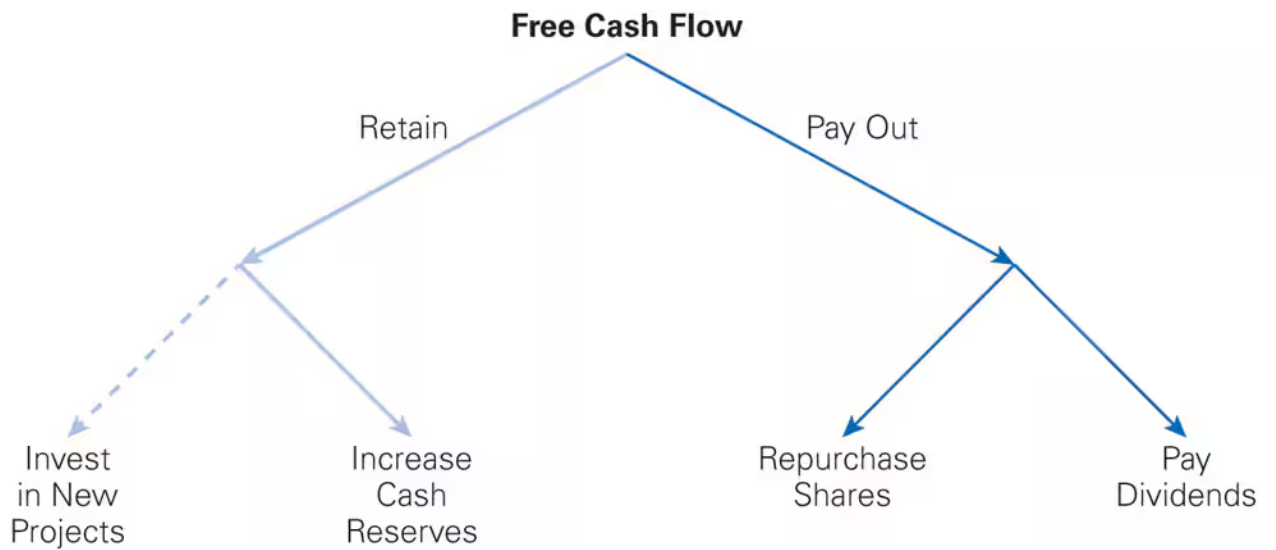
Chapter 17: Payout Policy

I. Introduction

A. Overview

Payout Policy:

Main alternatives (as seen in Figure 17.1 from the text):



Other possibilities: acquire other firms (or parts of other firms), pay down debt.

B. Methods for Paying Cash to Stockholders

1. Dividends

=>

a. Important dates

- 1) Declaration date
 - => board authorizes a dividend
 - => firm is obligated to pay a dividend once declared
- 2) Ex-dividend date
 - => if purchase on or after this date, don't receive next dividend
 - => one business day before record date
 - => gives time to process transfer of ownership before record date
- 3) Record date
 - => firm pays dividend to shareholders of record on this date
 - => set by board of directors
- 4) Payable date
 - => firm mails check (or direct deposits them)

b. Types of dividends (and other distributions)

- 1) Regular => usually paid quarterly and changed infrequently
- 2) Special => large dividend which unlikely to be repeated
- 3) Liquidating => dividend that reduces firm's paid in capital
 - => taxed as capital gain rather than dividend
- 4) Stock dividend (or split) => firm issues shares rather than paying out cash
 - => no real consequences for firm or stockholders
 - => may be used to keep stock prices in an "optimal range"
 - => if too high, stock may become less liquid as fewer small investors
 - => if too low, transaction costs become significant and can be delisted by exchange
- 5) Spin-off
 - => firm distributes shares of subsidiaries to current stockholders
 - => not taxed
 - => avoids transaction costs of selling the division

2. Share Repurchases

=>

a. Open market purchases

=>

- => 95% of all repurchases
- => firm not obligated to make announced repurchases

b. Tender offer

=>

=> purchased at a premium to market price

c. Dutch auction

1)

2)

3)

4)

d. Targeted repurchase

=>

Reasons:

1)

2)

II. Payout Policy in a Perfect Capital Markets

Perfect Capital Markets (same as in Chapter 14):

1. Investors and firms can trade the same set of securities at competitive market prices equal to the present value of their cash flows.
2. There are no taxes, transaction costs, or issuance costs associated with security trading.
3. A firm's financing decisions do not change the cash flows generated by investments, nor do they reveal new information about them.

Basic idea:

Keys:

1)

=>

=>

Note: arbitrage is possible if the drop in the stock price doesn't equal the dividend

Ex. Assume stock price is \$50 and firm declares a dividend of \$5 per share. The ex-dividend price must be \$45.

If ex-dividend price is \$46:

=>

=> Arbitrage profit =

If ex-dividend price is \$43

=>

=> Arbitrage profit =

2)

=>

Reason: the fall in the number of shares offsets the fall in the market value of the firm's assets

Ex. Assume a firm with 5 million outstanding shares has assets with a market value of \$100 million and that \$10 million of this is in cash.

$$\Rightarrow \text{Price per share} = \$20 =$$

Assume the firm uses \$8,000,000 to repurchase shares at \$20 per share

$$\Rightarrow \text{number of shares repurchased} = 400,000 =$$

$$\text{Price per share after the repurchase} = \$20 =$$

3)

4)

III. Taxes and Payout Policy

A. Stockholder Taxes and Payout Policy

Let: τ_d = tax rate on dividends

τ_g = tax rate on capital gains

Notes:

1)

2)

3)

1.

Ex. Assume the tax rate on capital gains and dividends is 15% (true for qualified dividends this year). Assume also that you have purchased all 100 outstanding shares of a firm worth \$4800 (for \$48 per share). Finally, assume that the firm will generate cash flow of \$200 per year.

Note: Qualified dividends are dividends paid by public firms to investors who have held the stock for 61 days. The IRS has laid out specific requirements.

Sources:

[Investopedia Article on Qualified Dividends](#)

[Investopedia Article on Capital Gains Taxes](#)

1: Assume firm pays you \$200 of dividends (\$2 per share) per year

$$\text{Tax} = \$30 =$$

2: Assume firm uses \$200 to repurchase shares (from you)

Note: in order to prevent arbitrage the price before the repurchase, the price at which the firm repurchases, and the price after the repurchase must be the same

$$\Rightarrow \text{price at which firm will repurchase shares} = \text{price before repurchase} = \$50 =$$

$$\Rightarrow \text{Number of shares firm will repurchase at end of 1}^{\text{st}} \text{ year} = 4 =$$

$$\text{Tax} = \$1.20 =$$

Notes:

1) with repurchase, total taxes catch up when you sell remaining shares.

\Rightarrow repurchases shift taxes to the future

\Rightarrow

2)

3) see “Ch17: Examples” from website for a 10-year holding period example.

2.

Example: Assume firm currently has assets worth \$100 million but no surplus cash. Assume firm decides to pay \$10 million in dividends by issuing stock to the general public. Assume also that the dividend tax rate is 39% and the capital gain tax rate is 20% (these were the rates in 2001-2002).

a. impact on value of firm:

=>

b. impact on new stockholders:

1)

2)

c. Impact on original stockholders:

1)

2) tax on dividend = \$3.9 million =

3) impact on value of original stock

=> value of original stock = \$90 million

=> value of firm unchanged at \$100 million

=> new stockholders have stock worth \$10 million

4) tax savings due to reduction in capital gains

=> tax savings = \$2 million =

=> value of stock and cash = 98.1 =

5) Net impact

=> value of stock and cash = 98.1 =

=> net gain/loss =

Notes:

1)

2) see "Ch17: Examples" from website to examine the impact of issuing stock to pay dividends at various historical tax rates.

3. Tax Clienteles

- a. Basic idea: in order for there to be no tax arbitrage, the after-tax capital loss when a stock goes ex-dividend must equal the after-tax gain from the dividend

=> can use this relationship to show the following:

$$P_{cum} - P_{ex} = Div(1 - \tau_d^*) \quad (17.2)$$

where:

$$\tau_d^* = \left(\frac{\tau_d - \tau_g}{1 - \tau_g} \right) \quad (17.3)$$

=> see supplement for proof

Example: Assume tax rate on dividends is 40% and on capital gains is 20% (these rates existed from 1997-2000).

$$\tau_d^* = .25 = \left(\frac{.4 - .2}{1 - .2} \right)$$

$$P_{cum} - P_{ex} = Div(1 - .25) =$$

=> net tax loss on dividend:

=>

=>

b. Tax Differences Across Investors

Key:

Ex. IRA or 401k Investors:

$$\tau_d = 0, \tau_g = 0; \tau_d^* = 0 =$$

Ex. Corporation w/ $\tau_c = .35$

Note: can exclude 70% of dividends received but capital gains fully taxed

$$\tau_d = .3 * .35 = .105, \tau_g = .35; \tau_d^* = -.3769 =$$

c. Clientele Effects

Basic idea: investor attitude towards dividends v. repurchases depends on tax rates

1)

2)

3)

B. Personal Taxes, Corporate Taxes, and Payout Policy

Basic idea: investor preferences for payouts rather than retention depends on tax rates

If pays out excess cash, stockholders can reinvest and pay taxes on interest at rate τ_i
 If firm retains cash and invests it, the firm will pay taxes on interest it earns at rate τ_c
 and the stockholder will pay capital gains taxes at rate τ_g

Using equation (17.2), the authors show that:

$$\tau_{retain}^* = 1 - \frac{(1-\tau_c)(1-\tau_g)}{(1-\tau_i)} \quad (17.A)$$

where: τ_{retain}^* = effective tax disadvantage of retaining rather than paying out cash

Note: the tax disadvantage/disadvantage of retaining cash has changed over time as Congress has changed tax rates.

See Table 15.3 on p. 472 for a list tax rates from 1971-2005

Ex. From 2001-2002, $\tau_c = .35$, $\tau_i = .39$, $\tau_g = .15$

$$\tau_{retain}^* = .09426 =$$

=>

Ex. From 1979-1981, $\tau_C = .46$, $\tau_i = .70$, $\tau_g = .28$

$$\tau_{retain}^* = -0.2960 =$$

\Rightarrow

IV. Other Issues in Payout Policy

A. Signaling

1. Dividend Smoothing

Two observations lead us to believe that management smoothes out dividends:

- 1) firms do not change dividends very often even if earnings are volatile
- 2) firms increase dividends far more often than they decrease them

2. Dividend signaling

Basic ideas:

1)

2)

\Rightarrow dividend increase:

\Rightarrow dividend decrease:

Note: studies find evidence consistent with signaling hypothesis

3. Signaling and Share Repurchases

a. Share repurchases provide less of a signal about future earnings than dividends

=> unlike dividends:

1)

2)

b.

B. Issuance costs

Basic idea:

Note: relevant to firms with:

C. Distress costs

Basic idea:

Note: most relevant to firms with:

D. Agency Costs of Retaining Cash

Basic idea: excess cash allows managers to pursue pet projects or acquisitions, receive excessive perks, etc.

=>

V. Optimal payout

=> balance benefits and costs of retaining cash

Benefits: help firm avoid issuance costs and financial distress costs

Costs: tax disadvantage, agency costs associated with excess cash

VI. Stock Dividends, Splits and Spinoffs

A. Stock Dividends and Splits

=>

=> % specifies percent of shares owned that receive in new shares

Ex. 20% stock dividend = receive new shares = 20% of shares owned

=> receive 1 new share for every 5 owned

Stock split:

Implications:

Stock price:

=> firms might use to keep price per share between \$10 and \$60

=> as shown in Figure 17.8 in the textbook, most firms keep their stock price in this range.

Taxes:

B. Spinoffs

=>

Advantages to selling assets or division and paying proceeds as cash dividend:

- 1) Avoids transaction costs
- 2) Not taxed for stockholders